

California Public Utilities Commission
Pipeline Safety and Reliability Project –
New Natural Gas Line 3602 and De-rating Line 1600 (PSRP)

Appendix A
Draft Scoping Report
for
CEQA Master Environmental Assessment

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**DRAFT CEQA SCOPING SUMMARY REPORT
SAN DIEGO GAS & ELECTRIC COMPANY AND
SOUTHERN CALIFORNIA GAS COMPANY'S
PIPELINE SAFETY AND RELIABILITY PROJECT – NEW
NATURAL GAS LINE 3602 AND DE-RATING LINE 1600
(PSRP)**

**APPLICATION No.: A.15-09-013
SCH No. 2017051031**

July 2017

California Public Utilities Commission
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List of Abbreviations and Acronyms

AB 52	Assembly Bill 52
applicants	San Diego Gas & Electric Company and Southern California Gas Company
BMP	best management practice
Caltrans	California Department of Transportation
CEQA	California Environmental Quality Act
CPCN	Certificate of Public Convenience and Necessity
CPUC	California Public Utilities Commission
EIR	Environmental Impact Report
FEMA	Federal Emergency Management Agency
GHG	greenhouse gas
HDD	horizontal directional drilling
NOP	Notice of Preparation
proposed project	Pipeline Safety and Reliability Project – New Natural Gas Line 3602 and De-rating Line 1600; <i>also</i> PSRP
PSRP	Pipeline Safety and Reliability Project – New Natural Gas Line 3602 and De-rating Line 1600; <i>also</i> , proposed project
SDG&E	San Diego Gas & Electric Company
SoCalGas	Southern California Gas Company

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1

Overview of CEQA Scoping Process

1.1 Introduction

On September 30, 2015, San Diego Gas & Electric Company (SDG&E) and Southern California Gas Company (SoCalGas) (the applicants) requested a Certificate of Public Convenience and Necessity (CPCN) (Application No. A.15-09-013) from the California Public Utilities Commission (CPUC) to construct, operate, and maintain the proposed Pipeline Safety and Reliability Project – New Natural Gas Line 3602 and De-rating Line 1600 (PSRP, or the proposed project). The PSRP includes a new natural gas pipeline (Line 3602) and supporting facilities, as well as de-rating, or lowering the pressure of, the existing Line 1600 and converting it from transmission to distribution use.

In accordance with the California Environmental Quality Act (CEQA), the CPUC is serving as the lead agency for the environmental review process and is preparing an Environmental Impact Report (EIR) to evaluate the proposed project's potential impacts on the environment. The EIR will describe the nature and extent of the environmental impacts of the proposed project and will determine whether those impacts could be avoided, eliminated, compensated for, or reduced to less than significant levels. The EIR will also identify and analyze alternatives to the proposed project that could reduce, eliminate, or avoid one or more of the proposed project's significant impacts and mitigation measures for significant adverse impacts.

To help determine the scope of the impacts that will be assessed under CEQA, the CPUC solicited input from the potential responsible and trustee agencies under CEQA, interested parties, and members of the public on environmental impacts, mitigation measures, and any other potential concerns associated with the proposed project. On May 9, 2017, the CPUC formally began this public participation process (also known as “scoping”) by issuing a Notice of Preparation (NOP) for a draft environmental analysis. The NOP was circulated for a public review and comment period beginning on May 9, 2017, and ending on June 12, 2017.

1.2 Purpose of Scoping Process

Public participation is a fundamental part of the CEQA environmental review process. Scoping is the process used to gather comments and input from interested members of the public; local, state, and federal agencies; and project applicants early in the environmental review process. The comments and other information provided during the scoping process will help the CPUC determine the scope, focus,

and content of the EIR and identify the range of alternatives, environmental effects, and mitigation measures to analyze in the EIR.

The scoping process does not seek to resolve differences of opinion on the proposed project, nor does it anticipate an ultimate decision. Rather, the process augments the development of a comprehensive EIR, which provides decision-makers with the information and analysis they need to thoroughly review SDG&E and SoCalGas's application.

1.3 Scoping Summary Report Organization

This Scoping Summary Report describes the CPUC's CEQA scoping process and includes the following sections:

- Section 1.0, Introduction – Introduces the applicants and their proposed project and explains the CPUC's environmental review and public scoping process.
- Section 2.0, Overview of the Proposed Project – Summarizes the applicant's stated purpose(s) and the components of the proposed project.
- Section 3.0, Summary of Scoping Activities – Summarizes the scoping activities that the CPUC conducted for the proposed project.
- Section 4.0, Summary of Scoping Comments – Identifies comment submittal methods, summarizes the number of comments received, and provides a high-level overview of scoping comments received by topic or resource area.

The following attachments are included in the Scoping Summary Report:

- Attachment A, Notice of Preparation – Copy of the NOP submitted to the California State Clearinghouse on May 9, 2017.
- Attachment B, Legal Notice – Copy of the legal notice placed in newspapers in the project area.
- Attachment C, Postcard Mailer – Copy of the postcard mailed to stakeholders in the project area.
- Attachment D, Electronic Mail Notification – Copy of the electronic mail sent to stakeholders.
- Attachment E, Public Scoping Meeting Materials – Copies of materials provided to stakeholders during the public scoping meetings.
- Attachment F, Scoping Comments Received – Copies of all comments received during the public scoping period.

2

Overview of the Proposed Project

2.1 Background

The applicants state that the proposed project is needed to advance three fundamental objectives for the integrated SDG&E and SoCalGas natural gas transmission system in San Diego County:

1. Implement pipeline safety requirements for existing Line 1600, thereby enabling the applicants to comply with their CPUC-approved Pipeline Safety Enhancement Plan and modernize the system with state-of-the-art materials;
2. Improve system reliability and resiliency by minimizing dependence on a single pipeline; and
3. Enhance operational flexibility to manage stress conditions by increasing system capacity.

The PSRP would address these objectives by replacing the transmission capacity of the existing Line 1600 with a new 36-inch-diameter gas transmission pipeline, Line 3602.

2.2 Project Description

To meet the stated project purposes described in Section 2.1, the applicants propose to construct, operate, and maintain the new San Diego Natural Gas Pipeline (Line 3602) and supporting facilities, as well as de-rate, or lower the pressure of, the existing Line 1600 and complete the modifications required to convert existing Line 1600 from a transmission pipeline to a distribution pipeline. The proposed project facilities are described below and illustrated on Figure 2-1.

Construct and Operate New Natural Gas Line 3602

Line 3602 would consist of a new, approximately 47-mile-long, 36-inch-diameter natural gas transmission pipeline that would carry natural gas from SDG&E's existing Rainbow Metering Station in Rainbow, California, to a tie-in with SDG&E's existing system within U.S. Marine Corps Air Station Miramar in San Diego, California. The new pipeline would also necessitate supporting facilities, which would require approximately 2 acres of land. The following facilities in support of Line 3602 are proposed:

- Construction of the Rainbow Pressure-Limiting Station;

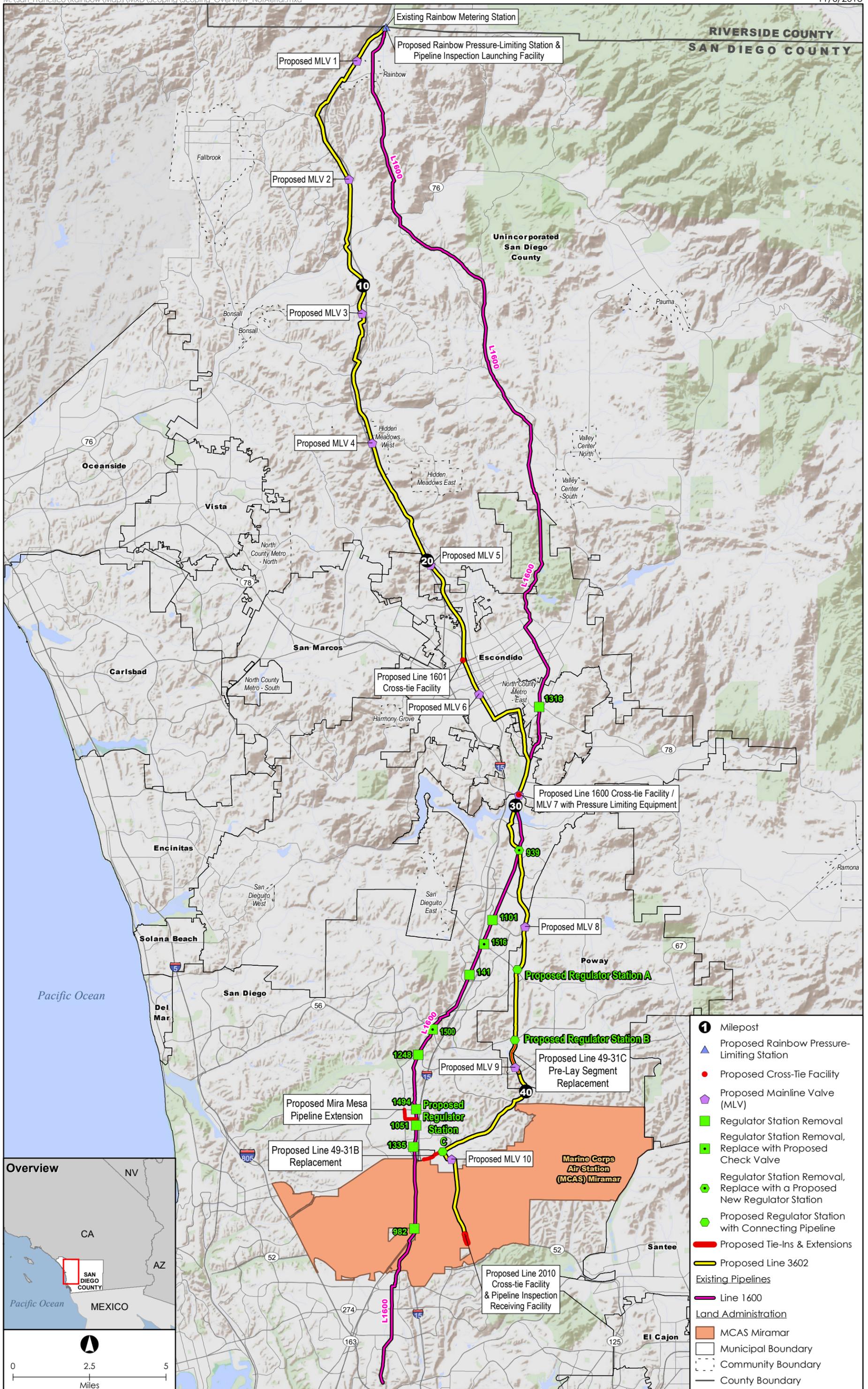
2 Overview of the Proposed Project

- Construction of 10 main line valves;
- Construction of three cross-tie facilities for existing Line 1600, Line 1601, and Line 2010; and
- Construction or installation of minor operations support facilities, including pipeline inspection launching and receiving equipment (pig launcher and receiver), a cathodic protection system, and a fiber optic intrusion and leak detection system.

De-rate Existing Line 1600

SDG&E's Line 1600 is an existing approximately 50-mile-long natural gas transmission pipeline constructed in 1949 that begins at the existing Rainbow Metering Station and terminates in Mission Valley, San Diego. The applicants propose to de-rate, or lower the pressure of, approximately 45 miles of existing Line 1600 to convert it from a transmission pipeline to a distribution line. This conversion would require system modifications at various locations along existing Line 1600, including:

- Removal of eight existing regulator stations that would not be replaced;
- Removal of two existing regulator stations that would be replaced with check valves;
- Removal of one existing regulator station that would be replaced with a new regulator station;
- Construction of three new regulator stations and connection pipelines;
- Construction of the Mira Mesa Pipeline Extension (0.88-mile-long, 8-inch-diameter pipe) to maintain the high-pressure distribution system for the community of Mira Mesa;
- Line 49-31B Replacement – In-place replacement of an existing 0.70-mile-long segment of 4-inch-diameter pipe along Line 49-31B with a 6-inch-diameter pipe to maintain service to the Mira Mesa high-pressure distribution system; and
- Line 49-31C Prelay Segment Replacement – Installation of 1.08 miles of 8-inch-diameter pipe in a segment in Pomerado Road.



Sources: ESRI 2012, 2017; SanGIS 2016; SDG&E 2017; USMC 2017

Figure 2-1 Project Overview

2.3 Project Location

The proposed project would be located in San Diego County, California, and cross the cities of Escondido, San Diego, and Poway; unincorporated communities in San Diego County; and federal land (Marine Corps Air Station Miramar) (see Figure 2-1, Project Overview). Approximately 87 percent (approximately 41 miles) of the proposed pipeline would be installed in urban areas within existing roadways and road shoulders; the majority of the new pipeline would generally follow the alignments of U.S. Route 395, Interstate 15, and Pomerado Road. The remaining 6 miles would be installed cross-country on federal and privately owned land.

2.4 Project Construction and Operations

Construction of the proposed project would begin in the third quarter of 2019 and would take approximately 15 to 21 months to complete. To account for construction of the modifications associated with the de-rating of existing Line 1600, an additional two to three months would be required.

2.5 Project Alternatives

The EIR will evaluate a reasonable range of alternatives to the PSRP that could achieve all or most of the objectives of the proposed project, while avoiding or reducing one or more of its significant environmental impacts. Alternatives will include a “no project” alternative. In addition to the applicants’ proposed route for Line 3602, the CPUC anticipates evaluating the following route alternatives in the EIR:

- No Project Alternative (i.e., test and repair existing Line 1600);
- Rainbow to Santee Non-Miramar Alternative;
- Kearny Villa Road Alternative; and
- Spring Canyon Firebreak Alternative.

In the Proponent’s Environmental Assessment (which was part of the applicants’ CPCN application), SDG&E and SoCalGas evaluated a variety of project alternatives, including not constructing a new pipeline, constructing alternate sized pipe, constructing a new pipeline in other areas, multiple alternative routes, and minor route variations. As part of the environmental review process for the proposed project, the CPUC will re-evaluate the alternatives developed by SDG&E and SoCalGas and determine whether to carry them forward for further analysis in the EIR. The CPUC may develop additional alternatives for consideration and analysis based on input received during the scoping period or in response to potentially significant environmental impacts identified during development of the EIR.

3

Summary of Scoping Activities

This section summarizes the scoping activities that the CPUC conducted for the proposed project.

3.1 Notification Activities

3.1.1 Notice of Preparation

The CPUC circulated the NOP for the proposed project on May 9, 2017, opening a 35-day comment period on the scope and content of the EIR and announcing six public scoping meetings. The comment period ended at 12 p.m. on June 12, 2017.

The NOP was sent to the State Clearinghouse (SCH No. 2017051031) and responsible and trustee agencies, including representatives of federal, state, regional, and local agencies; planning groups; and institutions. The availability of the NOP on the CPUC website (which included a link to download the document) was mentioned in the legal notice (see Section 3.1.2), postcard mailer (see Section 3.1.3) and electronic mail (see Section 3.1.4). The NOP is provided in Attachment A.

3.1.2 Legal Notice

A legal notice was published once in each of the newspapers listed in Table 3-1 to notify the public of the intent to prepare an EIR and to hold public scoping meetings. These newspapers were selected based on coverage and circulation to reach as many of the members of the public as possible near the project area and public scoping meeting locations. The legal notices were published to coincide with the filing of the NOP on May 9, 2017. The legal notice is provided in Attachment B.

Table 3-1 Legal Notice Publication Summary

Newspaper	Publication Days	Approximate Coverage	Circulation	Dates Published
The San Diego Union-Tribune	Daily	All of San Diego County	250,678	May 9, 2017
Poway News Chieftain	Weekly - Thursdays	Poway, Rancho Bernardo	14,902	May 11, 2017
Rancho Bernardo News Journal	Weekly - Thursdays	Poway, Rancho Bernardo	16,731	May 11, 2017
Village News	Weekly - Thursdays	Fallbrook, Bonsall, De Luz, Rainbow, Camp Pendleton, Pala, Pauma	6,000	May 11, 2017
Valley Road Runner	Weekly - Thursdays	Valley Center, Pauma Valley	4,000	May 11, 2017

Table 3-1 Legal Notice Publication Summary

Newspaper	Publication Days	Approximate Coverage	Circulation	Dates Published
The Paper	Weekly - Thursdays	Escondido, San Marcos, Oceanside, Carlsbad, Vista, Lake San Marcos, San Elijo Hills, Rancho Bernardo	Up to 20,000	May 11, 2017
El Latino ^(a)	Weekly - Fridays	San Ysidro to Oceanside	60,000	May 12, 2017
La Presna ^(a)	Weekly - Fridays	San Ysidro to Oceanside	41,000	May 12, 2017

Note:

(a) *El Latino* is a Spanish language newspaper, while *La Prensa* is a Spanish/English language newspaper, approximately 40 percent in English and 60 percent in Spanish; for these two publications, the legal notice was published in Spanish. Both newspapers have a wide area of distribution that includes all or portions of the project area.

3.1.3 Postcard Mailer

A postcard mailer was sent to all stakeholders identified in the CPUC’s project mailing list to notify recipients about the public scoping meetings and comment period. A total of 48,633 postcards were mailed on May 9, 2017. The postcard is provided in Attachment C.

3.1.4 Electronic Mail Notification

The postcard mailer was also emailed in a letter to stakeholders in the CPUC’s project mailing list with email addresses. A total of 397 emails were electronically mailed on May 9, 2017. The Electronic Mail Notification is provided in Attachment D.

3.1.5 CPUC Project Website

The CPUC maintains a website for the proposed project (<http://sandiegopipeline-psrp.com>). The website contains project background pertaining to the applicants’ CPCN application; the CPUC’s environmental review process; project description, and location; a list of documents submitted to the CPUC with links to the PDF copies of the file; and a link to join the CPUC project mailing list.

During the public scoping period, the website included a link to submit a public scoping comment through the website (see Section 4.1). The website address was included in the NOP (Section 3.1.1), legal notice (Section 3.1.2), postcard mailer (Section 3.1.3), Electronic Mail Notification (Section 3.1.4), and project-specific materials provided during the public scoping meetings (Section 3.2).

The CPUC website was updated before, during, and after the public scoping period as summarized in Table 3-2.

Table 3-2 CPUC Project Website Updates Associated with the Public Scoping Period

Date	Summary of CPUC Project Website Update
May 4, 2017	Revisions generally announced the upcoming scoping period to occur in May 2017.
May 9, 2017	Revisions announced the opening and duration of the public scoping period; summarized the methods for submitting a comment during the public scoping period; activated the electronic scoping comment form on the website; provided a link to download the NOP; and added a more detailed project overview map to the website.
May 23, 2017	Revisions added a detailed alternatives map; detailed street maps for proposed Line 3602, existing Line 1600, and alternatives; and Fact Sheets 1, 2, and 3 to the website.
June 2, 2017	Revisions provided a link to download the PowerPoint presentation given by the CPUC during the public scoping meetings to the website.
June 13, 2017	Revisions added a new SDG&E existing gas transmission system map; announced the closing of the public scoping period; and deactivated the electronic scoping comment form on the website.

3.1.6 Project Voicemail and Electronic Mail

The CPUC maintains a project voicemail (1-844-312-4776) and an email address (SDgaspipeline@ene.com). The voicemail and email served as additional communication methods to answer questions during the public scoping period. The email address also served as a comment submittal method during the public scoping period (see Section 4.1).

3.1.7 Document Repositories

Fourteen information repositories were established at libraries in the project area to make project information readily available to stakeholders (especially to those who did not have Internet access) (see Table 3-3). The locations of the information repositories were published in the NOP. Two additional information repositories, not initially noted in the NOP, were established during the public scoping period based on a request by a municipality (see Table 3-3).

Copies of the NOP (see Section 3.1.1) and the fact sheets provided at the public scoping meetings (see Table 3-5) were placed in the information repositories during the public scoping period.

Table 3-3 Project Document Repositories

Repository	Address
Temecula Public Library	30600 Pauba Road Temecula, CA 92592
Fallbrook Public Library	124 S. Mission Road Fallbrook, CA 92028
Valley Center Branch Library	29200 Cole Grade Road Valley Center, CA 92082
Vista Branch Library	700 Eucalyptus Ave. Vista, CA 92084
San Marcos Branch Library	2 Civic Center Drive San Marcos, CA 92069
Escondido Public Library	239 S. Kalmia St. Escondido, CA 92025

Table 3-3 Project Document Repositories

Repository	Address
Rancho Bernardo Branch Library	17110 Bernardo Center Drive San Diego, CA 92128
4S Ranch Branch Library	10433 Reserve Drive San Diego, CA 92127
Carmel Mountain Ranch Branch Library	12095 World Trade Drive San Diego, CA 92128
Rancho Penasquitos Branch Library	13330 Salmon River Road San Diego, CA 92129
Poway Branch Library	13137 Poway Road Poway, CA 92064
Mira Mesa Branch Library	8405 New Salem St. San Diego, CA 92126
Scripps Miramar Ranch Branch Library	10301 Scripps Lake Drive San Diego, CA 92131
Tierrasanta Branch Library	4985 La Cuenta Drive San Diego, CA 92124
Santee Branch Library ^(a)	9225 Carlton Hills Blvd. #17 Santee, CA 92071
City of Santee Department of Development Services ^(a)	10601 Magnolia Ave. Santee, CA 92071

Note:

(a) Information repository location requested by the City of Santee after publication of the Notice of Publication.

3.2 Public Scoping Meetings

During the public scoping period, the CPUC held six public scoping meetings (see Table 3-4). These meetings were conducted in an open-house format, with a break for a CPUC presentation 30 minutes after the start of each meeting. The open-house format allowed attendees to speak with the subject matter experts one on one or in small groups to obtain information about the environmental review process and development of the EIR, and since it was self-guided, attendees could go directly to the topics that most interested them. This format also allowed attendees to arrive at any time within the meeting hours and to stay as long as they felt necessary.

Stakeholders were not required to sign in to the public scoping meetings; however, the sign-in sheet contained a join the CPUC’s project mailing list check-box option. Completed sign-in sheets were used to determine the number of attendees for each meeting (see Table 3-4) and individuals to be added to the CPUC’s project-specific mailing list (if they requested this).

Project-specific materials were provided to stakeholders during the public scoping meetings. The distributed public scoping meeting materials are summarized in Table 3-5 and provided in Attachment E.

Stakeholders could submit comment(s) during the public scoping meetings by submitting a handwritten comment and placing it in one of the comment boxes provided at the meeting and/or providing a verbal comment to a court reporter in attendance at each meeting. Additional commenting methods, outside of methods used during the public scoping meetings, were described in the NOP, the legal notice, the postcard mailer, the Electronic Mail Notification, the CPUC website (see

3 Summary of Scoping Activities

Sections 3.1.1 through 3.1.5), the comment card (see Attachment E), and Fact Sheet 3 (see Attachment E), and are further described in Section 4.1.

Table 3-4 Public Scoping Meetings and Attendance

City	Date	Location	Time ^(a)	Number of Attendees ^(b)
Fallbrook	May 23, 2017	Pala Mesa Resort, Ballroom 2001 Old Highway 395 Fallbrook, CA 92028	2-4 p.m.	24
			6-8 p.m.	12
Escondido	May 24, 2017	Park Avenue Community Center, Auditorium 210 E. Park Ave. Escondido, CA 92025	2-4 p.m.	29
			6-8 p.m.	21
San Diego	May 25, 2017	Alliant International University San Diego Campus, Green Hall 10455 Pomerado Road San Diego, CA 92131	2-4 p.m.	52
			6-8 p.m.	26

Notes:

(a) A presentation was given by the CPUC at each public scoping meeting at 2:30 p.m. and 6:30 p.m.

(b) Meeting attendees were encouraged, but not required, to sign in to the public scoping meetings. The number of attendees reflects the stakeholders who chose to sign in (i.e., outside of CPUC personnel and/or their subconsultants who staffed the meetings).

Table 3-5 Public Scoping Meeting Materials

Public Scoping Meeting Material	Format Provided
General Room Layout	Hardcopy
Comment Card	Hardcopy
Fact Sheet #1: Project Overview and Proposed Project Alternatives	Hardcopy; also provided on CPUC website (see Section 3.1.5) and at information repositories (see Section 3.1.7)
Fact Sheet #2: CPUC Application Review Process	Hardcopy; also provided on CPUC website (see Section 3.1.5) and at information repositories (see Section 3.1.7)
Fact Sheet #3: Public Scoping and Public Involvement	Hardcopy; also provided on CPUC website (see Section 3.1.5) and at information repositories (see Section 3.1.7)
CPUC Presentation	Electronic presentation conducted by the CPUC at each public scoping meeting; also provided on CPUC website (see Section 3.1.5)

3.3 Interagency Coordination

The CPUC has coordinated and continues to coordinate with numerous federal, state, and local agencies throughout their environmental review of the proposed project. This coordination included completion and distribution of the NOP to responsible and trustee agencies; federal, state, regional, and local agencies; planning groups; and institutions (CEQA guidelines 15082; Notice of Preparation and Determination of the Scope of EIR).

Additionally, the CPUC met with numerous agencies based on a specific agency request: to help the CPUC expedite consultation; to determine the scope and content of the environmental information that the agency may require for its review and/or

3 Summary of Scoping Activities

approval of the proposed project; and to help the CPUC determine the scope, focus, and content of the EIR and identify the range of alternatives, environmental effects, and mitigation measures to analyze in the EIR (CEQA Guideline 15082(a), Meetings). The CPUC's interagency coordination occurred both before and during the public scoping period (see Table 3-6) and will continue through the completion of the EIR (CEQA Guidelines 15083; Early Public Consultation).

Agencies, tribes, and other organizations that provided comments during the scoping period are summarized in Section 4.2.

Table 3-6 Summary of Interagency Coordination Held before and during the Public Scoping Period

Agency	Meeting Date(s)
Federal	
U.S. Fish and Wildlife Service	<ul style="list-style-type: none"> • December 14, 2016 • May 10, 2017
U.S. Army Corps of Engineers	<ul style="list-style-type: none"> • February 22, 2017 • May 25, 2017
Naval Facilities Engineering Command Southwest, Marine Corps	<ul style="list-style-type: none"> • February 21, 2017
U.S. Marine Corps – Marine Corps Air Station Miramar	<ul style="list-style-type: none"> • October 24, 2016 • December 14, 2016 • January 12, 2017 • February 21, 2017 • February 22, 2017 • May 25, 2017
State	
California Department of Fish and Wildlife	<ul style="list-style-type: none"> • December 14, 2016 • May 10, 2017
California Department of Transportation	<ul style="list-style-type: none"> • October 24, 2016
Local	
City of San Diego	<ul style="list-style-type: none"> • October 24, 2016 • February 22, 2017
San Diego Unified School District	<ul style="list-style-type: none"> • January 18, 2017

3.4 Tribal Coordination

The CPUC is responsible for conducting Assembly Bill 52 (AB 52) Consultation with California Native American tribes. AB 52 provides for requirements under CEQA to ensure that tribes, public agencies, and project proponents have the information necessary to identify potential impacts to tribal cultural resources. AB 52 applies to projects for which the public notice of environmental review was issued on or after July 1, 2015.

The CPUC provided a formal invitation to consult under AB 52 to four tribes: the Pechanga Band of Luiseno Indians, the Federated Indians of Graton Rancheria, the San Luis Rey Band of Mission Indians, and the Torres Martinez Desert Cahuilla Indians. These tribes had previously requested the CPUC to notify them of either all CPUC projects or those within their geographic area of interest. Only the Pechanga Band of Luiseno Indians and the San Luis Rey Band of Mission Indians responded in the affirmative to consult with the CPUC under AB 52.

3 Summary of Scoping Activities

The CPUC also sent invitations to consult with 19 other tribes based on correspondence with the Native American Heritage Commission, which assisted in the identification of tribes with a potential interest in the proposed project based on geographic location. As AB 52 is a relatively new requirement, the CPUC allowed other tribes to respond in the affirmative to consult under this assembly bill. Among the tribes responding in the affirmative were the Iipay Nation of Santa Ysabel, the Jamul Indian Village, the Pala Band of Mission Indians, the Rincon Band of Mission Indians, the Soboba Band of Luiseno Indians, and the Sycuan Band of the Kumeyaay Nation. The Viejas Band of Kumeyaay Indians requested only that a monitor be present for ground-disturbing activities.

The following tribes either did not respond or responded that consultation was not necessary: Agua Caliente Band of Cahuilla Indians, Barona Group of the Capitan Grande, Campo Band of Mission Indians, Ewiiapaayp Tribal Office, Inaja Band of Mission Indians, Kwaaymii Laguna Band of Mission Indians, La Jolla Band of Luiseno Indians, La Posta Band of Mission Indians, Manzanita Band of Kumeyaay Nation, Mesa Grande Band of Mission Indians, Pauma Band of Luiseno Indians, and San Pasqual Band of Mission Indians.

Information was provided to all of the tribes regardless of their AB-52 Consultation response to inform them of the public scoping meetings and the public scoping period. A letter from the CPUC was sent to all of the tribes on April 17, 2017. The letter informed the tribes of the upcoming public scoping meetings, along with project updates. Emails were sent to representatives of all but one of the tribes on May 18, 2017, and May 22, 2017, as an additional reminder of the public scoping meeting times and dates and the methods for submitting public scoping comments. One letter was mailed to the Kwaaymii Laguna Band of Mission Indians, as an email address was not available.

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4

Summary of Scoping Comments

4.1 Comment Submittal Methods and Number of Comments Received

During the public scoping period, interested parties were able to submit comments using the following methods:

- Online at the CPUC’s PSRP website at <http://sandiegopipeline-psrp.com>;
- Via email at SDgaspipeline@ene.com;
- Via U.S. mail to:
Robert Peterson
California Public Utilities Commission
RE: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111
- Providing a verbal statement to a court reporter at a public scoping meeting; and/or
- Handing in a written comment at a public scoping meeting.

Stakeholders submitted 496 comment documents to the CPUC during the public scoping period using these submittal methods (see Table 4-1). The scoping comment documents received during the public scoping period are included in Attachment F.

Table 4-1 Submittal Methods for Public Scoping Comment Documents Received

Comment Submittal Method	Number of Comments Received / Percentage
Online	160 / 32%
Email	244 / 49%
U.S. Mail	44 / 9%
Verbal Statement to a Court Reporter	11 / 2%
Written Comment at Public Scoping Meeting	37 / 7%
Total Number of Comment Document Received	496/99^(a)

Note:

(a) Percentage totals 99% due to rounding.

4.2 Federal, State, Regional, and Local Agencies Providing Comments

As stated in Section 4.1, 496 comment documents were submitted to the CPUC during the public scoping period in response to the NOP. A total of 410 (83 percent) of the 496 comment documents were received from individuals, while the remaining 86 (17 percent) were received from individuals commenting on behalf of or representing an organization or constituents (see Attachment F). These 86 comment documents were submitted on behalf of agencies; school districts; tribes; chambers of commerce; federal and state elected officials; nongovernmental organizations; and businesses, business organizations, or business associations. The specific affiliation or organization for each of these comment documents is summarized in Table 4-2.

Table 4-2 Affiliation of Commenters Submitting Comments on Behalf of an Organization or Constituents

Affiliation / Organization	Additional Information
State Agencies	
California Department of Fish and Wildlife (CDFW)	Joint letter from Goodan Ranch Policy Committee, which is made up of representatives from the following four entities: CDFW (Tim Dillingham), City of Poway (Councilmember Barry Leonard), City of Santee (Councilmember Stephen Houlahan), and County of San Diego (Supervisor Dianne Jacob)
California Department of Transportation, District 11	
Regional/Local Agencies	
Bonsall Community Sponsor Group	
City of Escondido, City Manager's Office	Sam Abed, Mayor
City of Escondido	Sam Abed, Mayor
City of Poway	Joint letter from Goodan Ranch Policy Committee which is made up of representatives from the following four entities: CDFW (Tim Dillingham), City of Poway (Councilmember Barry Leonard), City of Santee (Councilmember Stephen Houlahan), and County of San Diego (Supervisor Dianne Jacob)
City of Poway	Steve Vaus, Mayor
City of San Diego	Steve Sherman, Council Member, Seventh District
City of Santee	Joint letter from Goodan Ranch Policy Committee, which is made up of representatives from the following four entities: CDFW (Tim Dillingham), City of Poway (Councilmember Barry Leonard), City of Santee (Councilmember Stephen Houlahan), and County of San Diego (Supervisor Dianne Jacob)
City of Santee	Marlene Best, City Manager
City of Santee	Melanie Kush, Development Services Director. Included Resolution Number 066-2017 from the City Council of the City of Santee
City of Santee	Stephen Houlahan, Councilman

Table 4-2 Affiliation of Commenters Submitting Comments on Behalf of an Organization or Constituents

Affiliation / Organization	Additional Information
City of Santee, Department of Development Services	
County of San Diego	Joint letter from Goodan Ranch Policy Committee which is made up of representatives from the following four entities: CDFW (Tim Dillingham), City of Poway (Councilmember Barry Leonard), City of Santee (Councilmember Stephen Houlahan), and County of San Diego (Supervisor Dianne Jacob)
County of San Diego, Planning and Development Services	
Mira Mesa Town Council	
North County Fire Protection District	
Padre Dam Municipal Water District	
Port of San Diego	
Rainbow Municipal Water District	
Rancho Bernardo Community Planning Board	
San Diego North Economic Development Council	
San Dieguito River Park Joint Power Authority	
Scripps Ranch Planning Group	
School Districts	
Santee School District	Kristin Baranski, Superintendent
Santee School District	Joint letter from Elana Levens-Craig, President; Dianne El-Hajj, Vice President; Ken Fox, Clerk; Dustin Burns, Member; Barbara L. Ryan, Member; and Kristin Baranski, Superintendent
Tribes	
Pauma Band of Luiseno Indians	Chris Devers, Cultural Liaison
Chamber of Commerces (COC)	
Carlsbad COC	
Chula Vista COC	
Escondido COC	
Mira Mesa COC	
Otay Mesa COC	
Oceanside COC	
National City COC	
San Diego Regional COC	
Federal and State Elected Officials	
California Legislature; 76th District	Colonel Rocky J. Chavez, Assembly Member
Congress of the United States	Joint letter from Congressman Juan Vargas, Scott Peters, Duncan Hunter, and Darrell Issa and Congresswoman Susan Davis

Table 4-2 Affiliation of Commenters Submitting Comments on Behalf of an Organization or Constituents

Affiliation / Organization	Additional Information
Non-Governmental Organizations	
California Chaparral Institute, Center for Biological Diversity, and Preserve Wild Santee	Joint letter from Van K. Collinsworth (Geographer/Director, Preserve Wild Santee and Coordinator, California Chaparral Institute, Vernal Pool Conservation Program), John Buse, Senior Staff Attorney, Center for Biological Diversity, and Richard W. Halsey, Director, California Chaparral Institute
California Native Plant Society	
Cleveland National Forest Foundation	
Climate Action Campaign	
Conservation Biology Institute	
Endangered Habitats League	
San Diego Audubon Society	
San Diego Military Advisory Council	
Sierra Club	
Businesses/Business Organizations/Business Associations	
Atlas Hotels	
Biocom	
Bioenergy Association of California	
California Natural Gas Vehicle Coalition	
California Restaurant Association-San Diego County Chapter	
Cohn Restaurant Group	
Council for Supplier Diversity	
Donovan's Steak & Chop House	
Downtown San Diego Partnership	
Eat.Sleep.Drink	
Evans Hotels	
Food & Beverage Association of San Diego County	
General Dynamics NASSCO	
J Power Group / Orange Grove Energy	
Local Union 465, International Brotherhood of Electrical Workers	
Manchester Grant Hyatt San Diego	
NAES Corporation	Orange Grove Energy Facility
San Diego City Fire Fighters, Local 145, I.A.F.F.	
San Diego Fire Rescue Foundation	
San Diego County's Building Trades Unions	

Table 4-2 Affiliation of Commenters Submitting Comments on Behalf of an Organization or Constituents

Affiliation / Organization	Additional Information
Sempra Utilities (SDG&E/SoCalGas)	Included: <ul style="list-style-type: none"> • Transmittal Letter and Attachment A: Scoping Comments of SDG&E and SoCalGas on the NOP of an EIR for the PSRP (and Exhibits A-D and F) <ul style="list-style-type: none"> ➤ Exhibit A: Prepared Direct Testimony of Jani Kukits on behalf of SDG&E and SoCalGas (March 21, 2016) ➤ Exhibit B: Cost Effectiveness Analysis for the Pipeline Safety and Reliability Project, SDG&E and SoCalGas (Application A.15-09-013, Volume III; March 2016) ➤ Exhibit C: Rebuttal Testimony of SDG&E and SoCalGas (June 12, 2017) ➤ Exhibit D: Updated Prepared Direct Testimony of S. Ali Yari on behalf of SDG&E and SoCalGas (updated February 21, 2017) ➤ Exhibit F: SDG&E and SoCalGas Line 1600 Hydrotest Study and Cost Estimate (March 21, 2016) • Attachment C to the Supplemental Testimony of SDG&E and SoCalGas- Review of Risk Factors for Line 1600 (February 2017) • Scoping Comments of SDG&E and SoCalGas on the NOP of an EIR for the PSRP (and Exhibits A-D and F) <ul style="list-style-type: none"> ➤ Exhibit A, B, C, D: see above ➤ Exhibit E: Review of Risk Factors for Line 1600 (February 20, 2017)
San Diego Lodging Industry Association	
San Diego Hotel-Motel Association	
San Diego Port Tenants Association	
San Diego Regional Economic Development Council	
South County Economic Development Council	
Southern California Pipe Trades, District Council 16	
Waterfront Bar & Grill	
Wheeler & Seul Oral Surgery	
World Trade Center San Diego	

4.3 Summary of Comments by Topic/Resource Area

The 496 comment documents submitted to the CPUC were reviewed to identify substantive individual comments within each document. Each substantive comment was further reviewed and assigned to a specific topic or resource area so that they could be considered by subject matter experts during the CPUC’s environmental analysis and preparation of the EIR.

A high level summary of the issues and concerns expressed in individual comments pertaining to the human environment and natural resources is provided in Sections

4.3.1 through 4.3.15. The comment documents also contained comments pertaining to the CEQA process; the proposed project description, objectives, and alternatives; cumulative and growth inducing impacts; and the administrative law judge proceeding.

4.3.1 Aesthetics

- Visual impact of aboveground components, such as mainline valves or regulator stations, on community character.
- Visual impact of temporary facilities, such as staging areas/laydown yards; and of roadway anomalies, such as manholes and other pavement anomalies.
- Mitigation measures, such as decorative walls and landscaping (screening), to minimize impacts on community character and aesthetics.

4.3.2 Agriculture and Forestry Resources

- Agricultural resources in the project area and impacts to these resources as a result of the proposed project.

4.3.3 Air Quality

- Air quality impacts associated with increased traffic in the project area during construction and operation of the proposed project.
- Release of hazardous air pollutants from the proposed project construction and operation in the proximity of sensitive receptors (e.g., schools).
- Effect of increased air pollutants, such as ozone, resulting from elevated temperatures in urban environments.

4.3.4 Biological Resources

- Direct impacts on threatened, endangered, and special status species.
- Degradation and/or destruction of habitat, causing indirect impacts on local wildlife and plant species, including willowy monardella (*Monardella viminea*), especially in Mission Trails Regional Park, Goodan Ranch, Sycamore Canyon Park, and other Multiple Species Conservation Program (MSCP) or preserve lands.
- Impacts on riparian and wetland communities—in particular, the U.S. Fish and Wildlife Service National Wetlands Inventory habitat along Encino Drive in Escondido.
- Impacts on Carroll Creek, a federally designated wetland south of Pomerado Road in Scripps Ranch.
- Incorporation of the San Diego MSCP policies that are intended to protect vegetation communities, county-listed species, and additional areas of conservation concern through the utilization of habitat and conservation planning strategies.

4.3.5 Paleontological, Cultural, and Tribal Cultural Resources

- Analysis of paleontological, archaeological, and built environment resources in the project area and impacts to these resources as a result of the proposed project. Areas of sensitivity identified included parklands owned and managed by the County of San Diego, areas within the city of Rancho Bernardo, the area between Bear Valley Parkway and Highland Valley Road, and the areas where the proposed project would cross Highway 395 and Highway 80. In addition, the County of San Diego requested that its Guidelines for Determining Significance be used to determine impacts on paleontological and cultural resources within the county's jurisdiction.
- Tribal cultural resources, indigenous burials, and sacred lands in the project area and impacts to these resources as a result of the proposed project. Concerns were also expressed that the local tribes should be actively engaged during the identification process.
- Effect of the proposed project on paleontological and cultural resources along and within trails, parks, and public lands. Areas specifically identified included the San Dieguito River Park's Focused Planning Area, the Mule Hill Historic Trail, the Coast to Crest Trail, and parklands owned and managed by the County of San Diego. In addition, in order to limit impacts on cultural resources, the County of San Diego requested that the proposed project follow existing access roads.
- The County of San Diego requested that archaeological and Native American monitoring be performed during any ground-disturbing activity within County-owned and -managed parklands and in or around Old Highway 395 and Old Highway 80. The County also requested that a historic preservation treatment plan be completed before any work takes place within any archaeological site on lands owned or managed by the County.
- Impacts of the Rainbow to Santee non-Miramar Alternative on significant paleontological, cultural, and historical resources; historic landscapes; cultural resources trails; and Kumeyaay sites. Specifically, the County of San Diego identified the Sycamore Canyon Goodan Ranch Preserve as sensitive, with the potential to impact cultural resources.

4.3.6 Geology, Soils, and Mineral Resources

- The ability of the proposed infrastructure to withstand earthquakes;
- The proposed project's proximity to fault lines and impact zones, and resulting susceptibility for infrastructure to be impacted by earthquakes.
- Impact of the proposed project on soil compaction and erosion.
- Geotechnical investigation to evaluate lateral spreading and liquefaction.

4.3.7 Greenhouse Gas Emissions

- Comparison of additional greenhouse gas (GHG) emissions that would result from the proposed project with the amount of natural gas that is transmitted

and distributed under existing conditions (i.e., comparison of pipeline and no pipeline scenarios).

- Impact of additional GHG emissions from vehicles due to lane restrictions during construction of the proposed project.
- Potential increase of natural gas and other fossil fuel production and exports resulting from the proposed project implementation.
- Potential GHG emissions downstream from the proposed project, including: (1) the potential export of additional quantities of gas to Mexico; (2) the incremental GHG emissions that could result from liquefaction and transport of liquefied natural gas; and the environmental effects of combusting liquefied natural gas in end-use markets.
- Conflict with state and local Climate Action Plans and other plans adopted for renewable energy integration and GHG emission reduction.
- GHG emissions and climate impacts associated with natural gas leaks, venting, and accidental releases.

4.3.8 Hazards and Hazardous Materials

- Pipeline Safety – The safety of a high pressure natural gas transmission pipeline in light of recent incidents involving natural gas pipelines.
- Increased Fire Hazard – The proposed project includes new pipeline being constructed in a high fire hazard area with a history of large wildfires.
- Evacuation Route – The Pomerado Road is the only egress and evacuation route for a number of subdivisions in the cities of Poway and Rancho Bernardo and Scripps Ranch in the city of San Diego.
- Proposed Project Routing – The proposed project route should be routed through less populated areas.
- Alternative Route Segments – Proposed alternate routes are located in environmentally sensitive areas.
- Sensitive Environment – The proposed project includes new pipeline being constructed near a number of schools, churches, and hospitals.

4.3.9 Hydrology and Water Quality

- Impacts to water resources (i.e., groundwater, surface water, wetlands) caused by pipeline leaks, including leaks caused by geologic hazards such as earthquakes. Particular concern was expressed regarding areas of shallow groundwater, such as the area of Marlynn Court and Encino Drive, where shallow groundwater sources a natural spring.
- Permanent construction-related hydrological impacts, particularly in wetlands (e.g., Carroll Creek Wetlands) and 100-year flood plains.
- The need to identify and analyze the source of water used during construction.
- Avoid a contaminated groundwater site north of Felicita County Park.

4 Summary of Scoping Comments

- Proximity of the proposed project to the Chatham Brothers Barrel Yard, a former solvent and waste oil recycling facility located at 2257 Bernardo Avenue in Escondido. The Chatham Brothers Barrel Yard is a known source of groundwater contamination and has been the focus of extensive cleanup.
- Impacts on an existing storm water drainage system (along Pomerado Road) and subsequent property damage from storm water runoff during construction of the proposed project.
- Consider the possibility of more severe drought conditions and secondary effects on groundwater, and consider the effects on flood hazard due to increased incidence of the Pineapple Express and similar weather events that markedly increase rainfall.
- Consider financial and environmental cost of producing and shipping hydraulically fractured natural gas (e.g., permanent destruction of drinking water aquifers).
- Horizontal directional drilling (HDD) procedures should be well documented and include HDD-related methods such as drilling mud hauling and “frac-out” procedures.
- Comply with Municipal Separate Storm Sewer System (MS4) Permits to minimize impacts on water quality—specifically, staging areas/laydown yards and other places where soils are stored must have appropriate best management practices (BMPs) in place to reduce impacts.
- Consider San Diego County guidelines for determining significance.
- Maintain appropriate setbacks. Implement permanent source control, site design, pollutant control, and hydromodification management in accordance with the San Diego County BMPs Design Manual.
- Comply with San Diego Municipal Storm Water Permit Orders.
- Comply with San Diego County’s Grading Ordinance, Watershed Protection Ordinance, and State of California’s Construction General Permit.
- A No-Rise analysis and a Letter of Map Revision or County Letter of Map Revision may be required in accordance with Federal Emergency Management Agency (FEMA) regulations and County Flood Damage Prevention Ordinance Section 811.503 for areas where the pipeline or associated facilities would cross FEMA- and County-mapped floodways/ floodplains.
- Coordinate closely with the Department of Public Works Flood Control.
- Coordinate with the Rainbow Municipal Water District.

4.3.10 Land Use and Planning

- Conflicts between the proposed pipeline and existing land uses, including existing schools and homes.
- Impacts on conservation lands, including Pre-Approved Mitigation Area lands and the San Dieguito River Park’s Focused Planning Area.

- Impacts on public recreational areas.

4.3.11 Noise

- Impacts on and mitigation measures for sensitive receptors, existing and proposed uses, types of equipment/noise specifications, hours of operation, and noise volumes at adjacent property lines.
- Noise and vibration impacts during construction in proximity to residential development, including the area along Pomerado Road.
- Determining if a noise variance is required for construction of the proposed pipeline (e.g., for staging areas/laydown yards, and delivery hours/days, etc.).

4.3.12 Population and Housing

- Potential for the de-rating of Line 1600 and operating it as a distribution line to induce development in undeveloped or under-developed areas served by this line.
- Concern that project-related decisions are being made based on out-of-date population data.

4.3.13 Public Services and Utilities

- Impacts on existing underground utilities during construction and the potential to interrupt electricity, water, and other utilities to homes, businesses, and emergency services.
- Impacts on existing schools, hospitals, and other facilities adjacent to the proposed project.

4.3.14 Recreation

- Closure of trails, and impacts on interpretive signage and amenities along trails during construction of the proposed project.
- General opposition regarding impacts due to routing the proposed project through public recreational areas.

4.3.15 Traffic and Transportation

- Impact of the proposed project on roadway traffic operations.
- Proximity of the proposed project to existing schools and homes and the potential to increase existing congestion on roadways, hinder access to/from schools and private residences, and pose a safety risk to students and drivers.
- Impacts on emergency vehicle access, including fire evacuation and the effect on emergency access to local area hospitals along the proposed project route.
- Impact on traffic operations along congested roadways identified as proposed project routes.

4 Summary of Scoping Comments

- Work performed within California Department of Transportation (Caltrans) right-of-way will require discretionary review and approval by Caltrans and receipt of an encroachment permit. The encroachment permit will identify avoidance, minimization, and mitigation measures and a Traffic Management Plan.
- Repair and/or reconstruction of San Diego County-maintained roadways shall be performed to the satisfaction of the County Director of the Department of Public Works. Suggestions to coordinate with the County during the public outreach process were provided. Recommendations to minimize impacts on roadways included establishment of a Haul Route Plan to ensure that roads are not damaged by heavy trucks and that the applicants obtain encroachment permits, prepare a Traffic Management Plan, and identify and adhere to construction times.

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Notice of Preparation (NOP)

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**Notice of Preparation
of an
Environmental Impact Report
for the
Pipeline Safety and Reliability Project –
New Natural Gas Line 3602 and De-rating Line 1600**

Application No. A.15-09-013

To: All Interested Parties
From: Robert Peterson, CEQA Project Manager, CPUC Energy Division
Date: May 9, 2017

Si usted necesita más información en español, por favor, llame al 1-844-312-4776, o envíe un correo electrónico a: SDgaspipeline@ene.com

A. Introduction

The California Public Utilities Commission (CPUC) will prepare a Draft and Final Environmental Impact Report (EIR), in compliance with the California Environmental Quality Act (CEQA), that will discuss the environmental impact of the proposed Pipeline Safety and Reliability Project – New Natural Gas Line 3602 and De-rating Line 1600 (PSRP, or proposed project). San Diego Gas & Electric Company (SDG&E) and Southern California Gas Company (SoCalGas) (the applicants) have filed an application with the CPUC for a Certificate of Public Convenience and Necessity (CPCN) for the proposed project.

This Notice of Preparation (NOP) is being distributed to potential responsible and trustee agencies under CEQA, interested parties, and members of the public. The purpose of the NOP is to inform recipients that the CPUC is beginning preparation of an EIR for the proposed project and to solicit information and guidance on the scope and content of the environmental information to be included in the EIR and identify potential alternatives (see Section F of the NOP). This NOP includes a description of the project that SDG&E and SoCalGas propose to construct, information regarding project location, a summary of potential project-related impacts, the times and locations of public scoping meetings, and information on how to provide comments. **This NOP will be circulated for a public review and comment period beginning on May 9, 2017, and ending on June 12, 2017.**

This NOP can be viewed on the CPUC’s website for the proposed project at the following link: <http://sandiegopipeline-psrp.com>.

B. Project Background

The applicants state that the proposed project is needed to advance three fundamental objectives for the integrated SDG&E and SoCalGas natural gas transmission system in San Diego County:

- Implement pipeline safety requirements for existing Line 1600, thereby enabling the applicants to comply with their CPUC-approved Pipeline Safety Enhancement Plan and modernize the system with state-of-the-art materials;
- Improve system reliability and resiliency by minimizing dependence on a single pipeline; and
- Enhance operational flexibility to manage stress conditions by increasing system capacity.

The PSRP would address these objectives by replacing the transmission capacity of the existing Line 1600 with a new 36-inch-diameter gas transmission pipeline, Line 3602.

On September 30, 2015, SDG&E and SoCalGas filed an application and Proponent’s Environmental Assessment (PEA) with the CPUC for a CPCN to construct, operate, and maintain the PSRP. On March 21, 2016, SDG&E and SoCalGas submitted a revised application and a Supplemental PEA for the proposed project. On August 23, 2016, the CPUC deemed the application complete and determined that an EIR would be required for the proposed project, but noted that information gaps in critical areas remained. One of the gaps identified was the lack of a federal lead agency for review pursuant to the National Environmental Policy Act (NEPA) for the approximately 3.5 miles of land crossed by the project within the United States Marine Corps Air Station Miramar (MCAS Miramar).

On March 17, 2017, MCAS Miramar notified the CPUC and the applicants that they would not serve as the federal lead agency for NEPA, nor would they participate in preparation of a joint CEQA/NEPA document for the proposed project. MCAS Miramar noted that, based on the existence of an off-base alternative (Rainbow to Santee Non-Miramar Alternative), the overall project does not depend on a federal action. However, MCAS Miramar will cooperate in the development of the portions of the EIR that address Miramar alternatives.

C. Project Description and Location

The PSRP includes a new San Diego Natural Gas Pipeline (Line 3602) and supporting facilities, as well as de-rating, or lowering the pressure of, the existing Line 1600 and converting it from transmission to distribution use. The major components of the proposed project are described below. The proposed project facilities are illustrated on Figure 1.

Construction and Operation of Line 3602

Line 3602 would consist of a new, approximately 47-mile-long, 36-inch-diameter natural gas transmission pipeline that would carry natural gas from SDG&E's existing Rainbow Metering Station in Rainbow, California, to a tie-in with SDG&E's existing system within MCAS Miramar.¹ The new pipeline would also necessitate supporting facilities, which would require approximately 2 acres of land. Proposed facilities to support Line 3602 include:

- Construction of a pressure-limiting station;
- Construction of 10 main line valves;
- Construction of three cross-tie facilities for existing Line 1600, Line 1601, and Line 2010; and
- Construction or installation of minor operations support facilities, including pipeline inspection launching and receiving equipment (pig launcher and receiver), a cathodic protection system, and a fiber optic intrusion and leak detection system.

Illustrations of typical right-of-way cross-sections for urban and cross-country areas are included as Figures 2 and 3, and an illustration of typical horizontal directional drill installation is included as Figure 4.

The pipeline would be designed to operate at a maximum of 800 pounds per square inch. The proposed pipeline and associated aboveground facilities would be operated and maintained in accordance with Title 49, Part 192 of the U.S. Code of Federal Regulations. The applicants' existing staff would operate and maintain the pipeline; perform routine maintenance of the pipeline, valves, and pressure-limiting and metering equipment; and respond to emergency situations in accordance with the applicants' operation and maintenance procedures used for existing facilities and in compliance with federal and state regulations.

De-rating Line 1600

SDG&E's Line 1600 is an existing approximately 50-mile-long natural gas transmission pipeline constructed in 1949 that begins at the existing Rainbow Metering Station and terminates in Mission Valley, San Diego. The applicants propose to de-rate, or lower the pressure of, approximately 45 miles of existing Line 1600 to convert it from a transmission pipeline into a distribution line. This conversion would require system modifications at various locations along existing Line 1600, including:

- Removal of eight existing regulator stations that would not be replaced;

¹ If approved as proposed, the new pipeline would terminate within MCAS Miramar. One or more off-base alternatives will also be considered as described in sections B and E of this NOP.

- Removal of two existing regulator stations that would be replaced with check valves;
- Removal of one existing regulator station that would be replaced with a new regulator station;
- Construction of three new regulator stations and connection pipelines;
- Construction of the Mira Mesa Pipeline Extension (0.88-mile-long, 8-inch-diameter pipe) to maintain the high-pressure distribution system for the community of Mira Mesa;
- Line 49-31B Replacement – In-place replacement of an existing 0.70-mile-long segment of 4-inch-diameter pipe along Line 49-31B with a 6-inch-diameter pipe to maintain service to the Mira Mesa high-pressure distribution system; and
- Line 49-31C Prelay Segment Replacement – Installation of 1.08 miles of 8-inch-diameter pipe in a segment in Pomerado Road.

Location of the Project

The proposed project would be located in San Diego County, California, and cross the cities of Escondido, San Diego, and Poway; unincorporated communities in San Diego County; and federal land (MCAS Miramar). Approximately 87 percent (approximately 41 miles) of the proposed pipeline would be installed in urban areas within existing roadways and road shoulders; the majority of the new pipeline would generally follow the alignments of U.S. Route 395, Interstate 15, and Pomerado Road. The remaining 6 miles would be installed cross-country on federal and privately owned land. The proposed project facilities are illustrated on Figure 1.

D. Analysis of Potential Environmental Effects

In accordance with the CEQA Guidelines (Cal. Code. Regs., tit. 14, §§ 15000), the CPUC intends to prepare an EIR to identify and evaluate potential environmental effects of the PSRP and identify mitigation measures to reduce any significant effects identified. The EIR will identify feasible alternatives, compare environmental impacts of the alternatives to the proposed project, and evaluate mitigation to reduce the effects of those alternatives.

Based on preliminary analysis of the proposed project and review of documents submitted by SDG&E and SoCalGas, construction and operation of the proposed project may have a number of environmental effects. Potential issues and significant environmental impacts on the existing environment include those listed in Table 1.

Table 1 Potentially Significant Environmental Impacts

Environmental Issue Area	Potential Issues or Impacts
Air Quality	<ul style="list-style-type: none"> • Temporary conflicts with applicable air quality plans • Temporary contributions to air quality standard violations

Table 1 Potentially Significant Environmental Impacts

Environmental Issue Area	Potential Issues or Impacts
	<ul style="list-style-type: none"> • Temporary increases in criteria pollutant concentrations above established thresholds
Biological Resources	<ul style="list-style-type: none"> • Impacts on sensitive species and sensitive species habitat • Impacts on sensitive natural communities • Impacts on wetlands and streams
Cultural, Paleontological, and Tribal Resources	<ul style="list-style-type: none"> • Impacts on archaeological and historical resources resulting from potential damage during construction • Impacts on unique paleontological resources, site, or geologic feature during construction • Impacts on tribal cultural resources • Temporary disturbance of human remains (if found to be present) during construction
Greenhouse Gas Emissions	<ul style="list-style-type: none"> • Temporary conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases
Noise	<ul style="list-style-type: none"> • Temporary noise levels in excess of standards • Substantial temporary or periodic increase in ambient noise levels
Population and Housing	<ul style="list-style-type: none"> • Temporary population growth in the area as a result of the relocation of approximately 300 construction workers to the proposed project area from outside the county
Traffic and Transportation	<ul style="list-style-type: none"> • Temporary changes in the flow of traffic based on Level of Service standards • Temporary conflicts with traffic plans or policies during construction within roadways • Temporary increases in hazards during construction within roadways • Temporary interference with emergency access and alternative transportation during construction within roadways
Other Analysis Areas	
Aesthetics	See Attachment 1
Agriculture and Forestry Resources	See Attachment 1
Geology, Soils, and Mineral Resources	See Attachment 1
Hazardous and Hazardous Materials	See Attachment 1
Hydrology and Water Quality	See Attachment 1
Land Use and Planning	See Attachment 1
Public Services and Utilities	See Attachment 1
Recreation	See Attachment 1
Cumulative Impacts and Growth Inducing Impacts	<ul style="list-style-type: none"> • Any changes in the pattern of land use, population density, or economic growth rate in the area as a result of the proposed project or

Table 1 Potentially Significant Environmental Impacts

Environmental Issue Area	Potential Issues or Impacts
	impacts from the removal of barriers to development or the extension of infrastructure to a previous unserved or under-served area <ul style="list-style-type: none"> • Collective impacts of the proposed project when combined with other past, present, or reasonably foreseeable future actions

Determinations regarding the significance of these potential impacts will be made in the environmental analysis conducted as part of the EIR after the issues are thoroughly considered. To assist the public’s understanding of the range of impacts that could be considered in the EIR, and to provide a guide for scoping comments, a checklist of CEQA questions typically evaluated in an EIR are included as Attachment 1. In addition to the issues listed in Attachment 1 and any other issues raised in the scoping process, the EIR will include an evaluation of cumulative impacts and growth-inducing impacts of the proposed project in combination with other past, present, and planned projects in the area.

Mitigation Measures

SDG&E and SoCalGas have proposed measures to reduce, avoid, or eliminate potential environmental impacts of the proposed project (called “Applicant Proposed Measures,” or “APMs”). The APMs will be evaluated in the EIR as potential mitigation measures, and additional mitigation measures will also be identified and considered to reduce, eliminate, or avoid potential environmental impacts, as necessary. As part of its decision on the proposed project, the CPUC will identify the mitigation measures to be adopted as a condition of the project’s approval and require implementation of these measures through a mitigation monitoring and reporting program.

E. Alternatives

In addition to the analysis of potential effects for the proposed PSRP, the EIR will evaluate a reasonable range of alternatives to the PSRP that could achieve all or most of the objectives of the proposed project, while avoiding or reducing one or more of its significant environmental impacts. Alternatives will include a “no project” alternative.

In the PEA for the PSRP, SDG&E and SoCalGas evaluated a variety of project alternatives, including not constructing a new pipeline, constructing a new pipeline in other areas of the service territory, multiple routes in the general vicinity of the existing Line 1600, co-locating a new pipeline near other existing infrastructure, and route variations. Alternatives and route variations evaluated by SDG&E and SoCalGas are depicted on Figures 5-1 and 5-2.

As part of the environmental review process for the PSRP, the CPUC will re-evaluate the feasibility of SDG&E and SoCalGas’s alternatives and determine whether or not to carry them forward for further analysis in the EIR. The CPUC may develop additional alternatives for consideration and analysis based on input received during the scoping period or in response to potentially significant environmental impacts identified during development of the EIR.

Agencies and the public will be given the opportunity to comment on the project alternatives considered following publication of the Draft EIR. A Notice of Availability will be issued at the time of the publication of the Draft EIR to inform the public and agencies that the comment period for the Draft EIR has been initiated.

F. Public Scoping Meetings and Comments

As required by CEQA, this NOP is being sent to potential responsible and trustee agencies under CEQA, interested parties, and members of the public. The purpose of the NOP is to inform recipients that the CPUC is beginning the preparation of an EIR for the proposed project and to solicit information that will be helpful in the environmental review process.

Public Scoping Meetings

The CPUC is conducting six public scoping meetings on three dates during the EIR scoping period (see Table 2). All interested parties, including the public, responsible agencies, and trustee agencies, are invited to attend the public scoping meetings to learn more about the proposed project, ask questions, and provide comments in person about the PSRP and the scope and content of the EIR. The CPUC will also present information about the proposed project and its decision-making process at each meeting.

Table 2 Public Scoping Meetings

Tuesday, May 23, 2017*	Wednesday, May 24, 2017*	Thursday, May 25, 2017*
2 PM – 4 PM 6 PM – 8 PM	2 PM – 4 PM 6 PM – 8 PM	2 PM – 4 PM 6 PM – 8 PM
Pala Mesa Resort, Ballroom	Park Avenue Community Center, Auditorium	Alliant International University – San Diego Campus, Green Hall
2001 Old Highway 395 Fallbrook, CA 92028	210 E. Park Avenue Escondido, CA 92025	10455 Pomerado Road San Diego, CA 92131

*Presentations will be held each day at 2:30 PM and 6:30 PM.

Agency and Public Scoping Comments

The CPUC is soliciting comments from all potential responsible and trustee agencies, all other public agencies with jurisdiction by law over the proposed project, and members of the public regarding the topics and alternatives that should be included in the EIR. **The scoping period will begin on May 9, 2017, and end on June 12, 2017.**

Interested parties may submit comments in a variety of ways: (1) by submitting a comment online at the CPUC’s PSRP website; (2) by email; (3) by U.S. mail; and (4) by making a verbal statement to a court reporter or handing in a written comment at the public scoping meetings (see times and locations in Table 2, above). All posted and emailed comments should include the

commenter’s name and mailing address at the bottom of the comment and note the “Pipeline Safety and Reliability Project.”

Online: Submit comments via an online form at: <http://sandiegopipeline-psrp.com>

By email: Email comments to: SDgaspipeline@ene.com

By U.S. mail: Mail hard copy comments to:

Robert Peterson
California Public Utilities Commission
RE: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

Comments must be received, or postmarked if hardcopy, by June 12, 2017. Interested parties will have an additional opportunity to comment during the public review period for the Draft EIR.

All comments received during scoping, including the names and addresses of those who comment, will be made part of the public record for the proposed project. Comments submitted anonymously will be accepted and considered; however, anonymous comments will not provide CPUC with the ability to provide the commenter with subsequent notifications related to the environmental review process for the proposed project.

A Public Scoping Summary Report will be prepared to summarize comments (including verbal comments made at the public scoping meetings) submitted to the CPUC during the scoping period. This report will be available on the CPUC PSRP website: <http://sandiegopipeline-psrp.com>.

Additional Information

Information about the proposed project and the environmental review process is available at the following website: <http://sandiegopipeline-psrp.com>.

This website will be used to post all public documents during the environmental review process and to announce upcoming public meetings. Requests to join the mailing list can be made via the website, as well. In addition, a copy of the applicants’ PEA and Supplemental PEA is available at this website, and the Draft and Final EIR will be posted to this website after they are published.

Requests for additional information may be made via email or phone, as follows.

Project email: SDgaspipeline@ene.com

Project voicemail: 1-844-312-4776 (toll free)

This NOP and the Draft and Final EIR will be made available at the locations listed in Table 3:

Table 3 Project Document Repository Locations

Repository	Address	Phone
Temecula Public Library	30600 Pauba Road Temecula, CA 92592	(951) 693-8900
Fallbrook Public Library	124 S. Mission Road Fallbrook, CA 92028	(760) 731-4650
Valley Center Branch Library	29200 Cole Grade Road Valley Center, CA 92082	(760) 749-1305
Vista Branch Library	700 Eucalyptus Ave. Vista, CA 92084	(760) 643-5100
San Marcos Branch Library	2 Civic Center Drive San Marcos, CA 92069	(760) 891-3000
Escondido Public Library	239 S. Kalmia St. Escondido, CA 92025	(760) 839-4684
Rancho Bernardo Branch Library	17110 Bernardo Center Drive San Diego, CA 92128	(858) 538-8163
4S Ranch Branch Library	10433 Reserve Drive San Diego, CA 92127	(858) 673-4697
Carmel Mountain Ranch Branch Library	12095 World Trade Drive San Diego, CA 92128	(858) 538-8181
Rancho Penasquitos Branch Library	13330 Salmon River Road San Diego, CA 92129	(858) 538-8159
Poway Branch Library	13137 Poway Road Poway, CA 92064	(858) 513-2900
Mira Mesa Branch Library	8405 New Salem St. San Diego, CA 92126	(858) 538-8165
Scripps Miramar Ranch Branch Library	10301 Scripps Lake Drive San Diego, CA 92131	(858) 538-8158
Tierrasanta Branch Library	4985 La Cuenta Drive San Diego, CA 92124	(858) 573-1384

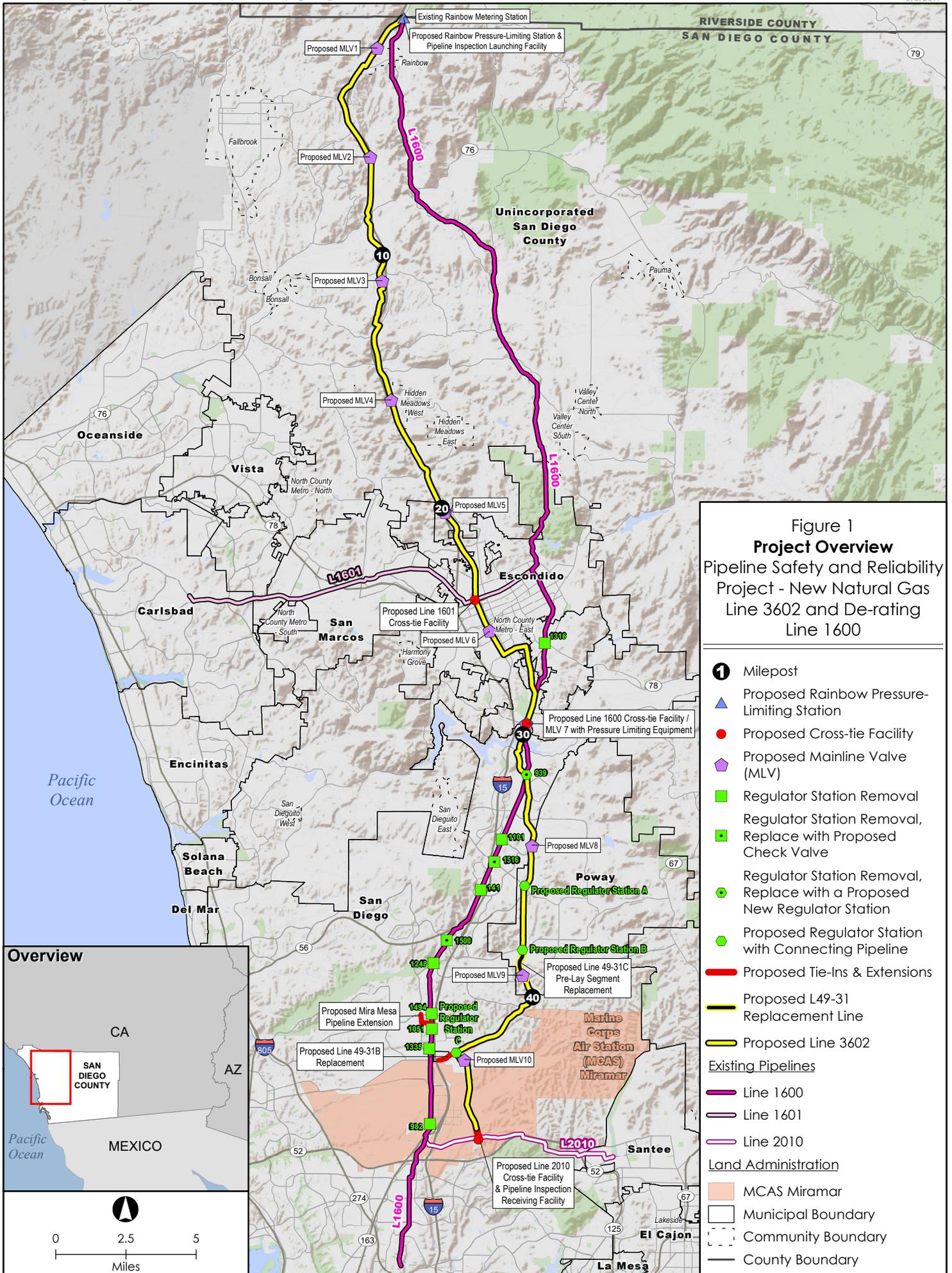


Figure 1
Project Overview
 Pipeline Safety and Reliability
 Project - New Natural Gas
 Line 3602 and De-rating
 Line 1600

- 1** Milepost
- ▲ Proposed Rainbow Pressure-Limiting Station
- Proposed Cross-tie Facility
- ◆ Proposed Mainline Valve (MLV)
- Regulator Station Removal
- Regulator Station Removal, Replace with Proposed Check Valve
- Regulator Station Removal, Replace with a Proposed New Regulator Station
- Proposed Regulator Station with Connecting Pipeline
- Proposed Tie-Ins & Extensions
- Proposed L49-31 Replacement Line
- Proposed Line 3602
- Existing Pipelines
- Line 1600
- Line 1601
- Line 2010
- Land Administration
- MCAS Miramar
- Municipal Boundary
- Community Boundary
- County Boundary

Sources: ESRI 2012, 2017; SanGIS 2017, SDG&E 2017

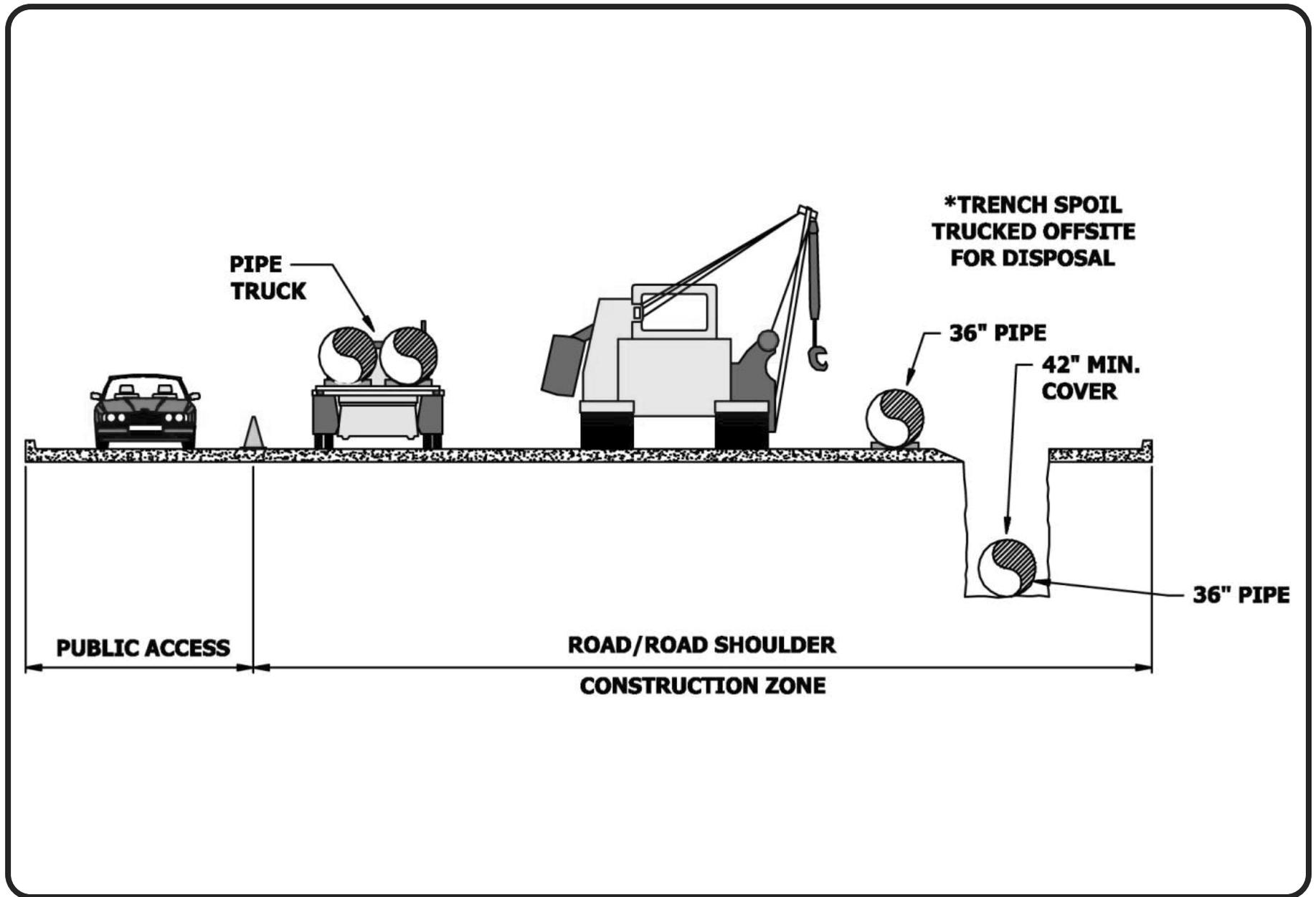


Figure 2: Typical Urban ROW Cross-Section

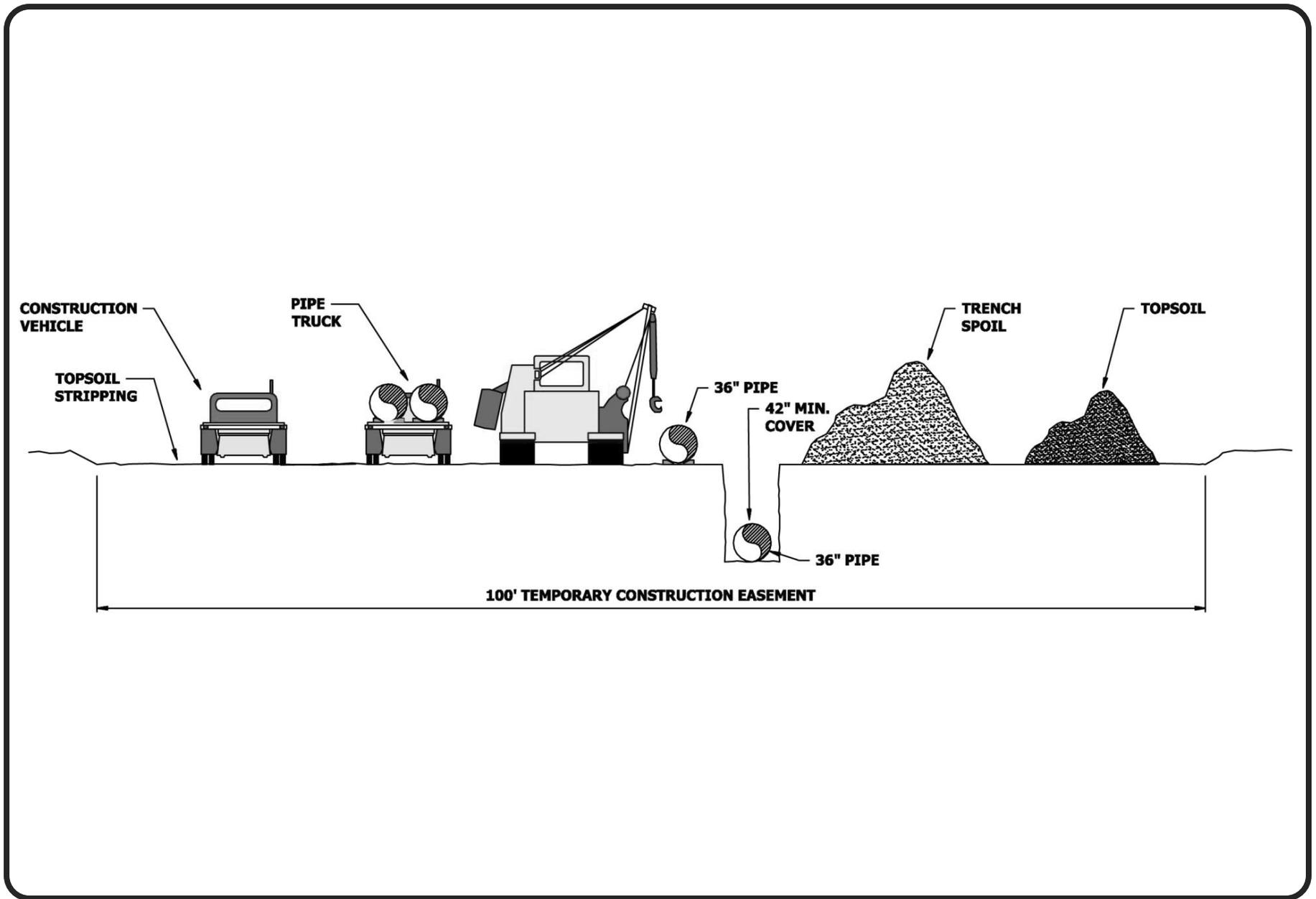


Figure 3: Typical Cross-Country ROW Cross-Section

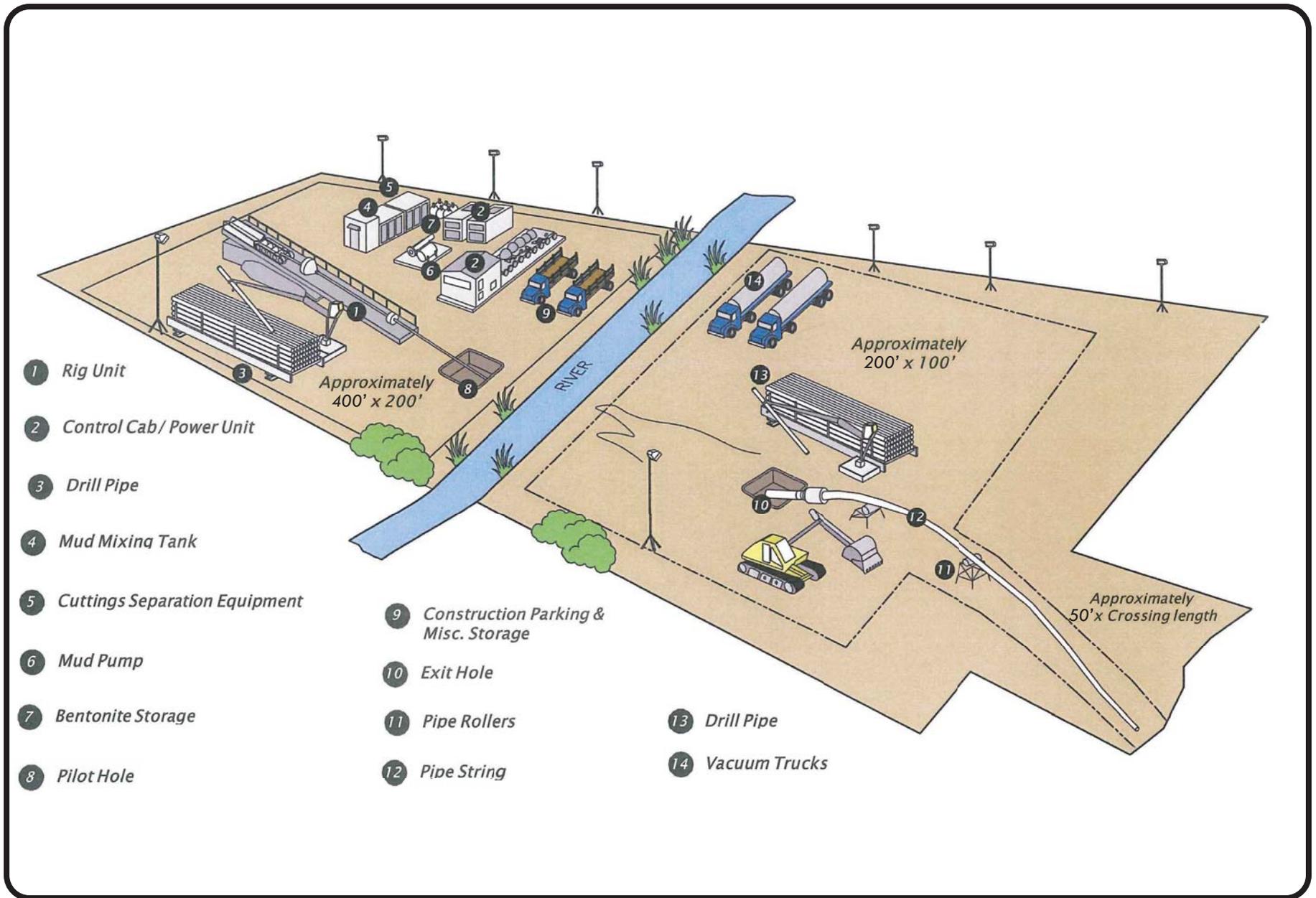
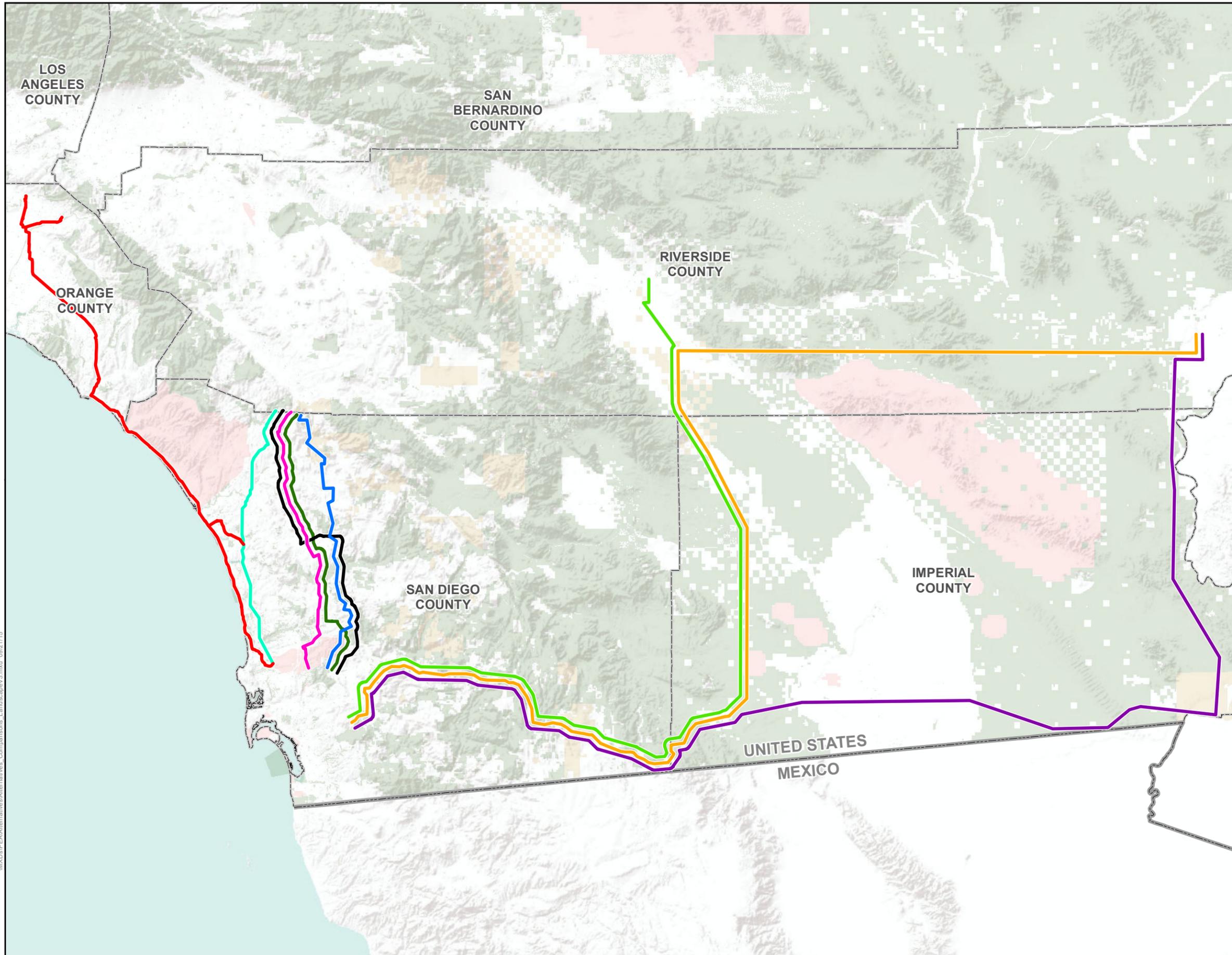


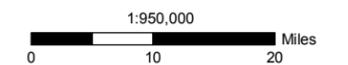
Figure 4: Typical Horizontal Directional Drill

Figure 5-1: Alternatives Map

Pipeline Safety & Reliability Project



- Proposed Project
- Valley Center Alternative
- Rainbow – El Norte Parkway – Santee Alternative
- Rainbow to Santee Non-Miramar Alternative
- Cactus City to San Diego Alternative
- South Orange County Coastal Alternative
- Blythe to Santee Alternative 1
- Blythe to Santee Alternative 2
- Second Pipeline along Line 3010
- County Boundary
- Country Boundary
- Land Administration**
 - Parks
 - Military
 - Bureau of Indian Affairs



Source: SDG&E; Insignia, 2015

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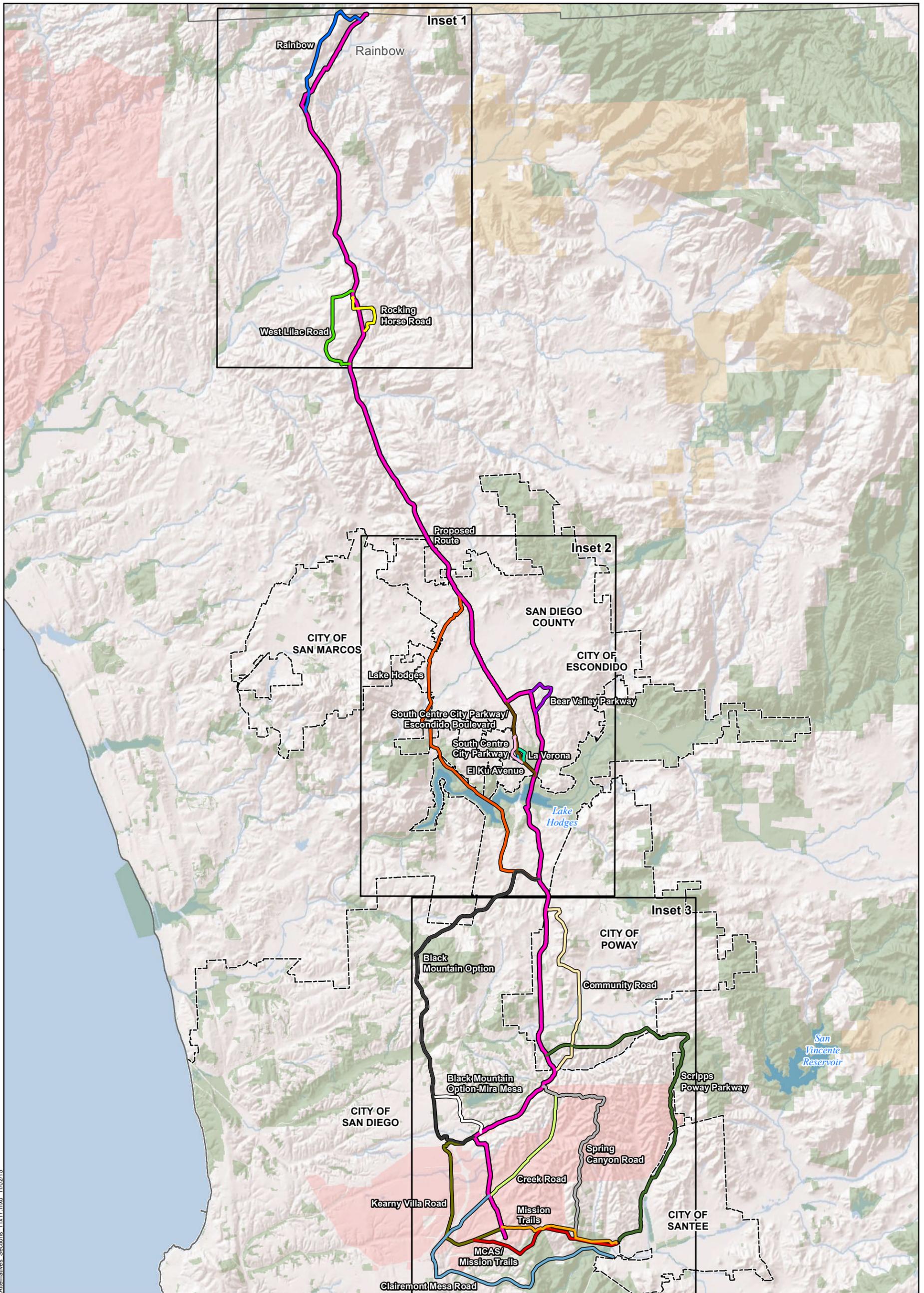
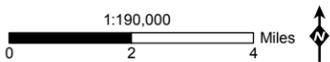


Figure 5-2: Proposed Project Route Segment Alternatives - Overview Map

Pipeline Safety & Reliability Project

Proposed Route	South Centre City Parkway/Escondido Boulevard	Community Road	Mission Trails	City/County Boundary
Rainbow	South Centre City Parkway	Scripps Poway Parkway	MCAS/Mission Trails	Parks
Rocking Horse Road	La Verona	Spring Canyon Road	Clairemont Mesa Road	Military
West Lilac Road	Lake Hodges	Creek Road	Black Mountain Option-Mira Mesa	Bureau of Indian Affairs
Bear Valley Parkway	El Ku Avenue	Kearny Villa Road	Black Mountain Option	



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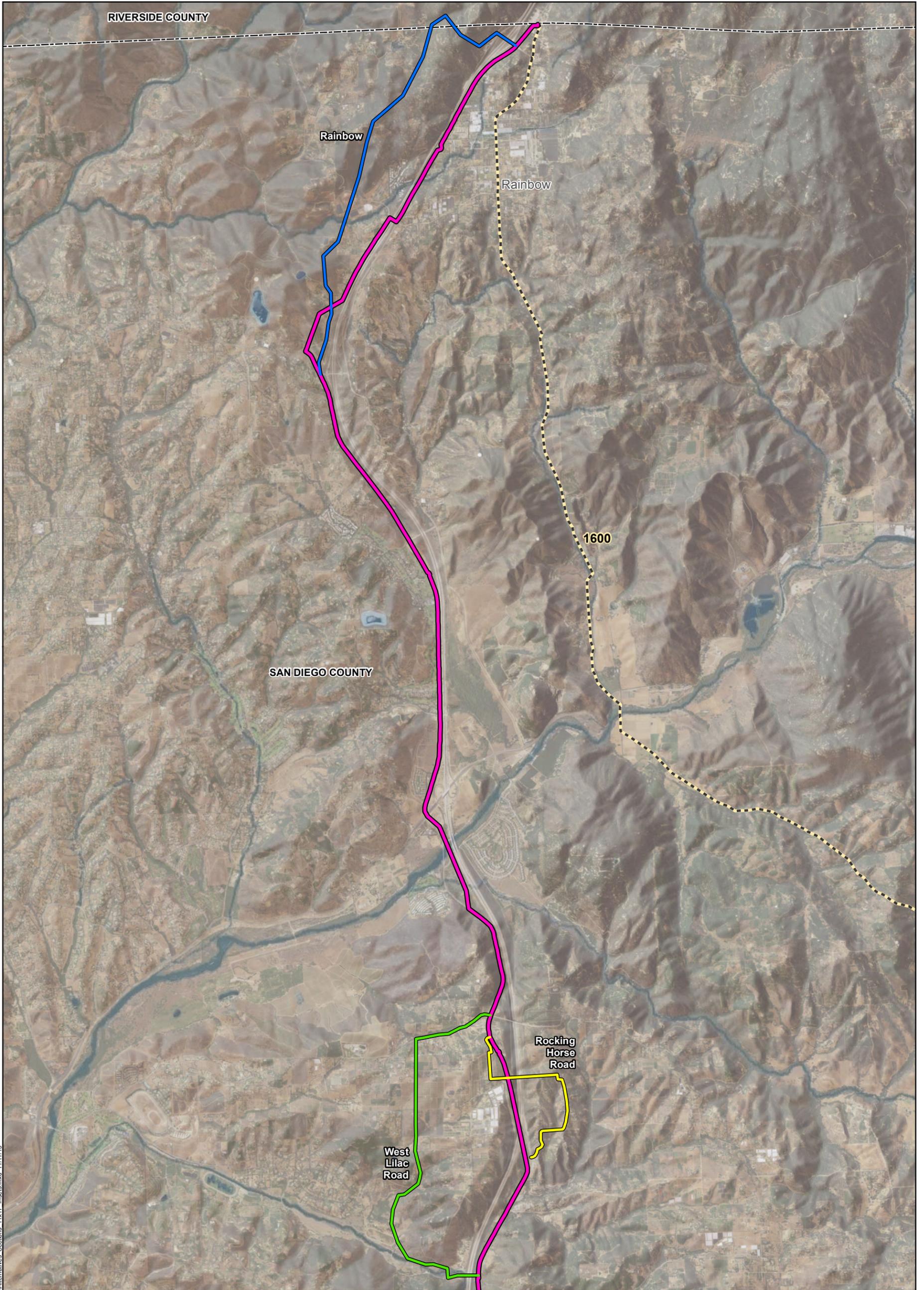
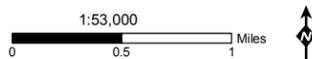


Figure 5-2: Proposed Project Route Segment Alternatives - Inset Map 1 of 3

Pipeline Safety & Reliability Project

- | | | | | |
|---------------------|---|-----------------------|---------------------------------|----------------------------|
| Proposed Route | South Centre City Parkway/Escondido Boulevard | Community Road | Mission Trails | Existing Transmission Line |
| Rainbow | South Centre City Parkway | Scripps Poway Parkway | MCAS/Mission Trails | City/County Boundary |
| Rocking Horse Road | La Verona | Spring Canyon Road | Clairemont Mesa Road | |
| West Lilac Road | Lake Hodges | Creek Road | Black Mountain Option-Mira Mesa | |
| Bear Valley Parkway | El Ku Avenue | Kearny Villa Road | Black Mountain Option | |



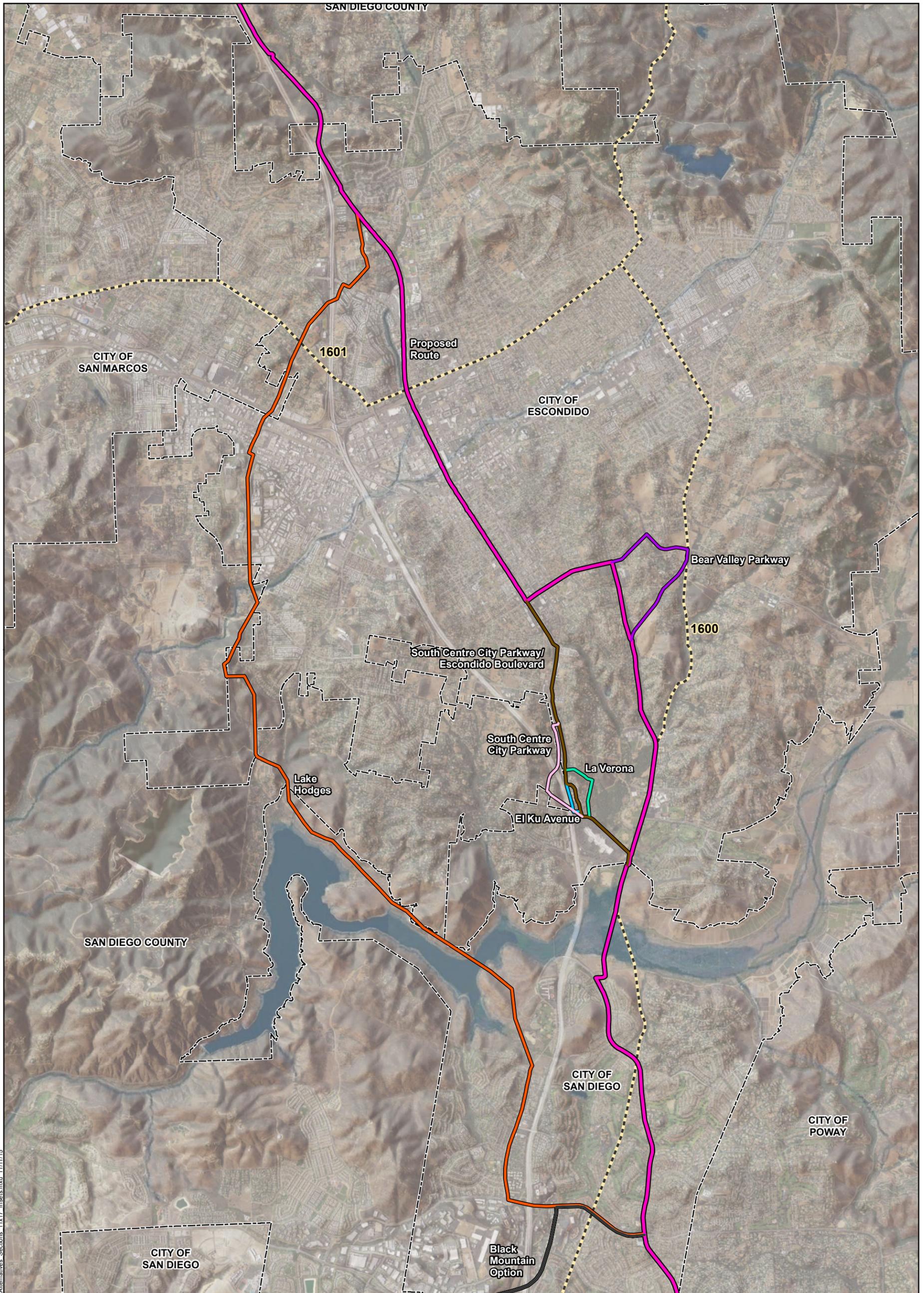
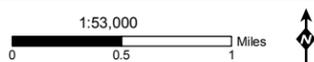


Figure 5-2: Proposed Project Route Segment Alternatives - Inset Map 2 of 3

Pipeline Safety & Reliability Project

- | | | | | |
|---------------------|---|-----------------------|---------------------------------|----------------------------|
| Proposed Route | South Centre City Parkway/Escondido Boulevard | Community Road | Mission Trails | Existing Transmission Line |
| Rainbow | South Centre City Parkway | Scripps Poway Parkway | MCAS/Mission Trails | City/County Boundary |
| Rocking Horse Road | La Verona | Spring Canyon Road | Clairemont Mesa Road | |
| West Lilac Road | Lake Hodges | Creek Road | Black Mountain Option-Mira Mesa | |
| Bear Valley Parkway | El Ku Avenue | Kearny Villa Road | Black Mountain Option | |



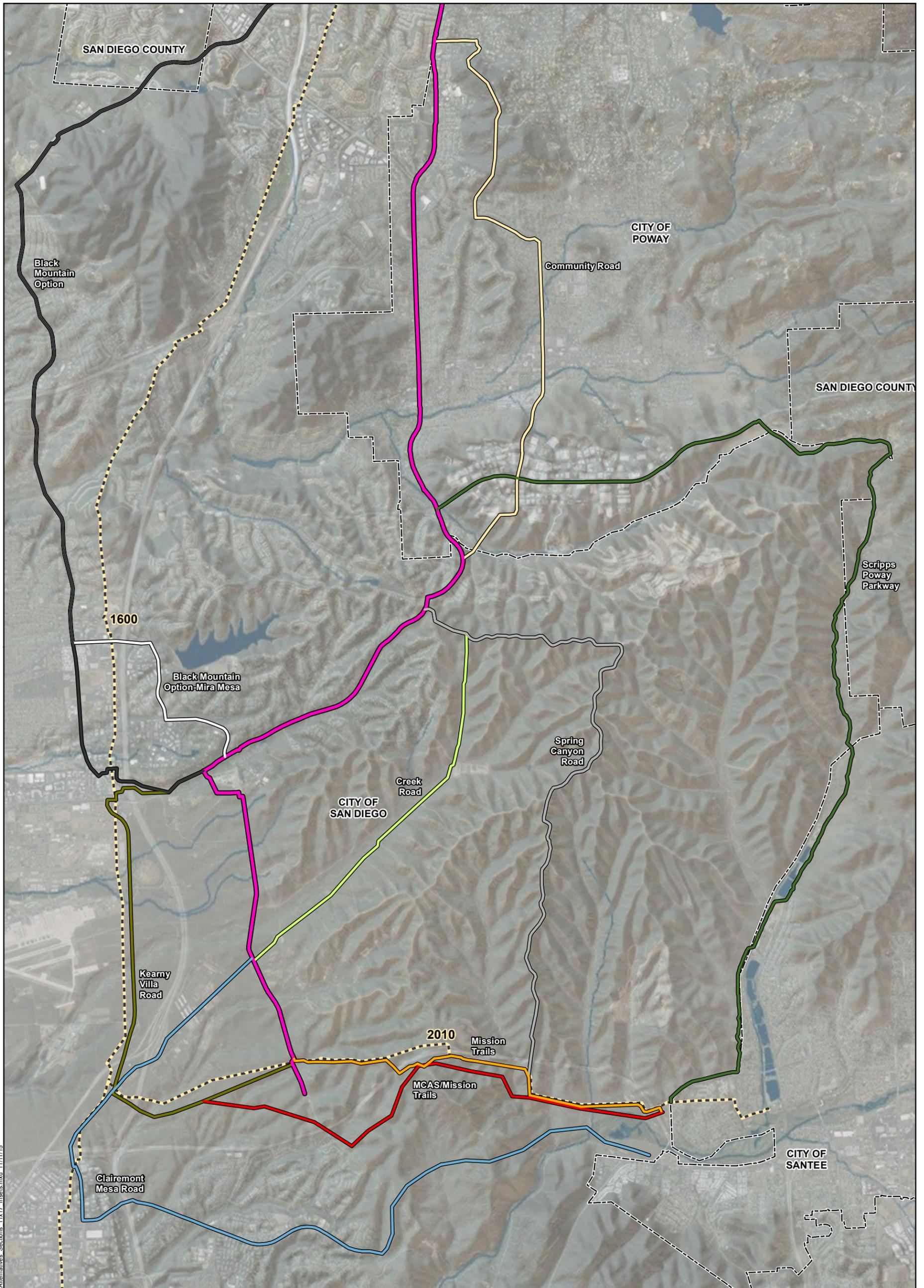


Figure 5-2: Proposed Project Route Segment Alternatives - Inset Map 3 of 3

Pipeline Safety & Reliability Project

- | | | | | |
|---|--|--|--|--|
| — Proposed Route | — South Centre City Parkway/Escondido Boulevard | — Community Road | — Mission Trails | — Existing Transmission Line |
| — Rainbow | — South Centre City Parkway | — Scripps Poway Parkway | — MCAS/Mission Trails | City/County Boundary |
| — Rocking Horse Road | — La Verona | — Spring Canyon Road | — Clairemont Mesa Road | |
| — West Lilac Road | — Lake Hodges | — Creek Road | — Black Mountain Option-Mira Mesa | |
| — Bear Valley Parkway | — El Ku Avenue | — Kearny Villa Road | — Black Mountain Option | |



Attachment 1 – CEQA Appendix G

Impact Topics

- Based on CEQA Handbook Appendix G: Environmental Checklist Form 2017

<i>Aesthetics Impacts</i>
Would the project:
a) Have a substantial adverse effect on a scenic vista?
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?
c) Substantially degrade the existing visual character or quality of the site and its surroundings?
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?
<i>Agriculture and Forestry Resources Impacts</i>
In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.
Would the project:
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?
d) Result in the loss of forest land or conversion of forest land to non-forest use?
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?
<i>Air Quality Impacts</i>
Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:
a) Conflict with or obstruct implementation of the applicable air quality plan?
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

**PIPELINE SAFETY AND RELIABILITY PROJECT – NEW NATURAL GAS LINE 3602
AND DE-RATING LINE 1600 (PSRP)**

MAY 9, 2017

d) Expose sensitive receptors to substantial pollutant concentrations?
e) Create objectionable odors affecting a substantial number of people?
<i>Biological Resources Impacts</i>
Would the project:
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?
<i>Cultural, Paleontological, and Tribal Resources Impacts</i>
Would the project:
a) Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5?
b) Cause a substantial adverse change in the significance an archaeological resource pursuant to §15064.5?
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?
d) Disturb any human remains, including those interred outside of formal cemeteries?
e) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:
i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or
ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

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<i>Geology, Soils, and Mineral Resources Impacts</i>
Would the project:
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
i) Rupture of a known fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.
ii) Strong seismic ground shaking?
iii) Seismic-related ground failure, including liquefaction?
iv) Landslides?
b) Result in substantial soil erosion or the loss of topsoil?
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of waste water?
f) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?
g) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?
<i>Greenhouse Gas Emissions Impacts</i>
Would the project:
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?
b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?
<i>Hazards and Hazardous Materials Impacts</i>
Would the project:
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

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e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?
h) Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?
<i>Hydrology and Water Quality Impacts</i>
Would the project:
a) Violate any water quality standards or waste discharge requirements?
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?
e) Create or contribute to runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?
f) Otherwise substantially degrade water quality?
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?
j) Inundation by seiche, tsunami, or mudflow?
<i>Land Use and Planning Impacts</i>
Would the project:
a) Physically divide an established community?
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?

**PIPELINE SAFETY AND RELIABILITY PROJECT – NEW NATURAL GAS LINE 3602
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Noise Impacts
Would the project result in:
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?
Population and Housing Impacts
Would the project:
a) Induce substantial population growth in any area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?
Public Services and Utilities Impacts
Would the project:
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:
i) Fire protection?
ii) Police protection?
iii) Schools?
iv) Parks?
v) Other public facilities?
b) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?
c) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

**PIPELINE SAFETY AND RELIABILITY PROJECT – NEW NATURAL GAS LINE 3602
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d) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?
e) Have sufficient water supplies available to serve the project from existing entitlements and resources, or require new or expanded entitlements?
f) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project’s projected demand in addition to the provider’s existing commitments?
g) Be served by a landfill with sufficient permitted capacity to accommodate the project’s solid waste disposal needs?
h) Comply with federal, state, or local statutes and regulations related to solid waste?
<i>Recreation Impacts</i>
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?
<i>Traffic and Transportation Impacts</i>
Would the project:
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?
e) Result in inadequate emergency access?
f) Conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

B

Legal Notice

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Pipeline Safety and Reliability Project – New Natural Gas Line 3602 and De-rating Line 1600 (PSRP)
Environmental Impact Report (EIR)
Notification – Legal Notice

Notice of Preparation of a Draft Environmental Impact Report for the Pipeline Safety and Reliability Project – New Natural Gas Line 3602 and De-rating Line 1600 in San Diego County, California

A Notice of Preparation (NOP) has been prepared to notify potential responsible and trustee agencies, interested parties, and members of the public that the California Public Utilities Commission (CPUC), as the Lead Agency, will prepare an Environmental Impact Report (EIR) pursuant to the California Environmental Quality Act to evaluate the potential environmental impacts of the Pipeline Safety and Reliability Project – New Natural Gas Line 3602 and De-rating Line 1600 (PSRP, or the proposed project).

On September 30, 2015, San Diego Gas & Electric Company (SDG&E) and Southern California Gas Company (the applicants) requested a Certificate of Public Convenience and Necessity (Application No. A.15-09-013) from the CPUC to construct, operate, and maintain an approximately 47-mile natural gas transmission pipeline (Line 3602) that would carry natural gas from SDG&E's existing metering station in Rainbow, California, to a tie-in with SDG&E's existing system within U.S. Marine Corps Air Station (MCAS) Miramar in San Diego, California. The proposed project also includes de-rating, or lowering the pressure of, SDG&E's existing Line 1600 to convert its function from transmission to distribution. The proposed project is located in San Diego County, California, and crosses: the cities of Escondido, San Diego, and Poway; unincorporated communities in San Diego County; and federal land (MCAS Miramar).

The NOP contains more information regarding the proposed project facilities and the CPUC's environmental review process. The NOP is available for review at <http://sandiegopipeline-psrp.com>.

The NOP is being circulated for a public review and comment period beginning May 9, 2017, and ending on June 12, 2017. The CPUC is soliciting input from potential responsible and trustee agencies under CEQA, interested parties, and members of the public on the potential effects of the proposed project, the scope of the EIR, and the issues and alternatives to evaluate in the EIR. Comments must be received, or postmarked if hardcopy, by June 12, 2017. Please submit written comments using one of the following methods:

By Website:

<http://sandiegopipeline-psrp.com>

By Email:

SDgaspipeline@ene.com

By Mail:

Robert Peterson
California Public Utilities Commission
RE: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome St., Suite 300
San Francisco, CA 94111

The CPUC will hold public scoping meetings on May 23, 24, and 25, 2017, providing another opportunity to receive comments and to share information on the proposed project and the environmental review

Pipeline Safety and Reliability Project – New Natural Gas Line 3602 and De-rating Line 1600 (PSRP)
Environmental Impact Report (EIR)
Notification – Legal Notice

process. The public scoping meetings will be held from 2:00 to 4:00 p.m. and 6:00 to 8:00 p.m., each day, at the following locations:

Tuesday, May 23, 2017

Pala Mesa Resort, Ballroom
2001 Old Highway 395
Fallbrook, CA 92028

Wednesday, May 24, 2017

Park Avenue Community Center, Auditorium
210 E. Park Ave.
Escondido, CA 92025

Thursday, May 25, 2017

Alliant International University, San Diego Campus, Green Hall
10455 Pomerado Road
San Diego, CA 92131

Additional information is available on the CPUC's PSRP website: <http://sandiegopipeline-psrp.com>.

C

Postcard Mailer

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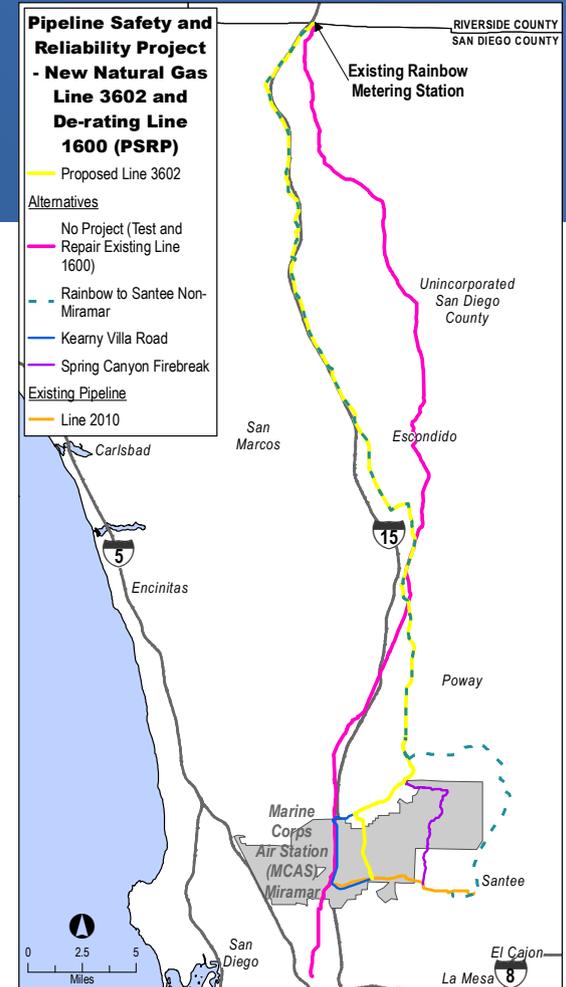
Notice of Public Scoping for the Pipeline Safety and Reliability Project – New Natural Gas Line 3602 and De-rating Line 1600

Si usted necesita más información en español, por favor, llame al 1-844-312-4776, o envíe un correo electrónico a: SDgaspipeline@ene.com.

The California Public Utilities Commission (CPUC) is preparing an Environmental Impact Report (EIR) to evaluate the potential environmental impacts of the *Pipeline Safety and Reliability Project – New Natural Gas Line 3602 and De-rating Line 1600* (PSRP, or the proposed project). On September 30, 2015, San Diego Gas & Electric Company (SDG&E) and Southern California Gas Company (the applicants) requested a Certificate of Public Convenience and Necessity (Application No. 15-09-013) from the CPUC to construct, operate, and maintain an approximately 47-mile natural gas transmission pipeline (Line 3602) between SDG&E's existing metering station in Rainbow, California, and U.S. Marine Corps Air Station Miramar in San Diego, California. The proposed project also includes de-rating, or lowering the pressure, of SDG&E's existing Line 1600 to convert its function from transmission to distribution.

The CPUC has issued a Notice of Preparation of an EIR and Notice of Public Scoping Meetings (NOP) regarding the proposed project. The NOP includes a brief description of the proposed project facilities and the CPUC's environmental review process. To obtain a copy of the NOP and view more detailed maps showing additional features such as cross streets, please visit the project website at <http://sandiegopipeline-psrp.com>.

The CPUC invites you to provide comments on the potential effects of the proposed project, the scope of the Draft EIR, and the issues and alternatives to evaluate in the EIR. Please provide your comments using one of the methods listed on the back of this postcard. The CPUC also invites you to attend one of the scheduled scoping meetings to receive information on the proposed project and the environmental review process.



The scoping period is from **May 9, 2017, to June 12, 2017**. All comments must be postmarked or received by **June 12, 2017**.

How to Submit Comments:



Attend a public scoping meeting to provide comments in writing or verbally



Mail written comments to
California Public Utilities Commission
RE: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome St., Suite 300
San Francisco, CA 94111



Submit comments online at the CPUC's PSRP website at
<http://sandiegopipeline-psrp.com>



Email comments to
SDgaspipeline@ene.com

California Public Utilities Commission
RE: Pipeline Safety and Reliability Project
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505 Sansome St., Suite 300
San Francisco, CA 94111

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Public Scoping Meetings

Tuesday, May 23, 2017	Pala Mesa Resort, Ballroom 2001 Old Highway 395 Fallbrook, CA 92028	2:00 to 4:00 PM (2:30 PM Presentation) 6:00 to 8:00 PM (6:30 PM Presentation)
Wednesday, May 24, 2017	Park Avenue Community Center, Auditorium 210 E. Park Ave. Escondido, CA 92025	2:00 to 4:00 PM (2:30 PM Presentation) 6:00 to 8:00 PM (6:30 PM Presentation)
Thursday, May 25, 2017	Alliant International University, San Diego Campus, Green Hall 10455 Pomerado Road San Diego, CA 92131	2:00 to 4:00 PM (2:30 PM Presentation) 6:00 to 8:00 PM (6:30 PM Presentation)



SCAN HERE

Please visit <http://sandiegopipeline-psrp.com> for more information, to join the project mailing list, or to submit comments online.

D

Electronic Mail Notification

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From: California Public Utilities Commission-PSRP c/o Ecology and Environment, Inc.

[<mailto:sdgaspipeline@ene.com>]

Sent: Tuesday, May 09, 2017 3:57 PM

To: [REDACTED]

Subject: Notice of Preparation of an Environmental Impact Report and Public Scoping Meetings for the Pipeline Safety and Reliability Project - New Natural Gas Line 3602 and De-rating Line 1600. San Diego County, California

Importance: Low

Si usted necesita más información en español, por favor, llame al 1-844-312-4776, o envíe un correo electrónico a: SDgaspipeline@ene.com



Notice of Preparation of an Environmental Impact Report and Public Scoping Meetings for the Pipeline Safety and Reliability Project – New Natural Gas Line 3602 and De-rating Line 1600. San Diego County, California

SUMMARY: The California Public Utilities Commission (CPUC) will prepare a Draft and Final Environmental Impact Report (EIR), in compliance with the California Environmental Quality Act (CEQA), that will discuss the environmental impact of the proposed Pipeline Safety and Reliability Project – New Natural Gas Line 3602 and De-rating Line 1600 (PSRP, or proposed project). San Diego Gas & Electric Company and Southern California Gas Company (the applicants) have filed an application with the CPUC for a Certificate of Public Convenience and Necessity for the proposed project.

The CPUC has prepared a Notice of Preparation (NOP) that is being distributed to potential responsible and trustee agencies under CEQA, interested parties, and members of the public. The purpose of the NOP is to inform recipients that the CPUC is beginning preparation of an EIR for the proposed project and to solicit information and guidance on the scope and content of the environmental information to be included in the EIR and identify potential alternatives. The NOP includes a description of the project that the applicants propose to construct, a summary of potential project-related impacts, the times and locations of public scoping meetings, and information on how to provide comments. **The NOP will be circulated for a public review and comment period beginning May 9, 2017, and ending on June 12, 2017.** To obtain a copy of the NOP, please visit <http://sandiegopipeline-psrp.com>.

Scoping is the process used to gather comments and input from all potential responsible and trustee agencies, all other public agencies with jurisdiction by law over the proposed project, and members of the public early in the CPUC's environmental review process. The comments and other information provided during the scoping process will help the CPUC determine the extent

scope, focus, and content of the EIR and identify the range of alternatives, environmental effects, and mitigation measures to analyze in the EIR.

The CPUC is conducting six public scoping meetings on three dates during the EIR scoping period. All interested parties, including the public, responsible agencies, and trustee agencies, are invited to attend the public scoping meetings to learn more about the proposed project, ask questions, and provide comments in person about the PSRP and the scope and content of the EIR. The CPUC will also present information about the proposed project and its decision-making process at each meeting.

In addition to the NOP, the CPUC has mailed a postcard inviting stakeholders to provide comments on the potential effects of the proposed project, the scope of the Draft EIR, and the issues and alternatives to evaluate in the EIR. The postcard summarizes the date, time, and location of the public scoping meetings and a summary of how to provide comments during the public scoping period. **The public scoping period begins on May 9, 2017, and ends on June 12, 2017. All public scoping comments must be received, or postmarked if hardcopy, by June 12, 2017.**

An electronic version of the two-sided postcard is provided below. In addition to reviewing the postcard provided below, you may also obtain information pertaining to the public scoping period; date, time, and location of the public scoping meetings; and a summary of how to provide comments by visiting the CPUC's PSRP website at <http://sandiegopipeline-psrp.com>.



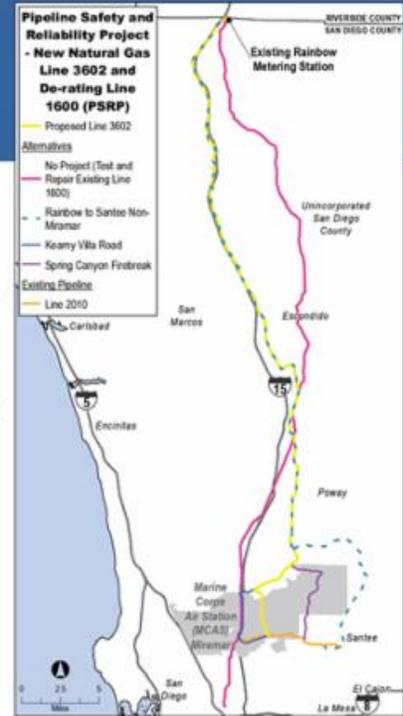
Notice of Public Scoping for the Pipeline Safety and Reliability Project – New Natural Gas Line 3602 and De-rating Line 1600 (PSRP)

Si usted necesita más información en español, por favor, llame al 1-844-312-4776, o envíe un correo electrónico a: SDgaspipeline@ene.com.

The California Public Utilities Commission (CPUC) is preparing an Environmental Impact Report (EIR) to evaluate the potential environmental impacts of the *Pipeline Safety and Reliability Project – New Natural Gas Line 3602 and De-rating Line 1600* (PSRP, or the proposed project). On September 30, 2015, San Diego Gas & Electric Company (SDG&E) and Southern California Gas Company (the applicants) requested a Certificate of Public Convenience and Necessity (Application No. 15-09-013) from the CPUC to construct, operate, and maintain an approximately 47-mile natural gas transmission pipeline (Line 3602) between SDG&E's existing metering station in Rainbow, California, and U.S. Marine Corps Air Station Miramar in San Diego, California. The proposed project also includes de-rating, or lowering the pressure, of SDG&E's existing Line 1600 to convert its function from transmission to distribution.

The CPUC has issued a Notice of Preparation of an EIR and Notice of Public Scoping Meetings (NOP) regarding the proposed project. The NOP includes a brief description of the proposed project facilities and the CPUC's environmental review process. To obtain a copy of the NOP and view more detailed maps showing additional features such as cross streets, please visit the project website at <http://sandiegopipeline-psrp.com>.

The CPUC invites you to provide comments on the potential effects of the proposed project, the scope of the Draft EIR, and the issues and alternatives to evaluate in the EIR. Please provide your comments using one of the methods listed on the back of this postcard. The CPUC also invites you to attend one of the scheduled scoping meetings to receive information on the proposed project and the environmental review process.



The scoping period is from **May 9, 2017, to June 12, 2017**. All comments must be postmarked or received by **June 12, 2017**.

How to Submit Comments:

 Attend a public scoping meeting to provide comments in writing or verbally

 Submit comments online at the CPUC's PSRP website at <http://sandiegopipeline-psrp.com>

 Email comments to SDgaspipeline@ene.com

 Mail written comments to **California Public Utilities Commission**
RE: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome St., Suite 300
San Francisco, CA 94111

California Public Utilities Commission
RE: Pipeline Safety and Reliability Project
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Thursday, May 25, 2017	Alliant International University, San Diego Campus, Green Hall 10455 Pomerado Road San Diego, CA 92131	2:00 to 4:00 PM (2:30 PM Presentation) 6:00 to 8:00 PM (6:30 PM Presentation)



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Please visit <http://sandiegopipeline-psrp.com> for more information, to join the project mailing list, or to submit comments online.

Dated: May 9th, 2017

California Public Utilities Commission-PSRP c/o Ecology and Environment, Inc.,
505 Sansome Street, San Francisco, NY 94111

[SafeUnsubscribe™ emichaelson@katzandassociates.com](mailto:emichaelson@katzandassociates.com)

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Sent by sdgaspipeline@ene.com

E

Public Scoping Meeting Materials

E.1: General Room Layout for CPUC Public Scoping Meetings

E.2: Comment Form

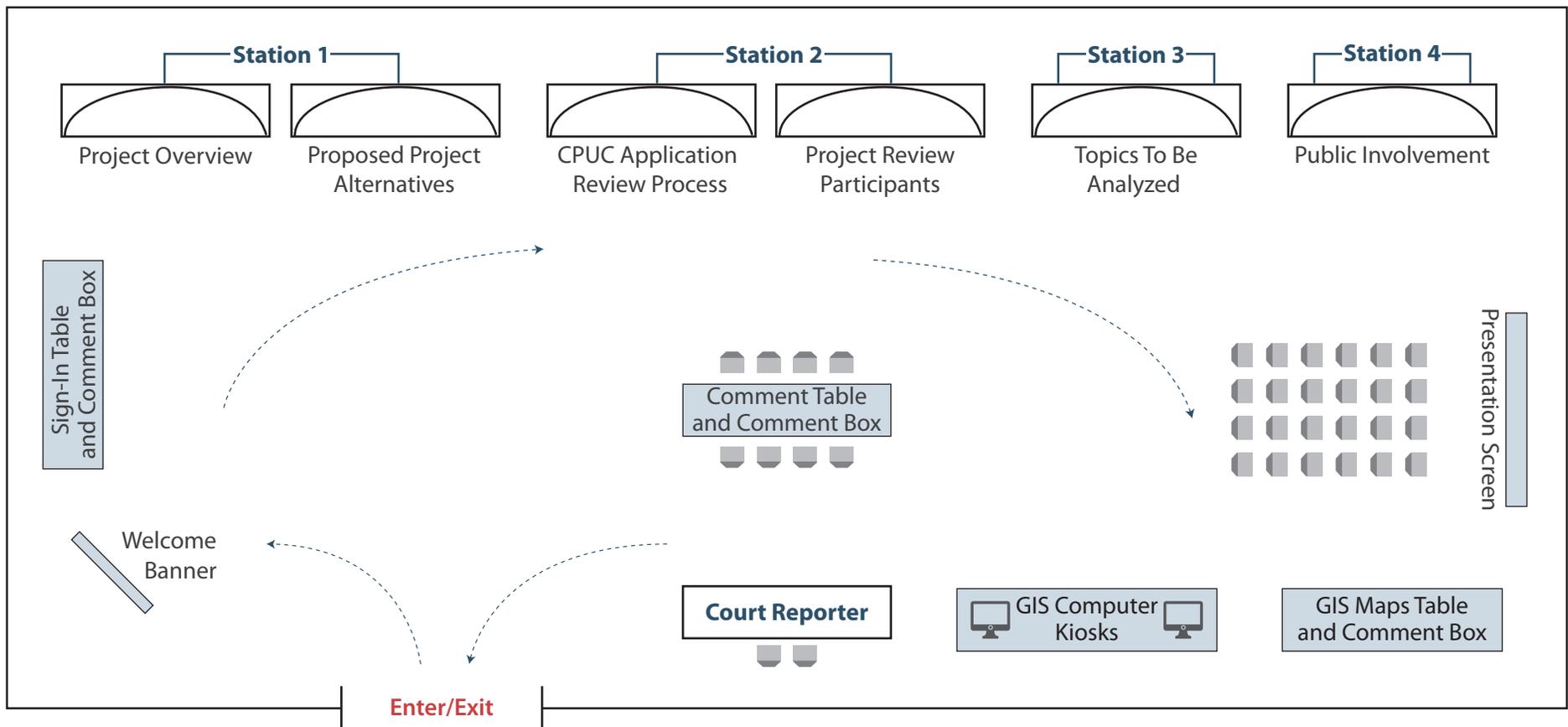
E.3: Fact Sheets

E.4: Public Scoping Meeting Presentation

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General Room Layout for CPUC Public Scoping Meetings

The public scoping meetings have an open house format. There are several poster stations placed throughout the room for review during the meeting. Attendees may visit the poster stations in any order and multiple times during the scoping meeting. However, the schematic below illustrates the recommended order for reviewing scoping posters. Subject matter experts are at each station to explain the information on the posters. There will be a presentation about the California Public Utilities Commission's environmental review of the applicants' proposed project during the meeting. At the scoping meeting, you can provide comments either in writing or verbally. A court reporter will be present at each meeting to record your verbal comments. **Any verbal comments must be provided to the court reporter in order to be considered.**



(Actual layout will be slightly different, depending on room configuration.)



FACT SHEET

California Public Utilities Commission

Pipeline Safety and Reliability Project – New Natural Gas Line 3602 and De-rating Line 1600 (PSRP)



Project Overview and Proposed Project Alternatives

On September 30, 2015, San Diego Gas & Electric Company (SDG&E) and Southern California Gas Company (SoCalGas) (the applicants) requested a Certificate of Public Convenience and Necessity (CPCN) (Application No. A.15-09-013) from the California Public Utilities Commission (CPUC) to construct, operate, and maintain the proposed *Pipeline Safety and Reliability Project – New Natural Gas Line 3602 and De-rating Line 1600* (PSRP, or the proposed project). The applicants state that the proposed project is needed to advance three fundamental objectives for the integrated SDG&E and SoCalGas natural gas transmission system in San Diego County:

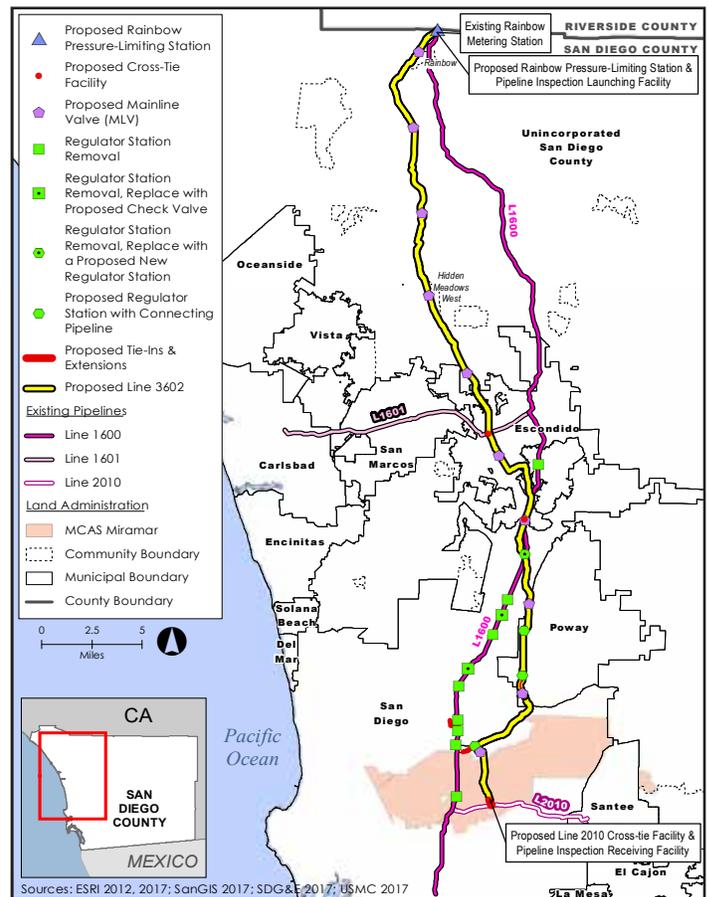
1. Implement pipeline safety requirements for existing Line 1600, thereby enabling the applicants to comply with their CPUC-approved Pipeline Safety Enhancement Plan and modernize the system with state-of-the-art materials;
2. Improve system reliability and resiliency by minimizing dependence on a single pipeline; and
3. Enhance operational flexibility to manage stress conditions by increasing system capacity.

The CPUC Energy Division is responsible for carrying out the CPUC’s environmental review of the proposed project in accordance with the California Environmental Quality Act. The CPUC will prepare a Draft and Final Environmental Impact Report (EIR) to evaluate the proposed project’s potential impacts on the environment. The EIR will describe the nature and extent of the environmental impacts of the proposed project and will determine whether those impacts could be avoided, eliminated, compensated for, or reduced to less than significant levels. The EIR will also identify and analyze alternatives to the proposed project that could reduce, eliminate, or avoid one or more of the proposed project’s significant impacts. Additional information on the CPUC environmental review process is provided on the CPUC’s PSRP Fact Sheet No. 2 of 3 (dated May 2017).

Proposed Project Components

To meet the stated project purposes, the applicants propose to construct, operate, and maintain the new San Diego Natural Gas Pipeline (Line 3602) and supporting facilities, as well as de-rate, or lower the pressure of, the existing Line 1600 and complete the modifications required to convert existing Line 1600 from a transmission pipeline to a distribution pipeline.

Proposed Project Overview Map



SCAN HERE

For more information, to join the project mailing list, or to submit comments, please visit the CPUC’s PSRP website at <http://sandiegopipeline-psrp.com>

New Natural Gas Line 3602

Line 3602 would consist of a new, approximately 47-mile-long, 36-inch-diameter natural gas transmission pipeline that would carry natural gas from SDG&E’s existing Rainbow Metering Station in Rainbow, California, to a tie-in with SDG&E’s existing system within U.S. Marine Corps Air Station (MCAS) Miramar in San Diego, California. The proposed route extends south from the proposed Rainbow Pressure-Limiting Station, which is located approximately 50 feet south of SDG&E’s existing Rainbow Metering Station, through the cities of Escondido, San Diego, and Poway and unincorporated communities of San Diego County, and terminates on federal land within MCAS Miramar.

Approximately 41 miles of the proposed pipeline would be installed in urban areas within existing roadways and road shoulders. The remaining approximately 6 miles would be installed cross-country in new right-of-way not adjacent to roads. Proposed facilities to support Line 3602 include:

- Construction of the Rainbow Pressure-Limiting Station;
- Construction of 10 mainline valves;
- Construction of three cross-tie facilities (i.e., one at existing Line 1600, one at existing Line 1601, and one at existing Line 2010); and
- Construction or installation of minor operation support facilities, including pipeline inspection launching and receiving equipment, a cathodic protection system, and a fiber optic intrusion and leak detection system.

De-Rating of Existing Line 1600

SDG&E’s Line 1600 is an existing 50-mile-long pipeline constructed in 1949 that begins at the existing Rainbow Metering Station and terminates in Mission Valley, San Diego. The applicants propose to de-rate, or lower the pressure of, approximately 45 miles of existing Line 1600 in order to convert it from a transmission pipeline into a distribution pipeline. This conversion would require system modifications at various locations along existing Line 1600, including:

- Removal of eight existing regulator stations that would not be replaced with other facilities;
- Removal of two existing regulator stations that would be replaced with check valves;
- Removal of one existing regulator station that would be replaced with a new regulator station;
- Construction of three new regulator stations and connection pipelines;
- Construction of the Mira Mesa Pipeline Extension (an 0.88-mile-long, 8-inch-diameter pipe);
- Line 49-31B Replacement (replacement of an existing 0.70-mile-long segment of Line 49-31B with 6-inch-diameter pipe); and
- Line 49-31C Pre-Lay Segment Replacement (installation of 1.08 miles of 8-inch-diameter pipe in a segment in Pomerado Road).

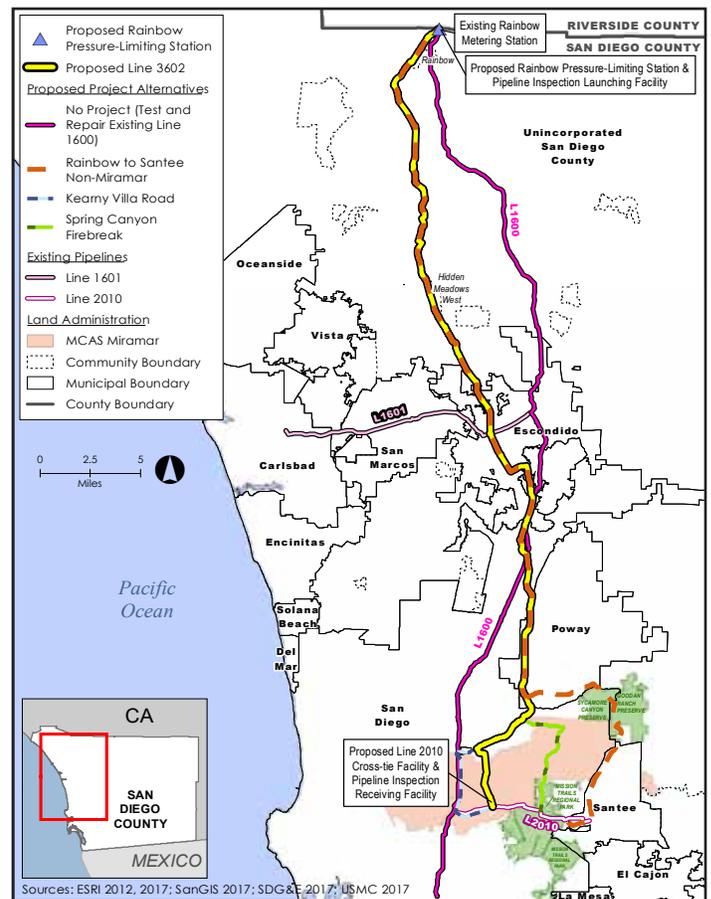
Alternatives

The EIR will evaluate a reasonable range of alternatives to the PSRP that could achieve all or most of the objectives of the proposed project, while avoiding or reducing one or more of its significant environmental impacts. Alternatives will include a “no project” alternative. In addition to the applicants’ proposed route for Line 3602, the CPUC anticipates evaluating the following route alternatives in the EIR:

- No Project Alternative (i.e., test and repair existing Line 1600);
- Rainbow to Santee Non-Miramar Alternative;
- Kearny Villa Road Alternative; and
- Spring Canyon Firebreak Alternative.

In the Proponent’s Environmental Assessment (which was part of the applicants’ CPCN application), SDG&E and SoCalGas evaluated a variety of project alternatives, including not constructing a new pipeline, constructing alternate sized pipe, constructing a new pipeline in other areas, multiple alternative routes, and minor route variations. As part of the environmental review process for the proposed project, the CPUC will re-evaluate the alternatives developed by SDG&E and SoCalGas and determine whether or not to carry them forward for further analysis in the EIR. The CPUC may develop additional alternatives for consideration and analysis based on input received during the scoping period or in response to potentially significant environmental impacts identified during development of the EIR.

Proposed Project Alternatives Map





FACT SHEET

California Public Utilities Commission

Pipeline Safety and Reliability Project – New Natural Gas Line 3602 and De-rating Line 1600 (PSRP)



CPUC Application Review Process

On September 30, 2015, San Diego Gas & Electric Company (SDG&E) and Southern California Gas Company (SoCalGas) (the applicants) requested a Certificate of Public Convenience and Necessity (CPCN) (Application No. A.15-09-013) from the California Public Utilities Commission (CPUC) to construct, operate, and maintain the proposed *Pipeline Safety and Reliability Project – New Natural Gas Line 3602 and De-rating Line 1600* (PSRP, or the proposed project). A summary of the applicants' proposed project is provided on the CPUC's PSRP Fact Sheet No. 1 of 3 (dated May 2017).

The CPUC regulates investor-owned public utilities in California and therefore is the agency responsible for reviewing the applicants' CPCN application. As part of the CPUC's consideration of the CPCN application for the proposed project, the CPUC is conducting a review process that consists of (1) an environmental review under the California Environmental Quality Act (CEQA) and (2) a project need and cost review proceeding.

CPUC Environmental Review under CEQA

As the agency with jurisdiction over approval of the CPCN application, the CPUC is the "Lead Agency" for purposes of CEQA. The CPUC Energy Division is responsible for carrying out the CPUC's environmental review of the proposed project in accordance with CEQA. CEQA was passed into law in 1970 and requires state and local public agencies to identify potential environmental impacts of their actions, identify alternatives to the proposed project, and avoid or mitigate identified impacts, if feasible. The CEQA process provides the information necessary for government decision-makers to balance the need for a project against the potential for significant impacts on important natural resources and the human environment.

The CPUC will prepare a Draft and Final Environmental Impact Report (EIR) to evaluate the proposed project's potential impacts on the environment. The EIR will describe the nature and extent of the environmental impacts of the proposed project and will determine whether those impacts could be avoided, eliminated, compensated for, or reduced to less than significant levels. The EIR will also identify and analyze alternatives to the proposed project that could reduce, eliminate, or avoid one or more of the proposed project's significant impacts.

Public participation is a fundamental part of the CEQA environmental review process. Receiving public input early in the environmental review process will help the CPUC determine the scope, focus, and content of the EIR and identify the range of alternatives, environmental effects, and mitigation measures to be analyzed in the EIR. A summary of public involvement opportunities during the CPUC environmental review process is provided on the CPUC's PSRP Fact Sheet No. 3 of 3 (dated May 2017).

CPUC Project Need and Cost Review Proceeding

In addition to the CPUC's environmental review, the CPUC also appoints an administrative law judge (ALJ) to review the CPCN application with a focus on the need for and cost of the proposed project. This analysis aids the CPUC in reaching a decision on the CPCN application.

Upon conclusion of the project need and cost review proceeding, the ALJ will prepare a proposed decision for consideration by the CPUC Commissioners, including a finding and recommendation regarding CEQA compliance. The ALJ will base the proposed decision on information collected as part of the environmental review process and the project need and cost review proceeding. The ALJ's proposed decision is subject



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For more information, to join the project mailing list, or to submit comments, please visit the CPUC's PSRP website at <http://sandiegopipeline-psrp.com>

to a public comment period. After the public comment period, the CPUC Commissioners vote on whether to certify the EIR and adopt the ALJ's proposed decision. The outcome of the vote will determine whether a CPCN is granted to construct the proposed project, the CPCN is denied, or an alternative to the proposed project is approved.

CEQA Responsible and Trustee Agencies

Other regulatory agencies will work to support the CPUC Energy Division in the environmental review of the proposed project. The California Department of Fish and Wildlife is participating as a CEQA "Responsible Agency." The California Department of Transportation also may participate as a CEQA "Responsible Agency." Responsible agencies are state agencies, other than the CEQA Lead Agency (i.e., the CPUC), that are responsible for carrying out or approving the proposed project. The California Department of Fish and Wildlife is also a CEQA "Trustee Agency" for the proposed project. Trustee agencies are state agencies that have jurisdiction over resources that are held in trust for the people of the state of California and that would potentially be affected by the proposed project.

In addition to obtaining a CPCN from the CPUC, the applicants will be required to complete consultations and receive authorizations, approvals, and permits from other federal and state agencies prior to constructing the proposed project.

Environmental Topics To Be Analyzed in the EIR

The EIR will analyze potential environmental impacts on natural resources and the human environment resulting from the

construction, operation, and maintenance of the proposed project. This analysis will include the impacts of the proposed project, individually, as well as the cumulative impacts, which are defined as effects on the environment that are caused by combining the effects of the proposed project with the effects of past, current, and reasonably foreseeable future activities. In addition to the topics listed below, the EIR will evaluate a reasonable range of alternatives to the proposed project that could potentially reduce, eliminate, or avoid impacts of the proposed project. The alternatives the CPUC anticipates evaluating in the EIR are described in the CPUC's PSRP Fact Sheet No. 1 of 3 (dated May 2017).

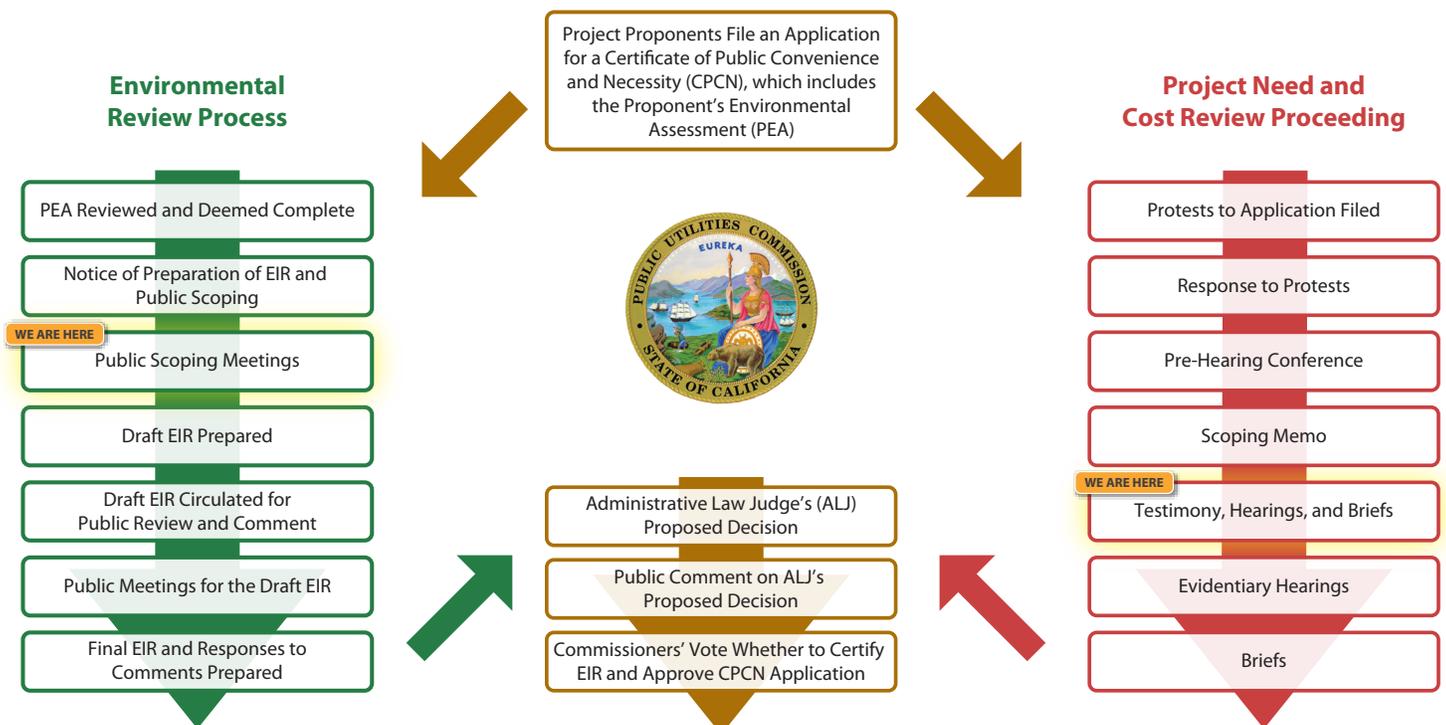
Natural Resources

- Agriculture and Forestry Resources
- Air Quality
- Biological Resources (including federally and state-protected plants and animals)
- Geology, Soils, and Mineral Resources
- Greenhouse Gas Emissions
- Hydrology and Water Quality

Human Environment

- Aesthetics
- Cultural, Paleontological, and Tribal Resources
- Hazards and Hazardous Materials
- Land Use and Planning
- Noise
- Population and Housing
- Public Services and Utilities
- Recreation
- Traffic and Transportation

Application Review Process





FACT SHEET

California Public Utilities Commission

Pipeline Safety and Reliability Project – New Natural Gas Line 3602 and De-rating Line 1600 (PSRP)



Public Scoping and Public Involvement

On September 30, 2015, San Diego Gas & Electric Company (SDG&E) and Southern California Gas Company (SoCalGas) (the applicants) requested a Certificate of Public Convenience and Necessity (CPCN) (Application No. A.15-09-013) from the California Public Utilities Commission (CPUC) to construct, operate, and maintain the proposed *Pipeline Safety and Reliability Project – New Natural Gas Line 3602 and De-rating Line 1600* (PSRP, or the proposed project). As part of the CPUC’s consideration of the CPCN application for the proposed project, the CPUC is conducting a review process that consists of (1) an environmental review under the California Environmental Quality Act (CEQA) and (2) a project need and cost review proceeding.

The CPUC Energy Division is responsible for carrying out the CPUC’s environmental review of the proposed project in accordance with CEQA. The CPUC will prepare a Draft and Final Environmental Impact Report (EIR) to evaluate the proposed project’s potential impacts on the environment. The EIR will analyze potential environmental impacts on natural resources and the human environment, including impacts to human safety, resulting from the construction, operation, and maintenance of the proposed project. The EIR will also identify and analyze alternatives to the proposed project that could reduce, eliminate, or avoid one or more of the proposed project’s significant impacts. A detailed description of the environmental review process and project need and cost review proceeding is provided on the CPUC’s PSRP Fact Sheet No. 2 of 3 (dated May 2017).

What is Scoping?

Scoping is the process used to gather comments and input from interested members of the public; local, state, and federal agencies; and the project applicants early in the environmental

review process. The comments and other information provided during the scoping process will help the CPUC determine the scope, focus, and content of the EIR and identify the range of alternatives, environmental effects, and mitigation measures to analyze in the EIR.

Public participation is a fundamental part of the CEQA environmental review process. The CPUC will hold public scoping meetings that all interested parties, including the public, are encouraged to attend. The public scoping meetings provide stakeholders a chance to comment in person on the potential effects of the proposed project and the scope of the EIR and to receive information on the environmental review process. At the public scoping meetings, you can provide comments either in writing or verbally. A court reporter will be present at each meeting to record your verbal comments. Verbal comments must be provided to the court reporter in order to be considered.

Please consider the following ideas as you provide comments:

- Personal knowledge you may have about the proposed project, location, or environmental issues;
- Any mitigation measures you think would help reduce or avoid potential impacts;
- Additional studies, topics, or issues you think need to be considered and analyzed in the EIR; and
- Concerns you have about the proposed project.

When to Comment

You may provide comments at two times during the environmental review process, including during the scoping period and after publication of the Draft EIR (see figure below).



SCAN HERE

For more information, to join the project mailing list, or to submit comments, please visit the CPUC’s PSRP website at <http://sandiegopipeline-psrp.com>

How to Provide Comments Today and During the Remainder of the Scoping Period

All comments expressed at the public scoping meetings or during the scoping period, whether written or verbal (verbal comments must be recorded by the court reporter present at each public scoping meeting), will be given the same consideration and will become part of the public record for the proposed project and may be made publicly available. You may submit comments using the following methods:

-  Provide written comments and drop them into a comment box at a public scoping meeting
-  Speak with the court reporter present at a public scoping meeting to record your verbal comments
-  Submit comments online on the CPUC's PSRP website at <http://sandiegopipeline-psrp.com>
-  Email comments to SDgaspipeline@ene.com
-  Mail written comments to:
 Robert Peterson
 California Public Utilities Commission
 RE: Pipeline Safety and Reliability Project
 c/o Ecology and Environment, Inc.
 505 Sansome Street, Suite 300
 San Francisco, CA 94111

Join the CPUC's PSRP Mailing List

You may join the CPUC's PSRP mailing list to receive project updates and notification of the locations and times for the public meetings that will occur after publication of the Draft EIR. You may join the CPUC's PSRP mailing list by clicking on the "join mailing list" link on the CPUC's PSRP website at <http://sandiegopipeline-psrp.com>.



The scoping period is from **May 9, 2017, through June 12, 2017**. All public scoping comments must be received, or postmarked if hardcopy, by **June 12, 2017**.

Public Scoping Meeting Schedule

Tuesday, May 23, 2017	Pala Mesa Resort, Ballroom 2001 Old Highway 395 Fallbrook, CA 92028	2:00 to 4:00 PM (2:30 PM Presentation)	6:00 to 8:00 PM (6:30 PM Presentation)
Wednesday, May 24, 2017	Park Avenue Community Center, Auditorium 210 E. Park Ave. Escondido, CA 92025	2:00 to 4:00 PM (2:30 PM Presentation)	6:00 to 8:00 PM (6:30 PM Presentation)
Thursday, May 25, 2017	Alliant International University, San Diego Campus, Green Hall 10455 Pomerado Road San Diego, CA 92131	2:00 to 4:00 PM (2:30 PM Presentation)	6:00 to 8:00 PM (6:30 PM Presentation)

You can provide comments either in writing or verbally to a court reporter. A court reporter will be present at each public scoping meeting to record your verbal comments.



Pipeline Safety and Reliability Project – New Natural Gas Line 3602 and De-rating Line 1600 (PSRP)

*Environmental Review under the
California Environmental Quality Act*



Robert Peterson

CPUC Project Manager, Energy Division, Infrastructure Permitting and CEQA

California Public Utilities Commission

Public Scoping Meetings May 23, 24, & 25, 2017



Presentation Overview

- Purpose of Public Scoping for our CEQA Environmental Review
- Overview of the Proposed Project
- CPUC Application Review Process Overview
- Project Routing Alternatives and Other Project Alternatives
- Public Participation Opportunities During Scoping Period
- Ways to Comment

Comments due June 12, 2017



Purpose of the Public Scoping Process and Meetings

- Gather comments and input from stakeholders at the beginning of the environmental review process.
- Learn about the CPUC application review process and the proposed project.
- Based on your comments, identify the range of:
 - Alternatives;
 - Environmental effects; and
 - Mitigation measures to analyze in the CPUC's Environmental Impact Report (EIR).





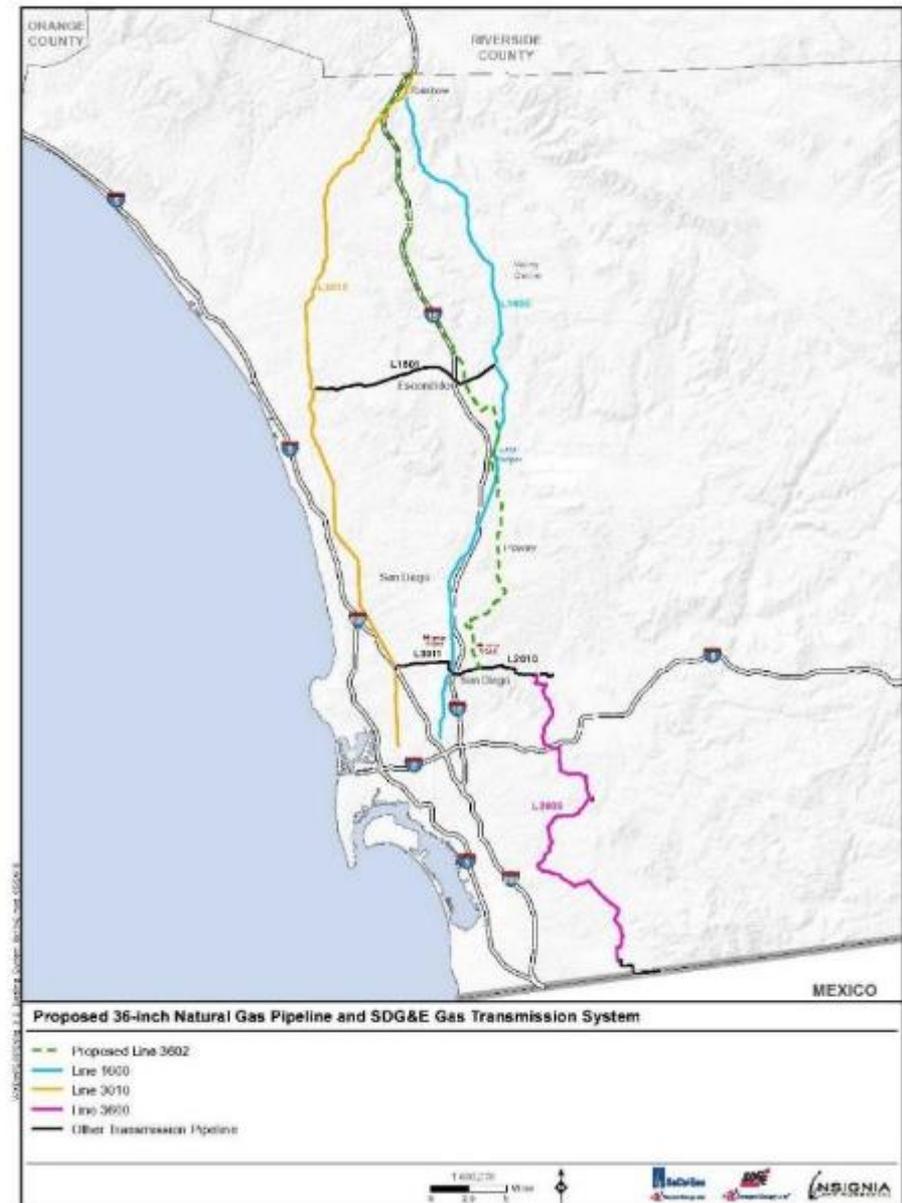
The proposed project would include two main components:

1. New 47-mile natural gas pipeline (Line 3602) with a diameter of 36 inches (3 feet); and
2. De-rating (lowering the operating pressure) an existing 16-inch pipeline (Line 1600).

Line 3602, if constructed, would be located within San Diego County and cross unincorporated communities (e.g., Rainbow) and the cities of:

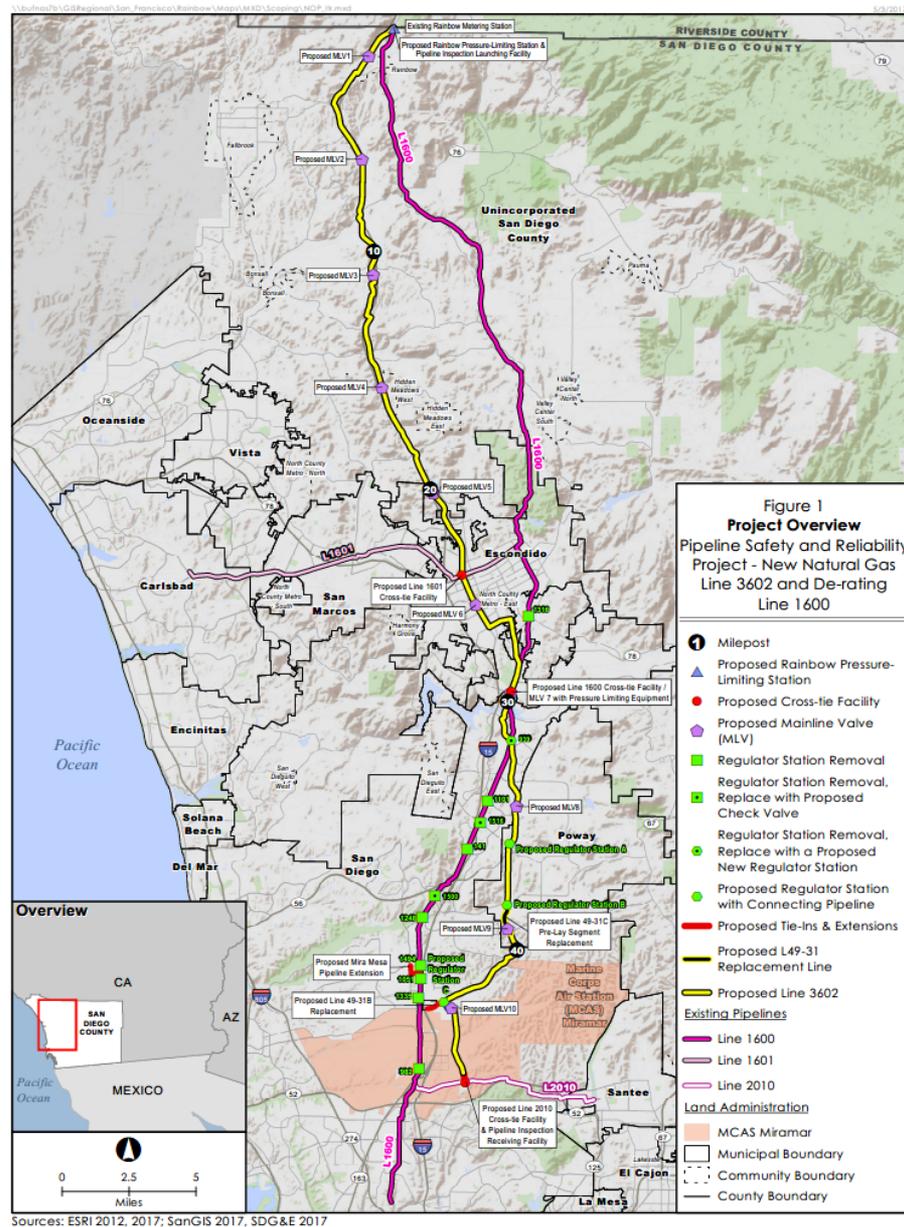
- Escondido;
- Poway; and
- San Diego.

It would also cross federal land within Marine Corps Air Station Miramar.



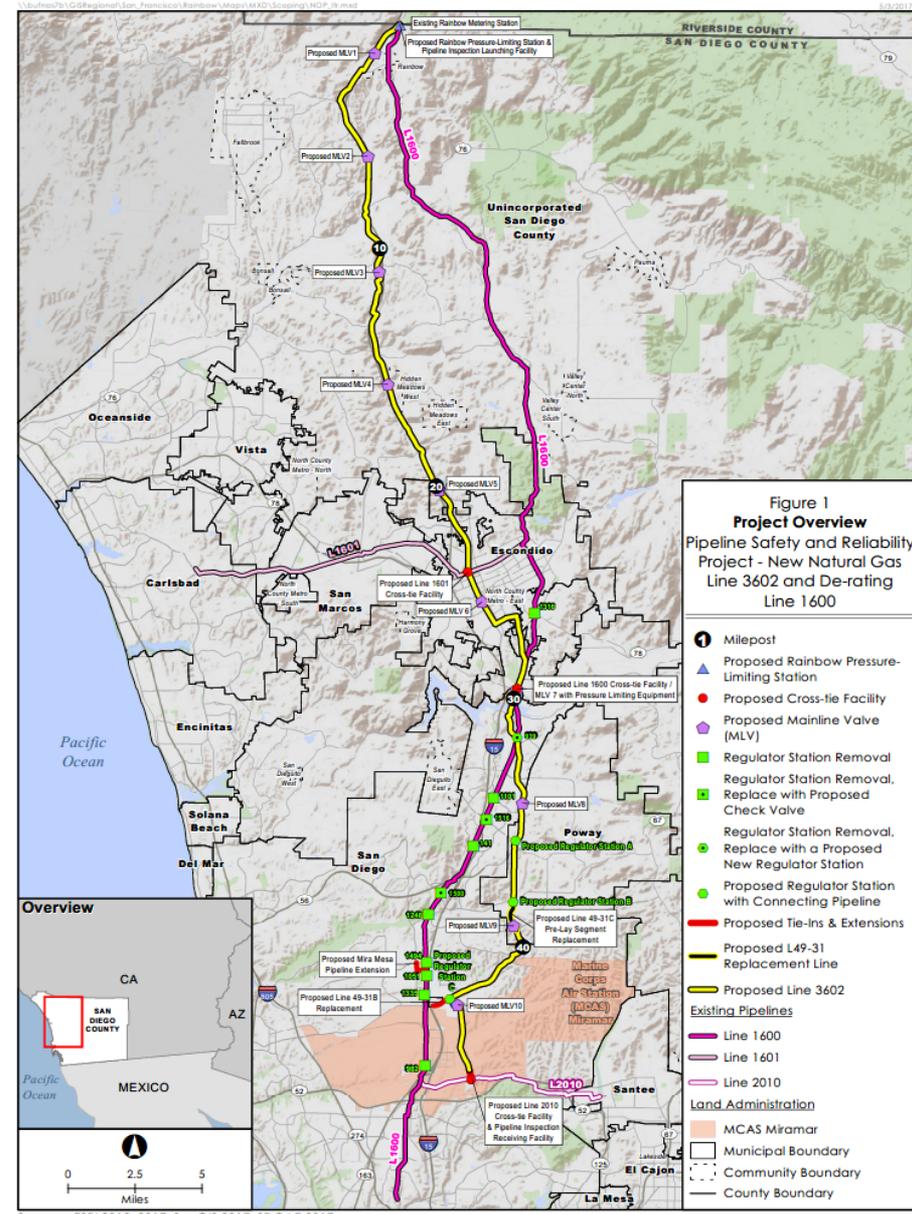
Proposed Natural Gas Pipeline 3602

- Approximately 41 miles would be installed within or adjacent to roads.
- Approximately 6 miles would be installed cross country.
- Proposed support facilities include:
 - Rainbow Pressure-Limiting Station;
 - 10 mainline valves (MLVs);
 - Three cross-tie facilities for existing Lines 1600, 1601, and 2010; and
 - Minor operation support facilities including pipeline inspection launching and receiving equipment, cathodic protection system, and fiber optic intrusion and leak detection system.
- It would be a state-of-the-art pipeline.



De-Rate Existing Pipeline 1600

- Remove eight regulator stations that would not be replaced
- Remove two regulator stations and replace them with check valves
- Remove one regulator station and replace it with a new regulator station
- Construct three new regulator stations and connection pipelines
- Construct a pipeline extension, the Mira Mesa Pipeline Extension (0.88 miles)
- Replace pipeline 49-31B (0.70 miles)
- Replace pipeline 49-31C (the Pre-Lay Segment Replacement; 1.08 miles)





CPUC Application Review Process

In consideration of San Diego Gas & Electric Company and Southern California Gas Company's Certificate of Public Convenience and Necessity Application (filed on September 30, 2015), the CPUC conducts two review processes:

- 1) Environmental review under the California Environmental Quality Act (CEQA)

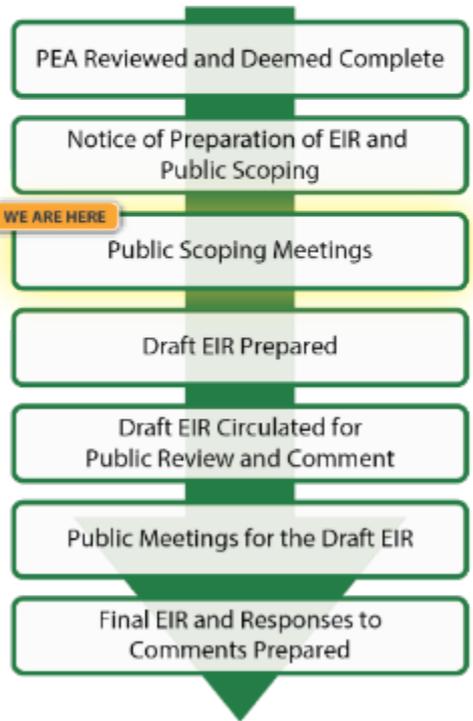
- 2) Project Need and Cost Review Proceeding
 - The "Formal Proceeding"
 - Application A.15-09-013 (A1509013)





California Environmental Quality Act

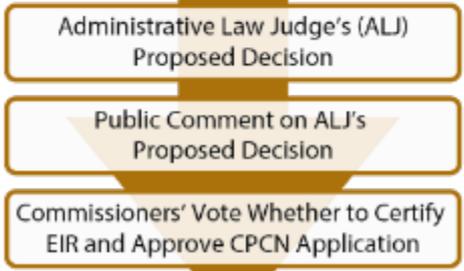
Environmental Review Process



Contact our CEQA team at: SDgaspipeline@ene.com

Application Review Process

Project Proponents File an Application for a Certificate of Public Convenience and Necessity (CPCN), which includes the Proponent's Environmental Assessment (PEA)



Proceeding Number
A.15-09-013

Project Need and Cost Review Proceeding



Contact CPUC Public Advisor
Public.Advisor@cpuc.ca.gov



CEQA Environmental Impact Report

The CPUC is the California Environmental Quality Act (CEQA) Lead Agency.

The CPUC Energy Division , Infrastructure Permitting and CEQA Section will:

- Review the proposed project to identify potential environmental impacts, analyze alternatives, and develop measures to avoid or mitigate impacts, if feasible.
- Prepare a Draft and Final Environmental Impact Report (EIR) to document the proposed project's potential impacts on the environment on a number of resources areas, including, among others:
 - Transportation and Traffic;
 - Public Services and Utilities;
 - Hazards and Hazardous Materials;
 - Air Quality;
 - Greenhouse Gas Emissions;
 - Cultural Resources;
 - Hydrology and Water Quality;
 - Land Use and Planning;
 - Noise;
 - Biological Resources; and
 - Others (**see display poster and handout**)



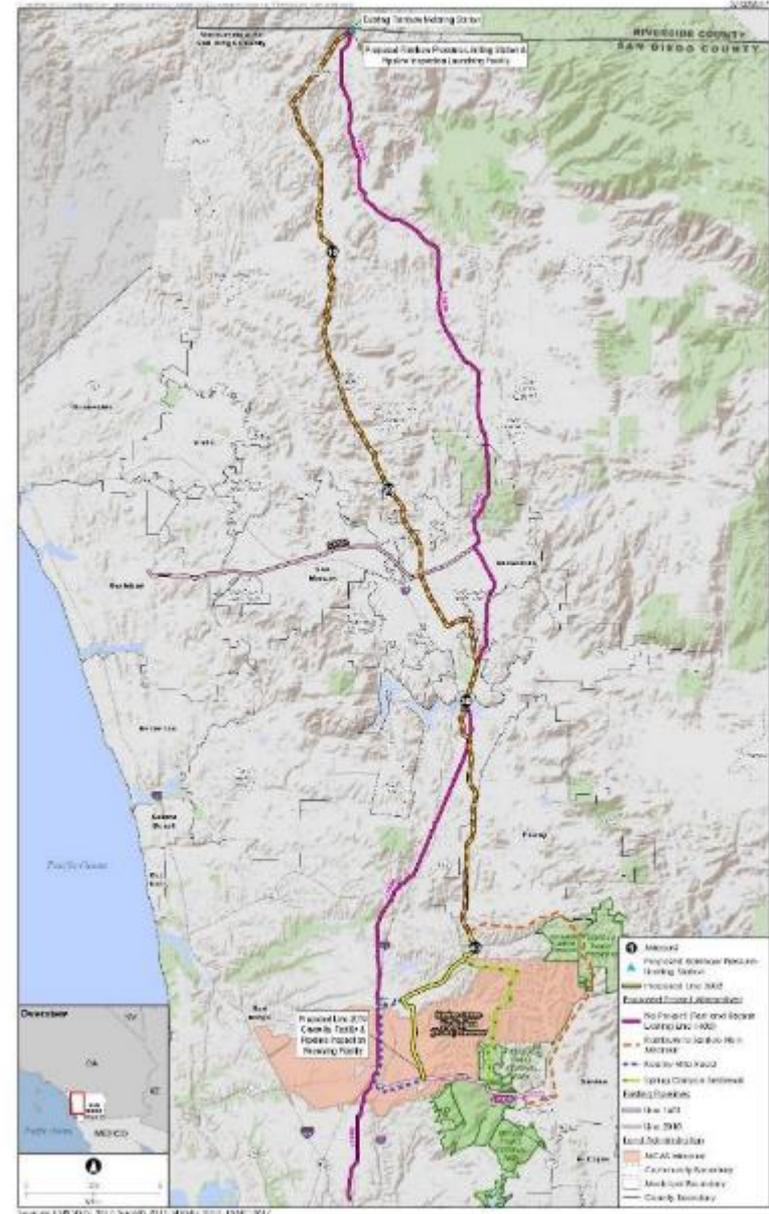


Proposed Project Alternatives

- No Project Alternative (i.e., replace or pressure test and then repair/replace Line 1600 in sections as needed)
- Rainbow to Santee Non-Miramar Alternative
- Kearny Villa Road Alternative
- Spring Canyon Firebreak Alternative

Other Alternatives

- Alternate Receipt Points (e.g., Otay Mesa, Mexican Border)
- Alternate Energy Sources (e.g., battery storage and solar/wind/renewable energy)



Public Participation Opportunities during the CEQA Review

- Scoping Period is May 9, 2017, through June 12, 2017. All public scoping comments must be received, or postmarked if hardcopy, by **June 12, 2017**
- Schedule beyond the CEQA public scoping period is an estimate
 - Join the CPUC's PSRP mailing list to receive project updates and notification of the locations and times for the Draft EIR public meetings
 - Check the CPUC PSRP website frequently at <http://sandiegopipeline-psrp.com> for schedule updates



Ways to Comment on the CEQA Review

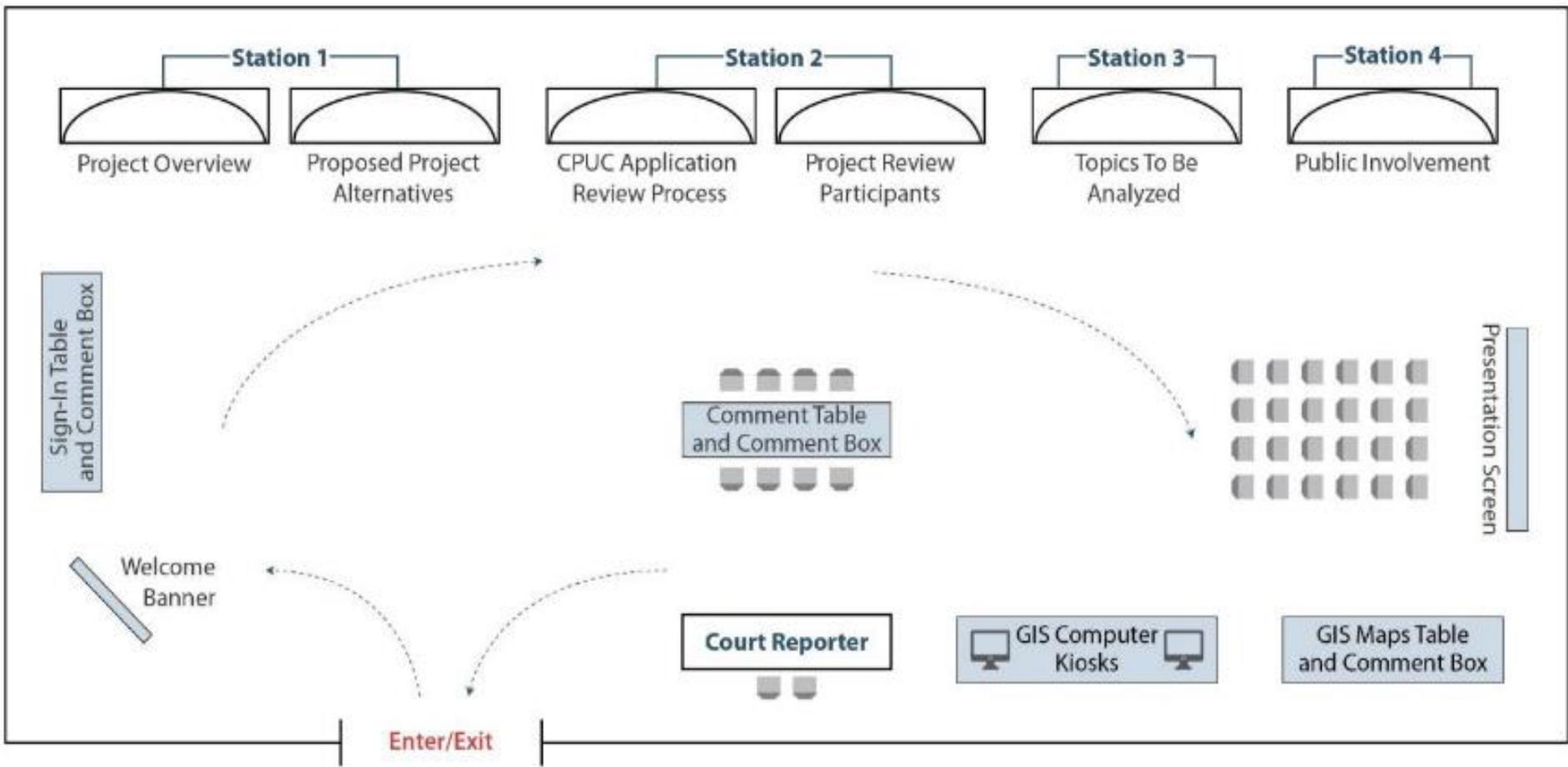
-  Provide written comments and drop them into a **comment box** at a public scoping meeting
-  Speak with the **court reporter** today at the public scoping meeting to record your verbal comments
-  Submit comments **online** on the CPUC's PSRP website at <http://sandiegopipeline-psrp.com>
-  **Email** comments to SDgaspipeline@ene.com
-  **Mail** written comments to:
Robert Peterson
California Public Utilities Commission
RE: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

CEQA/Environmental
Review Scoping Comments
due no later than Monday,
June 12, 2017
(postmark date if mailed)

Considerations for Commenting

- Personal knowledge you may have about the proposed project, location, or environmental issues
- Mitigation measures you think would help reduce or avoid potential impacts
- Studies, topics, or issues you think need to be considered and analyzed in the EIR
- Concerns you have about the proposed project
- Focus on the resource area or EIR section within which your comment best fits and review that section of the EIR to see that your comments was addressed





(Actual layout will be slightly different, depending on room configuration.)





Thank you!

For Additional Information:

CEQA Environmental Review

Project Website (and mailing list additions)

<http://sandiegopipeline-psrp.com>



**Getting Involved and Staying Informed about
the A.15-09-013 Formal Proceeding (i.e., the courtroom proceeding)**

Contact: CPUC Public Advisor's Office
(866) 849-8390 or (415) 703-2074

Public.Advisor@cpuc.ca.gov

www.cpuc.ca.gov



F

Scoping Comments Received

Note: Personally identifiable information including names, telephone numbers, email addresses, and residential addresses for individuals who submitted comments has been redacted. Personally identifiable information pertaining to an official submitting comments on behalf of their organization or constituents has not been redacted.

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[Redacted]
San Diego, CA 92123

Re: Public Safety: My request is that, for all projects contemplated, you conduct and publish:

Thorough FMECA analysis to arrive at a full determination of Failure Modes and Criticality Analysis with particular scrutiny of those resulting in deaths or health hazard to affected animals and humans. Further, that for each such adverse event identified that you calculate the probability of it's occurrence using both as determined by applying appropriate derating levels to all critical parameters together with associated mitigations provided.



Poway, CA 92064

I do not think it's in the interest of the public to run a gas pipeline through a highly populated neighborhood. There are multiple schools, medical facilities, businesses and homes that would be placed in an unnecessary danger from this pipeline.

If SDG&E wants to state that this is safe to that I say I don't believe you. I saw what happened in San Bruno and Greenwood, what about the people that lost their lives. You should find another route where there's less danger to people. If it costs more just do it we the taxpayers always end up paying for what you want anyway.



Escondido, CA 92025

As I read the website and other literature, I have not seen any compelling reason for adding the extra diversion through Encino & Felicita. Not only is it a longer route and thus more expensive, but from what I can tell, the added detour passes directly by 4 schools, 3 churches, and at least 100 extra residents! The reasonable solution would be to put the pipeline down Centre City Parkway. Without any compelling reason given for the random detour, I can only assume that bad politics has gotten involved and someone has influenced this thing for their own benefit. Please publicly make the rationale known if my assumptions are wrong. Thank you.

From: [REDACTED]
Sent: Wednesday, May 10, 2017 12:54 AM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: proposed gas line through Santee

SDG&E,

I want to strongly urge you to reconsider your proposed fracked gas line through Santee. This would destroy parts of

Goodan Ranch, Sycamore Creek, the Stowe Trail through Fanita Ranch, Santee Lakes and Mission Trails Park.

This is so wrong on so many levels. Find some other place to place this line that does not lead to the destruction of so

many beautiful areas of our city.

Thank you,

[REDACTED]

[REDACTED] Santee 92071

From: [REDACTED]
Sent: Thursday, May 11, 2017 3:53 AM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: Fwd: proposed gas line through Santee

----- Forwarded Message -----

Subject: proposed gas line through Santee
Date: Tue, 9 May 2017 21:54:14 -0700
From: [REDACTED]
To: SDgaspipeline@ene.com

SDG&E,

I want to strongly urge you to reconsider your proposed fracked gas line through Santee. This would destroy parts of

Goodan Ranch, Sycamore Creek, the Stowe Trail through Fanita Ranch, Santee Lakes and Mission Trails Park.

This is so wrong on so many levels. Find some other place to place this line that does not lead to the destruction of so

many beautiful areas of our city.

Thank you,

[REDACTED]

[REDACTED] Santee 92071

From: [REDACTED]
Sent: Thursday, May 11, 2017 1:28 PM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: objection

I object to this unnecessary pipeline and it's support of fracking. Distributed solar would be a much better place to place our resources and much less destructive.

[REDACTED]

[REDACTED]

San Diego, CA 92114

[REDACTED]

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: fracked gas pipeline
Date: Friday, May 12, 2017 11:06:13 AM

I am against the fracked gas pipeline.

[REDACTED]
Santee

From: [REDACTED]
Sent: Thursday, May 11, 2017 1:38 PM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: Request higher resolution map of proposed pipeline showing greater detail on streets/cross streets

The maps located on the website do not contain enough detail as to how the proposed pipeline will personally affect me as a homeowner. I am sure this was by design by SDG&E. Please provide greater transparency so that the public can make better informed decisions. This project should not be fast tracked and pushed through.

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: Natural Gas Line 3602
Date: Friday, May 19, 2017 8:54:24 AM

I'm writing to express my concern about the proposed natural gas pipeline on Pomerado Road. I'm bothered by the idea of SDG&E building its pipeline through known wildfire areas. During construction, sparks from welders' torches and other equipment could pose a fire hazard, especially during Santa Ana season.

The proposed route is also very near Palomar Pomerado Hospital where the impact from a gas line explosion (such as the one in San Bruno) could be worsened if flames came in contact with combustible materials commonly used in healthcare such as oxygen canisters and certain sterilants and disinfectants. And if the hospital were affected by an explosion, where would casualties from the accident be treated?

The Twin Peaks behind the hospital haven't burned in decades, so they're a major fire risk. If the Twin Peaks burn, a wildfire could very quickly spread to other parts of the county, costing hundreds of millions of dollars in damage and posing a serious threat to public health and safety.

Thank you for providing me with this opportunity to voice my reservations about Project 3602.

[REDACTED]
Rancho Bernardo

[REDACTED]
[REDACTED]
San Diego, CA 92128

I would like to express my concern about the proposed natural gas pipeline on Pomerado Road. I'm bothered by the idea of SDG&E building its pipeline through known wildfire areas. During construction, sparks from welders' torches and other equipment could pose a fire hazard, especially during Santa Ana season. The proposed route is also very near Palomar Pomerado Hospital where the impact from a gas line explosion (such as the one in San Bruno) could be worsened if flames came in contact with combustible materials commonly used in healthcare such as oxygen canisters and certain sterilants and disinfectants. And if the hospital were affected by an explosion, where would casualties from the accident be treated? The Twin Peaks behind the hospital haven't burned in decades, so they're a major fire risk. If the Twin Peaks burn, a wildfire could very quickly spread to other parts of the county, costing hundreds of millions of dollars in damage and posing a serious threat to public health and safety. Thank you for providing me with this opportunity to voice my reservations about Project 3602.

[REDACTED]
[REDACTED]
San Diego, CA 92119

I am so lucky to have grown up next to the treasure that is Mission Trails Regional Park, and I am opposed to these alternative routes because they threatens the beauty and habitats in this region. These routes are not acceptable, please join me in opposing them

[REDACTED]
[REDACTED]
Santee, CA 92071

Robert Peterson California Public Utilities Commission RE: Pipeline Safety and Reliability Project c/o Ecology and Environment, Inc. 505 Sansome Street, Suite 300 San Francisco, CA 94111 RE: Pipeline Safety and Reliability Project – New Natural Gas Line 3602 (Application No. A.15-09-013) I oppose both alternative routes of the proposed gas pipeline (Line 3602). Alternative routes through Mission Trails Regional Park and surrounding park expansion areas are not acceptable. The first proposed alternative would disrupt the use of and degrade Mission Trails Regional Park's West Sycamore Area including parts of the new Stowe Trail, as well as the Goodan Ranch, and Fanita Ranch. These preserved areas and parklands are used by hundreds of visitors daily. Maintaining the integrity of the preservation of these natural lands is imperative for existing wildlife, flora, and habitat. The second proposed alternative is equally unacceptable and would degrade Mission Trails's Spring Canyon and East Fortuna Staging Area, and also East Elliott, part of MTRP's larger ecosystem. The park and its surrounding expansion area must be protected. A new gas pipeline does not belong in these natural habitats which are used recreationally by park visitors. Please drop or oppose these alternative routes. Thank you. Sincerely, [REDACTED] Resident

[REDACTED]
[REDACTED]
San Diego , CA 92119

As a 30 year resident of San Diego I vehemently oppose running any gas line through mission trails regions park. The park is an important part of our community and must be preserved for future generations.

[REDACTED]
[REDACTED]
San Diego, CA 92120

Robert Peterson California Public Utilities Commission RE: Pipeline Safety and Reliability Project c/o Ecology and Environment, Inc. 505 Sansome Street, Suite 300 San Francisco, CA 94111 RE: Pipeline Safety and Reliability Project (Application No. A.15-09-013) I oppose both alternative routes of the proposed gas pipeline (Line 3602). Alternative routes through Mission Trails Regional Park and surrounding park expansion areas are not acceptable. The first proposed alternative would disrupt the use of and degrade Mission Trails Regional Park's West Sycamore Area including parts of the new Stowe Trail, as well as the Goodan Ranch, and Fanita Ranch. These preserved areas and parklands are used by hundreds of visitors daily. Maintaining the integrity of the preservation of these natural lands is imperative for existing wildlife, flora, and habitat. The second proposed alternative is equally unacceptable and would degrade Mission Trails's Spring Canyon and East Fortuna Staging Area, and also East Elliott, part of MTRP's larger ecosystem. The park and its surrounding expansion area must be protected. A new gas pipeline does not belong in these natural habitats which are used recreationally by park visitors. Please drop or oppose these alternative routes. Thank you. Sincerely, [REDACTED]

[REDACTED]
a resident of San diego

[REDACTED]
San Diego, , CA 92111

PLEASE DO NOT PUT A GAS PIPELINE THROUGH OUR BEAUTIFUL MISSION TRAILS PARK. IT IS AN URBAN TREASURE AND SHOULD BE PROTECTED FOR ALL FUTURE GENERATIONS OF SAN DIEGANS. INVEST IN SOLAR AND WIND AND OCEAN

[REDACTED]
[REDACTED]
Ramona, CA 92065

Robert Peterson California Public Utilities Commission RE: Pipeline Safety and Reliability Project c/o Ecology and Environment, Inc. 505 Sansome Street, Suite 300 San Francisco, CA 94111 RE: Pipeline Safety and Reliability Project (Application No. A.15-09-013) I support any and all routes for the proposed pipeline. I am sick and tired of NIMBYs and environmental whackoes opposing everything that will bring cheap, reliable energy to the American people. Do not pay attention to their hysterical whining, they want us out of our cars, off the road, and living in caves. They will oppose ANYTHING that will benefit human beings if it disturbs one molecule of their perverted idea of "nature". Build the damn pipeline, ignore their grouching. [REDACTED], CA.

[REDACTED]
Citizen

[REDACTED]
Santee, CA 92071

We don't want or need this pipeline running through out lovely Santee.

[REDACTED]
[REDACTED]
La Mesa, CA 91942

RE: Pipeline Safety and Reliability Project – New Natural Gas Line 3602 (Application No. A.15-09-013) I oppose both alternative routes of the proposed gas pipeline (Line 3602). Alternative routes through Mission Trails Regional Park and surrounding park expansion areas are not acceptable. The first proposed alternative would disrupt the use of and degrade Mission Trails Regional Park's West Sycamore Area including parts of the new Stowe Trail, as well as the Goodan Ranch, and Fanita Ranch. These preserved areas and parklands are used by hundreds of visitors daily. Maintaining the integrity of the preservation of these natural lands is imperative for existing wildlife, flora, and habitat. The second proposed alternative is equally unacceptable and would degrade Mission Trails's Spring Canyon and East Fortuna Staging Area, and also East Elliott, part of MTRP's larger ecosystem. The park and its surrounding expansion area must be protected. A new gas pipeline does not belong in these natural habitats which are used recreationally by park visitors. Please drop or oppose these alternative routes. Thank you. Sincerely, [REDACTED], CA

[REDACTED]
[REDACTED]
[REDACTED]
Santee, CA 92071

Robert Peterson California Public Utilities Commission RE: Pipeline Safety and Reliability Project c/o Ecology and Environment, Inc. 505 Sansome Street, Suite 300 San Francisco, CA 94111 RE: Pipeline Safety and Reliability Project – New Natural Gas Line 3602 (Application No. A.15-09-013) I oppose both alternative routes of the proposed gas pipeline (Line 3602). Alternative routes through Mission Trails Regional Park and surrounding park expansion areas are not acceptable. The first proposed alternative would disrupt the use of and degrade Mission Trails Regional Park's West Sycamore Area including parts of the new Stowe Trail, as well as the Goodan Ranch, and Fanita Ranch. These preserved areas and parklands are used by hundreds of visitors daily. Maintaining the integrity of the preservation of these natural lands is imperative for existing wildlife, flora, and habitat. The second proposed alternative is equally unacceptable and would degrade Mission Trails' Spring Canyon and East Fortuna Staging Area, and also East Elliott, part of MTRP's larger ecosystem. The park and its surrounding expansion area must be protected. A new gas pipeline does not belong in these natural habitats which are used recreationally by park visitors. Please drop or oppose these alternative routes. Thank you. Sincerely,

[REDACTED]
[REDACTED]
Santee CA 92071

[REDACTED]
[REDACTED]
San Diego, CA 92110

This company had demonstrated a blantant disregard for public saftey in remediating the Porter Ranch disaster. They have demonstrated that they can not be trusted with accessing and preserving such delicate public resources and that they have absolutely no plans or means to react to any violation. Their gross incompetence and negligence should disqualify them from any further inquiries into stewarding public land.

[REDACTED]
SAN DIEGO, CA 92111-5451

Robert Peterson California Public Utilities Commission RE: Pipeline Safety and Reliability Project c/o Ecology and Environment, Inc. 505 Sansome Street, Suite 300 San Francisco, CA 94111 RE: Pipeline Safety and Reliability Project – New Natural Gas Line 3602 (Application No. A.15-09-013) I oppose both alternative routes of the proposed gas pipeline (Line 3602). Alternative routes through Mission Trails Regional Park and surrounding park expansion areas are not acceptable. The first proposed alternative would disrupt the use of and degrade Mission Trails Regional Park's West Sycamore Area including parts of the new Stowe Trail, as well as the Goodan Ranch, and Fanita Ranch. These preserved areas and parklands are used by hundreds of visitors daily. Maintaining the integrity of the preservation of these natural lands is imperative for existing wildlife, flora, and habitat. The second proposed alternative is equally unacceptable and would degrade Mission Trails's Spring Canyon and East Fortuna Staging Area, and also East Elliott, part of MTRP's larger ecosystem. The park and its surrounding expansion area must be protected. A new gas pipeline does not belong in these natural habitats which are used recreationally by park visitors. Please drop or oppose these alternative routes and locate the pipeline through MCAS Miramar to Mission Valley. Sincerely, [REDACTED] San Diego, CA 92111-5451



San Diego, CA 92111

Robert Peterson California Public Utilities Commission RE: Pipeline Safety and Reliability Project c/o Ecology and Environment, Inc. 505 Sansome Street, Suite 300 San Francisco, CA 94111 RE: Pipeline Safety and Reliability Project – New Natural Gas Line 3602 (Application No. A.15-09-013) I oppose both alternative routes of the proposed gas pipeline (Line 3602). Alternative routes through Mission Trails Regional Park and surrounding park expansion areas are not acceptable. The first proposed alternative would disrupt the use of and degrade Mission Trails Regional Park's West Sycamore Area including parts of the new Stowe Trail, as well as the Goodan Ranch, and Fanita Ranch. These preserved areas and parklands are used by hundreds of visitors daily. Maintaining the integrity of the preservation of these natural lands is imperative for existing wildlife, flora, and habitat. The second proposed alternative is equally unacceptable and would degrade Mission Trails's Spring Canyon and East Fortuna Staging Area, and also East Elliott, part of MTRP's larger ecosystem. The park and its surrounding expansion area must be protected. A new gas pipeline does not belong in these natural habitats which are used recreationally by park visitors. Please drop or oppose these alternative routes. Thank you. Sincerely,

[REDACTED]
[REDACTED]
San Diego, CA 92116

I'm writing in favor of the originally proposed alignment for the new 3602 gas pipeline through MCAS Miramar, and in opposition any alternative alignment that would go through Mission Trails Regional Park or Goodan Ranch/Sycamore Canyon County Preserve. The existing 2010 gas pipeline is already an unsightly scar in Mission Trails Regional Park. The access roads created for this pipeline have unsustainable grades, and so are perpetually in poor condition. There are also several places where the pipeline access roads duplicate existing fire roads in the park, sometimes with alignments that are merely feet apart. We don't want any more utility work or access roads tearing up the natural spaces that are set aside for recreation and wildlife preservation. Keep the pipeline out of our parks.

[REDACTED]
[REDACTED]
San Diego , CA 92111-5451

Do not permit a new natural gas line to be run through Goodan Ranch, East Elliott (part of Mission Trails Regional Park expansion) and Mission Trails Regional Park. Place that gas line adjacent to already developed roads and other built features, not through these public parks, which are remnants of nature that our city and state have paid to preserve for us and for the future citizens of our region, to be able to observe and learn from nature and to give natural life a place to continue to flourish. Do not put a natural gas line through our parks. Thank you, [REDACTED]

[REDACTED] San Diego CA 92111- [REDACTED]

██████████
Archaeologist

██████████
SANTEE, CA 92071

To whom it may concern, My name is ██████████, I'm a Native American and an archaeologist by trade. I have taken a moment to review the proposed project and would like to take an opportunity to note a few problems. I believe the environmental impact report which is being currently work on. Will include not only archaeological but also historical data from the sites in question. Personally I specialize in San Diego indigenous archaeological history. I believe you should be aware of the history locally in San Diego on the area in which you will be affecting. San Diego has a rich and beautiful history regarding indigenous peoples. I would like to see the environmental impact report include that history and archaeological assessment the made. With a high potential of burials to be found on the proposed project. I would also suggest archaeological sample test pits dug in order to ensure burials are not being disturbed as per Federal requirements. The same area was under scrutiny no less than five years ago with the quail brush power plant project under the CEC. That project was pulled by the CEC due to archaeological issues, specifically indigenous Native Americans burials on cite. Please be respectful aware of the archaeological and historical impacts which this project might incur. ██████████

██████████

[REDACTED]
Archaeologist

[REDACTED]
SANTEE, CA 92071

To whom it may concern, My name is [REDACTED], I'm a Native American and an archaeologist by trade. I have taken a moment to review the proposed project and would like to take an opportunity to note a few problems. I believe the environmental impact report which is being currently work on. Will include not only archaeological but also historical data from the sites in question. Personally I specialize in San Diego indigenous archaeological history. I believe you should be aware of the history locally in San Diego on the area in which you will be affecting. San Diego has a rich and beautiful history regarding indigenous peoples. I would like to see the environmental impact report include that history and archaeological assessment the made. With a high potential of burials to be found on the proposed project. I would also suggest archaeological sample test pits dug in order to ensure burials are not being disturbed as per Federal requirements. The same area was under scrutiny no less than five years ago with the quail brush power plant project under the CEC. That project was pulled by the CEC due to archaeological issues, specifically indigenous Native Americans burials on cite. Please be respectful aware of the archaeological and historical impacts which this project might incur. [REDACTED]

[REDACTED]

[REDACTED]
[REDACTED]
Santee, CA 92071

I am a resident who is opposed and very concerned about the alternative routes proposed for this gas line. They all travel through Mission Trails Park and this will disrupt natural habitat and potentially threaten public enjoyment of these lands.



Santee, CA 92071

I will join any and all opposition to a high pressure gas pipeline project which has a simpler alternative (MIRAMAR AIR BASE GROUNDS) available: one that would be more direct and less threatening alternative to people, civil infrastructure and the invaluable, already scarce natural habitat around San Diego. Thank you very much for your attention. 

[REDACTED]
[REDACTED]
San Diego, CA 92127

I strongly oppose the running of pipelines through Mission Trail or any other parks. The park is still damaged from a water pipe run in the Tierra Santa area more than a decade ago. The same can be said for the pipeline run through Blue Sky Reserve in Poway where the promised restoration never occurred. Why? Because the line needs to be accessed. Yet another pipeline runs in open space near Camino Del Sur. No plants are allowed to grow because roots may damage the pipes. So the history is clear. Pipelines in open spaces bring permanent damage to areas that we set aside for nature and the people that want to enjoy it. Along with the direct damage caused by the digging of a pipeline are the roads needed to maintain access to the infrastructure. These are permanent sources of weeds that further degrade habitat. Keep all pipelines out of parks! They are not compatible with the function of our parks.



La Mesa, CA 91941

This makes no sense to disrupt, disturb interfere with any public lands such as MTRP.
Please do not consider this!

[REDACTED]
Resident

[REDACTED]
San Diego, CA 92120

Robert Peterson California Public Utilities Commission RE: Pipeline Safety and Reliability Project c/o Ecology and Environment, Inc. 505 Sansome Street, Suite 300 San Francisco, CA 94111 RE: Pipeline Safety and Reliability Project – New Natural Gas Line 3602 (Application No. A.15-09-013) I oppose both alternative routes of the proposed gas pipeline (Line 3602). Alternative routes through Mission Trails Regional Park and surrounding park expansion areas are not acceptable. The first proposed alternative would disrupt the use of and degrade Mission Trails Regional Park's West Sycamore Area including parts of the new Stowe Trail, as well as the Goodan Ranch, and Fanita Ranch. These preserved areas and parklands are used by hundreds of visitors daily. Maintaining the integrity of the preservation of these natural lands is imperative for existing wildlife, flora, and habitat. The second proposed alternative is equally unacceptable and would degrade Mission Trails's Spring Canyon and East Fortuna Staging Area, and also East Elliott, part of MTRP's larger ecosystem. The park and its surrounding expansion area must be protected. A new gas pipeline does not belong in these natural habitats which are used recreationally by park visitors. Please drop or oppose these alternative routes. Thank you. Sincerely,



San Diego, CA 92128

California being the pioneer and leader in controlling GHG, with a target of reaching to 80% below 1990 levels by 2050. Building unnecessary new fossil fuel infrastructure runs completely counter to those goals. SDG&E has acknowledged that the existing and much smaller pipeline [16 inches] this proposed pipeline would replace can operate reliably for at least another 20 years. It should be pressure tested to confirm it is reliable, as required by California law, and kept in operation as the CPUC's Office of Ratepayer Advocates is recommending. Natural gas usage is already in steep decline in California, projected by SDG&E to drop about 15 percent over the next 10 years. The pipeline is not needed in San Diego. It would be a financial windfall for SDG&E and would serve as a major gas supply for Sempra's proposed liquefied natural gas export facility near Ensenada. The CPUC should not force ratepayers be a part of this or even support this change by providing alternate ways of funding. The short two-week notice given by the CPUC for these public participation meetings is a good way to ensure as little public participation as possible. I'm asking the CPUC to reject the proposed pipeline. Thank you.

[REDACTED]
[REDACTED]
San Diego, CA 92124

The gas pipeline proposed by SDG&E should be rejected for the following reasons: 1) There is an immediate need to decrease our reliance on fossil fuels and transition to renewable energy. 2) The proposed pipeline is unnecessary and would saddle ratepayers with costs through 2063 totalling over \$600 million. Natural gas usage is in a steep decline in California and SDG&E has determined that the existing pipeline can operate reliably for twenty more years. Ratepayers must NOT be asked to subsidize SDG&E plans which are not necessary and are counterproductive to California climate goals. I urge you to reject this proposal for a new gas pipeline. Thank you for your consideration.
Sincerely, [REDACTED]

[REDACTED]
[REDACTED]
Escondido, CA 92027

Dear Mr. Peterson, The gas pipeline proposed by SDG&E should be rejected for the following reasons: There is an immediate need to decrease our reliance on fossil fuels and transition to renewable energy. The proposed pipeline is unnecessary and would saddle ratepayers with costs through 2063 totalling over \$600 million. Natural gas usage is in a steep decline in California and SDG&E has determined that the existing pipeline can operate reliably for twenty more years. Ratepayers must NOT be asked to subsidize SDG&E plans which are not necessary and are counterproductive to California climate goals. I urge you to reject this proposal for a new gas pipeline. Thank you for your consideration. [REDACTED]



San Diego, CA 92122

Pipeline Safety and Reliability Project – New Natural Gas Line 3602 and De-rating Line 1600 (PSRP) Environmental Impact Report (EIR) Notification – Legal Notice process. (Application No. A.15-09-013) California's climate plans require us to transition rapidly from fossil fuels to renewable energy - cutting emissions to 80% below 1990 levels by 2050. Building unnecessary new fossil fuel infrastructure runs completely counter to those goals, which polls show Californians strongly support. We want to see investment in local renewable energy projects instead. SDG&E has acknowledged that the existing and much smaller pipeline [16 inches] this proposed 36 inch pipeline would replace can operate reliably for at least another 20 years. It should be pressure tested to confirm it is reliable, as required by California law, and kept in operation as the CPUC's Office of Ratepayer Advocates is recommending. SDG&E should also follow the CPUC recommendations to regularly test for leaks and proper operations using the latest technology. Natural gas usage is already in steep decline in California, projected by SDG&E to drop about 15 percent over the next 10 years. The pipeline is not needed in San Diego. It would be a financial windfall for SDG&E and would serve as a major gas supply for Sempra's proposed liquefied natural gas export facility near Ensenada. The CPUC should not force ratepayers to subsidize Sempra boondoggles that are unnecessary and don't support California's climate plan. The pipeline cost is estimated at over \$600 million, which customers will be paying for until 2063. The short two-week notice given by the CPUC for these public participation meetings is a good way to ensure as little public participation as possible. I'm asking the CPUC to reject the proposed pipeline. Thank you.

[REDACTED]
[REDACTED]
oceanside, CA 92056

The pipeline is not needed in San Diego. It would be a financial windfall for SDG&E and would serve as a major gas supply for Sempra's proposed liquefied natural gas export facility near Ensenada. The CPUC should not force ratepayers to subsidize Sempra boondoggles that are unnecessary and don't support California's climate plan. The pipeline cost is estimated at over \$600 million, which customers will be paying for until 2063. The short two-week notice given by the CPUC for these public participation meetings is a good way to ensure as little public participation as possible. I'm asking the CPUC to reject the proposed pipeline. Thank you.



San Marcos, CA 92078

I am writing to voice my opposition to the proposed New Natural Gas Line 3602. First, I'm concerned about the cost. And how much of the cost will be passed through to customers. But I am mostly concerned with the pipeline running along Pomerado Road adjacent to many houses and schools. A newly constructed pipeline built to high safety standards doesn't necessarily translate to a safe pipeline over the long term. The current pipeline is outdated and has serious flaws. So SDG&E currently operates a pipeline that could have a catastrophic failure. Given enough time, it is easy to make the assumption that the new pipeline would have the same risk. Why build the new pipeline in a densely populated residential area?



San Diego, CA 92110

The proposal of the new natural gas line 3602 should be denied. It does not help California meet its climate goals. Here in San Diego we had more than 3,000 people march on earth day and over 5,000 people marched for the climate the following weekend, so it is something we are passionate about. Since joining the United States, California has taken the lead on many social and environmental issues. California even had representatives that were involved with the negotiations of the Paris Climate-Change Summit. This is currently a critical time and we need reinforce our support to our citizens and planet by saying no to fossil fuels and continue the transition to planet sustainable energies.

[REDACTED]
Attorney
[REDACTED]
[REDACTED]

CITY HEIGHTS, CA 92105

Dear SD Gas pipeline and Ms. Rafferty, The comment I am trying to raise , in my scoping comments for the Northern section, is that the Rainbow Pipeline is a continuous system to deliver gas from Rainbow to Southern San Diego. Mission Valley is just the midpoint not the terminus or major area of ultimate gas consumption. Most residential, industrial, and commercial users lie to the South of Mission Valley. The Northern route alignment should not dictate the preferred Southern section route. Such a decision would be to wag the dog by its tail rather than its head. Alignment of the North must know where it is going to connect to the major Southern portion. Clearly the Northern section can no longer be routed with a Southern alignment that continues the health and safety hazards in San Diego's urban core. Further, the Northern route is relatively dry but as it enters Mission Valley it gets wetter and crosses into more environmentally sensitive habitats. Beginning at Mission Valley it enters into the San Diego River water shed and then it must continue into some very impaired but sensitive water sheds. Chollas Creek and its tributaries like Auburn Creek and North Chollas have well documented habitat areas for listed and endangered flora and fauna. There are several environmental preserves to protect amphibian and avian species. I am particularly concerned about the under crossing of the Rainbow pipeline at Fairmount Avenue and Home Avenue, along the sensitive Auburn Creek and then through North Chollas creek's Sunshine-Beraradini Park and environmental reserves. Finally, in the Chollas watershed, nearly every recent project and its related CEQA / NEPA documents have identified prehistoric indigenous peoples sites including several well document burial and grinding sites. This is why I have suggested that the terminus of the Northern Rainbow pipeline alignment terminate at a point so as to foster its continuation, South, by way of an entirely new alignment, outside of close proximity to schools, nursing homes and high density housing. One Southern alignments should consider parallel alignment with the I 805 freeway. The current Scoping should also call out the schedule for replacement of the more threatening Southern section. Please include my comments in the environmental documents and provide written responses to my comments. Please notice me of future opportunities to comment and hearings on this matter. All the best,

[REDACTED] Attorney at Law
[REDACTED] California 92105
[REDACTED]

[REDACTED]
[REDACTED]
San Diego, CA 92119

As a resident of San Diego and neighbor to Mission Trails Regional Park, my family and I strongly oppose routing a gas line through Mission Trails. The disruption to sensitive natural habitat, already endangered in the area, is unacceptable and would be a gross mismanagement of natural resources. We support SDGE's decision to route through Miramar based upon safety and environmental criteria.

[REDACTED]
[REDACTED]
santee, CA 92071

The pipeline should be placed where its impact is less affective to the natural ecosystems in Santee and Mission trails area. These areas are heavy on wildlife such as plants and animals. Please reconsider the area in Miramar that is away from recreational areas and areas around residential areas.

[REDACTED]
[REDACTED]
Poway, CA 92064

Please consider an alternate route for your proposed natural gas pipeline running down Pomerado Road through Poway and ending in Scripps Ranch near Miramar. The proposed route runs right next to many homes, including my own home, which lies directly parallel to Pomerado road. In addition, there are schools, a hospital, and businesses that would be directly affected by the construction traffic. Not to mention what a disaster it would be in case of an accident. Pomerado is the only access road in and out should there be an earthquake, or a leak in a pipe causing a major explosion. An alternate route through a less populated area of eastern San Diego County or along I-15 should be considered. Please consider an alternative route, I can not voice my concern loud enough.

[REDACTED]
La Jolla, CA 92037

Pipeline Safety and Reliability Project – New Natural Gas Line 3602 and De-rating Line 1600 (PSRP) Environmental Impact Report (EIR) Notification – Legal Notice process. (Application No. A.15-09-013) California’s climate plans require us to transition rapidly from fossil fuels to renewable energy - cutting emissions to 80% below 1990 levels by 2050. Building unnecessary new fossil fuel infrastructure runs completely counter to those goals, which polls show Californians strongly support. We want to see investment in local renewable energy projects instead. SDG&E has acknowledged that the existing and much smaller pipeline [16 inches] this proposed 36 inch pipeline would replace can operate reliably for at least another 20 years. It should be pressure tested to confirm it is reliable, as required by California law, and kept in operation as the CPUC's Office of Ratepayer Advocates is recommending. SDG&E should also follow the CPUC recommendations to regularly test for leaks and proper operations using the latest technology. Natural gas usage is already in steep decline in California, projected by SDG&E to drop about 15 percent over the next 10 years. The pipeline is not needed in San Diego. It would constitute an unnecessary project and give SDG&E an unwarranted financial windfall. Also, it would serve as a major gas supply for Sempra's proposed liquefied natural gas export facility near Ensenada. The CPUC should not force ratepayers to subsidize Sempra boondoggles that are unnecessary and don't support California's climate plan. The pipeline cost is estimated at over \$600 million, which customers will be paying for until 2063. I'm asking the CPUC to reject the proposed pipeline. Thank you.

[REDACTED]
Tax Payer/customer

[REDACTED]
San Diego, CA 92117

The gas pipeline proposed by SDG&E should be rejected for the following reasons: There is an immediate need to decrease our reliance on fossil fuels and transition to renewable energy. The proposed pipeline is unnecessary and would saddle ratepayers with costs through 2063 totalling over \$600 million. Natural gas usage is in a steep decline in California and SDG&E has determined that the existing pipeline can operate reliably for twenty more years. Ratepayers must NOT be asked to subsidize SDG&E plans which are not necessary and are counterproductive to California climate goals. I urge you to reject this proposal for a new gas pipeline. Thank you for your consideration.

[REDACTED]
Tax Payer/customer

[REDACTED]
San Diego, CA 92117

The gas pipeline proposed by SDG&E should be rejected for the following reasons: There is an immediate need to decrease our reliance on fossil fuels and transition to renewable energy. The proposed pipeline is unnecessary and would saddle ratepayers with costs through 2063 totalling over \$600 million. Natural gas usage is in a steep decline in California and SDG&E has determined that the existing pipeline can operate reliably for twenty more years. Ratepayers must NOT be asked to subsidize SDG&E plans which are not necessary and are counterproductive to California climate goals. I urge you to reject this proposal for a new gas pipeline. Thank you for your consideration.

██████████
██████████
San Diego, CA 92115

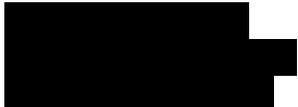
California's climate plans require us to transition rapidly from fossil fuels to renewable energy - cutting emissions to 80% below 1990 levels by 2050. Building unnecessary new fossil fuel infrastructure runs completely counter to those goals, which polls show Californians strongly support. We want to see investment in local renewable energy projects instead.



Santee, CA 92071

Dear Members of the CPUC, We are against the proposed "Refined Rainbow" alternative route of the Pipeline Safety and Reliability Project through Santee California. This alternative route cuts through and runs along side schools and heavily populated neighborhoods. The placement of a large high pressure gas line where heavy traffic and soft ground is not appropriate. Our main concern is the proximity to our neighborhood which puts thousands of residents and school children at risk. Here are examples of Pressurized Gas Lines that have recently exploded in the US: Explosion details 2000 (19 August) A 30-inch El Paso Energy natural gas pipeline exploded, killing twelve people in southeast New Mexico. They were camping under a bridge which carried the pipeline across the Pecos River. The explosion occurred underground on the east side of the river 200 to 300 yards from the campers around 5:30 a.m.. The explosion left a crater 86 feet long, 46 feet wide and 20 feet deep. The fireball was visible 20 miles north in Carlsbad, N.M. The pipeline was installed in 1950.[47] 2004 (May 24) A pinhole-sized leak caused by wear unleashed thousands of gallons of gasoline that fueled the BP / Olympic pipeline fire and explosion near the Westfield Shoppingtown Southcenter in Renton, Washington. The blaze sent three firefighters to the hospital, and a mile-square area, which included a nearby fire station, was cordoned off. The leak occurred in a half-inch-wide tube of stainless steel that Olympic operators use to extract fuel samples from the system's 16-inch-wide main line. A metal electrical conduit had rubbed against the stainless steel sampling tube to open the pinhole leak.[48] 2010 (September 9) At 6:11 PM, a PG&E 30-inch natural gas line exploded in San Bruno, California, killing 8. Eyewitnesses reported the initial blast "had a wall of fire more than 1,000 feet high".[49] 2012 (12 December) a 20-inch transmission line owned by NiSource Inc., parent of Columbia Gas, exploded, leveling 4 houses, between Sissonville and Pocatalico in Kanawha County, West Virginia (WV). When it blew, nobody at pipeline operator, Columbia Gas Transmission knew it. An 800' section of I-77 was obliterated.[52][53] "The fire melted the interstate and it looked like lava, just boiling." Later the West Virginia Public Service Commission released several pages of violations by Columbia Gas.[54] Forty families were "impacted" by the explosion.[55][56] The investigation cited "corrosion" as the cause of the blast.[52][57] 2013 (20 August) Explosion of a natural gas pipeline near Kiowa southwest of Oklahoma City [59] 2013 (8 October) Explosion of a natural gas pipeline near Rosston, Oklahoma.[60] 2014 (Jan 25) A Trans Canada pipeline about 15 miles south of Winnipeg ruptured and exploded. The incident prompted the precautionary closure of two nearby pipelines. The pipelines supply the main source of natural gas to more than 100,000 Xcel Energy customers in eastern North Dakota, northwestern Minnesota and western Wisconsin.[61] The explosion happened near Otterburne, Manitoba, about 15 miles south of the provincial capital, Winnipeg. The area was evacuated as a precaution. No injuries were reported but the fire burned for more than 12 hours.[62] 2014 (Feb) In Knifely, Adair County, Kentucky, a Columbia Gulf gas pipeline exploded at 1 a.m. flattening homes, burning barns, and causing one casualty. The 30-inch natural gas pipeline was about 100 feet from Highway 76 and buried 30 feet underground. When it exploded, large rocks and sections of pipeline flew into the air, leaving a 60-foot crater. Columbia Gulf, part of NiSource's Columbia Pipeline Group,

owns and operates more than 15,700 miles of natural gas pipelines, one of the largest underground storage systems in North America. The pipeline that exploded was carrying natural gas from the Gulf of Mexico to New York.[63] 2014 (Feb 11) A Hiland gas pipeline exploded about six miles south of Tioga, North Dakota. Hiland was "blowing" hydrates, ice-like solids formed from a mixture of water and gas that can block pipeline flow, out of the pipeline.[64] 2014 (Mar 14) A Northern Natural Gas Company pipeline erupted near the intersection of county roads 20 and O, about six miles north of Fremont, Nebraska. A company spokesman said, "In the summer you can tell if you've got a gas leak by vegetation, sometimes it dies in the ground." [65] 2014 (May 26) A Viking gas pipeline explosion near Warren, Minnesota was "hell on earth," shaking the ground and shooting a fireball over 100 feet in the air. Roads within a two-mile radius were blocked off. Authorities suspected natural causes because there was still frost in the ground and the soil was wet This gas line does not belong near our schools and homes, the best place is to keep it as far away from people to protect their safety. I hope you place great value of life and your position of authority to protect our safety. Thank you, [REDACTED]



Carlsbad, CA 92009

I think that spending money on a gas line is a tremendous folly. We need to work more on other ways of generating electricity and using power. I have no interest whatsoever in being charged for the construction of this line. Please remove this project from consideration. Please consider an incentive program for residential and commercial users to install solar systems that over produce so that green electricity is being generated close to the site of use (neighbors who do not have solar).

[REDACTED]
[REDACTED]
San Diego, CA 92124

I strongly object to a pipeline for an eventuality that is unlikely to happen under most circumstances. I also strongly object to saddling ratepayers with a \$600 million pricetag that will not be paid off for decades. Consider the resources SDG&E has available from Otay Mesa and kill this new pipeline project. Thank you.

[REDACTED]
[REDACTED]
Poway, CA 92064

Given California's commitment to renewable energy and climate stabilization, we do not need to replace the 10% capacity we might lose if the old pipeline became actually dangerous. I vigorously object to having my money as a ratepayer used on an already obsolete project when it could be so much better spent as an investment in renewable energy. It is sad that SDGE is even proposing this project. It is time for community choice!

██████████
██████████
Druten, 6651 dg

Please don't route the pipeline through Mission Trails Regional Park and Goodan Ranch, please. Pipelines always leak and it's so bad for the soil, for the water, for the people.. Please don't..

██████████ Poway Historical Society Crafts
Friends of Goodan Ranch
██████████
Poway, CA 92064

To SDG&E I see no need for the proposed pipe line #3602. Other alternatives should be developed. The disruption to the community of Poway - passing a hospital, school and churches would add a nightmare to already difficult travel. The open space traversed would have a significant impact on endangered and threatened plants and animals. Please reject the proposed pipeline.

[REDACTED]
[REDACTED]
San Diego, CA 92129

I oppose the proposed Gas Pipeline for the following reasons: 1. I support funding for local renewable energy projects rather than spending an estimated \$600 million dollars for a pipeline that goes against California's climate plans that require us to rapidly transition from fossil fuels to renewable energy. 2. SDG&E has acknowledged that the existing 16 inch pipeline can operate reliably for at least another 20 years. 3. The pipeline is not needed in San Diego and San Diegans should not be forced to subsidize Sempra boondoggles that are unnecessary and don't support California's climate plan. 4. I am asking the CPUC to reject the proposed pipeline. Thank you.

[REDACTED]
[REDACTED]
Poway, CA 92064

I feel that the gas pipeline proposed by SDG& E should be rejected because: There is an immediate need to decrease our reliance on fossil fuels and transition to renewable energy. The proposed pipeline is unnecessary and would saddle ratepayers with costs through 2063 totaling over \$600 million. Natural gas usage is in a steep decline in California and SDG&E has determined that the existing pipeline can operate reliable for twenty more years. Ratepayers must NOT be asked to subsidize SDG&E plans which are not necessary and are counterproductive to California climate goals. I urge you to reject this proposal for a new gas pipeline. Thank you for your consideration, [REDACTED]

[REDACTED]
[REDACTED]
Poway, CA 92064

I feel that the gas pipeline proposed by SDG& E should be rejected because: There is an immediate need to decrease our reliance on fossil fuels and transition to renewable energy. The proposed pipeline is unnecessary and would saddle ratepayers with costs through 2063 totaling over \$600 million. Natural gas usage is in a steep decline in California and SDG&E has determined that the existing pipeline can operate reliable for twenty more years. Ratepayers must NOT be asked to subsidize SDG&E plans which are not necessary and are counterproductive to California climate goals. I urge you to reject this proposal for a new gas pipeline. Thank you for your consideration, [REDACTED]

[REDACTED]
Self

[REDACTED]
Santee, CA

Outrageous! SDG&E will spoil the natural beauty of Mission Trails Park. As a Santee resident I protest this project due to the destruction of the natural fauna in Mission Trails Park, tearing up the land and the disruption in our neighborhoods. Sun Power debacle was not enough they still need to go for pristine settings at Mission Trails. Shame on you! Stop SDG@E. [REDACTED]

[REDACTED]
Self

[REDACTED]
Santee, CA

Outrageous! SDG&E will spoil the natural beauty of Mission Trails Park. As a Santee resident I protest this project due to the destruction of the natural fauna in Mission Trails Park, tearing up the land and the disruption in our neighborhoods. Sun Power debacle was not enough they still need to go for pristine settings at Mission Trails. Shame on you! Stop SDG@E. [REDACTED]

[REDACTED]
[REDACTED]
San Diego, CA 92128

We do not need more pipelines for fossil fuels! Taxpayers' money should be spent for clean alternatives. We are racing against the clock to avoid catastrophe while SDGE drags its feet and costs me more money. Every month I receive a notice of another rate increase! SDGE charges some of the highest rates in the state and in the country! Why do you allow this? [REDACTED] San Diego CA

[REDACTED]
none

[REDACTED]
Santee, CA 92071

As a longtime resident of the City of Santee, I strongly oppose the alternative routes for gas pipeline proposed by SDGE and SoCal Gas. The quality of the environment we enjoy in Santee is unique, and is directly impacted by this proposal. We chose to keep our town "green", and do not want further degradations of our home, the place where we live. The original route seems the best choice, as it travels down the 15 freeway corridor and through MCAS. I will continue to remain informed of these projects and will oppose them. Thank you for your time, [REDACTED]

[REDACTED]
poway historical society, poway trails

[REDACTED]
poway, CA 92064

my cocern is for the natural environment of the Goodan Ranch. We need to be careful not to disrupt the beauty of this open space. It is the last place for many of our local animals to roam as they have been losing their habitat. it is one of our areas that hikers, bikers & horse riders can enjoy the outdoors. thank you, [REDACTED]

[REDACTED]
[REDACTED]
San Diego, CA 92122

I oppose the proposed 47-mile natural gas pipeline between Miramar and Rainbow in San Diego County. The money could better be spent supporting energy infrastructure that is completely sustainable and clean. The carbon economy must be terminated in order to foster all life on this planet. The construction of this pipeline will negatively impact wildlife and produce pollution. A potential leak in the future would negatively impact the health of Californians.

[REDACTED]
[REDACTED]
Oceanside, CA 92058

I urge the CPUC to deny SDG&E's proposed new gas pipeline running from Rainbow to Miramar. It is completely unnecessary, and a financial burden to customers. SDG&E's justification for the project is to provide gas in the event the existing line goes out of service - this last occurred in 1985 for ONE DAY ONLY! With the ability to import gas through Otay Mesa if needed, this is unneeded fossil fuel infrastructure being proposed at a time when we have both the technology and the public support to be moving AWAY from fossil fuels. Please DENY this ridiculous proposal.

[REDACTED]
[REDACTED]
San Diego, CA 92129

The proposed route for the New Natural Gas Line 3602 and De-rating Line 1600 (PSRP) through natural preserved areas is unacceptable. The pipeline can be permitted and installed across Miramar Marine Air Base with equal functionality and without irreversible damage to our limited natural preserves. [REDACTED]

[REDACTED]
Resident

[REDACTED]
Santee, CA 92071

A pipeline running through Goodman Ranch and Santee is a terrible plan which must be reconsidered and redirected.

██████████
██████████
San Diego, CA 92102

Please stop the proposed Pipeline Safety and Reliability Project – New Natural Gas Line 3602 and De-rating Line 1600 (PSRP) Environmental Impact Report (EIR) Notification – Legal Notice process. (Application No. A.15-09-013). California is moving toward renewable energy. This is a setback that we don't need at a cost we cannot afford. As a taxpayer I don't want to subsidize this unnecessary project by SDG&E. Thank you.

[REDACTED]
[REDACTED]
San Diego, CA 92124

To whom it concerns, I am alarmed that a proposed gasoline might potentially run through parts of Mission Trail Regional Park. I frequently hike/run all over the whole park and enjoy viewing and photographing the beautiful flora and fauna. The riparian habitat is very unique and the San Diego community is so fortunate to have the park in close proximity to visit, which on weekends is very busy. Just last week on one of my hikes I was so surprised to find in a recently opened area containing thousands of polliwogs in the stream! Mission Trails is a gem to be valued and kept untouched. Sincerely, [REDACTED]
[REDACTED]

[REDACTED]
[REDACTED]
San Diego, CA 92117-[REDACTED]

I oppose both alternative routes of the proposed gas pipeline (Line 3602). Alternative routes through Mission Trails Regional Park and surrounding park expansion areas are not acceptable. The first proposed alternative would disrupt the use of and degrade Mission Trails Regional Park's West Sycamore Area including parts of the new Stowe Trail, as well as the Goodan Ranch, and Fanita Ranch. These preserved areas and parklands are used by hundreds of visitors daily. Maintaining the integrity of the preservation of these natural lands is imperative for existing wildlife, flora, and habitat. The second proposed alternative is equally unacceptable and would degrade Mission Trails's Spring Canyon and East Fortuna Staging Area, and also East Elliott, part of MTRP's larger ecosystem. The park and its surrounding expansion area must be protected. A new gas pipeline does not belong in these natural habitats which are used recreationally by park visitors. Please drop or oppose these alternative routes. Thank you. Sincerely, [REDACTED] San Diego

[REDACTED]
[REDACTED]
San Diego, CA 92131

We do not need anymore gas pipelines. We are weel on our way to transitioning to electric and renewable. This will be obsolete in less than 10 years. Very short-sighted plan.

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: Let's Not Do San Bruno Pt2
Date: Thursday, May 25, 2017 11:01:24 PM

I'd like to kindly refer you to Google; "San Bruno Gas Pipeline Explosion". I live where the pipeline would be ran, I'd prefer not to get a first hand experience of what that was like.

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: Natural Gas Line 3602
Date: Friday, May 19, 2017 6:32:01 PM

I'm writing to express my concern about the proposed natural gas pipeline on Pomerado Road. I'm bothered by the idea of SDG&E building its pipeline through known wildfire areas. During construction, sparks from welders' torches and other equipment could pose a fire hazard, especially during Santa Ana season.

The proposed route is also very near Palomar Pomerado Hospital where the impact from a gas line explosion (such as the one in San Bruno) could be worsened if flames came in contact with combustible materials commonly used in healthcare such as oxygen canisters and certain sterilants and disinfectants. And if the hospital were affected by an explosion, where would casualties from the accident be treated?

The Twin Peaks behind the hospital haven't burned in decades, so they're a major fire risk. If the Twin Peaks burn, a wildfire could very quickly spread to other parts of the county, costing hundreds of millions of dollars in damage and posing a serious threat to public health and safety.

Thank you for providing me with this opportunity to voice my reservations about Project 3602.

From: Scott Ashton
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: Letter of Support for SDG&E's Pipeline Safety and Reliability Project
Date: Friday, May 19, 2017 7:24:06 PM
Attachments: [oceansidechambersd@gmail.com_20170519_161851.pdf](#)

To: California Public Utilities Commission
Re: Pipeline Safety and Reliability Project

Please find attached the Oceanside Chamber's letter of support for SDGE's Pipeline Safety and Reliability Project.

Thank you,

Scott Ashton
Chief Executive Officer
Oceanside Chamber of Commerce
928 North Coast Highway
Oceanside, CA 92054
(760) 722-1534 ext 107

scott@oceansidechamber.com

[Website](#) | [Facebook](#) | [Twitter](#) | [Pinterest](#) | [Google +](#) | [Instagram](#) | [LinkedIn](#) | [YouTube](#)

Our Mission: To stimulate economic prosperity and foster a vibrant community.



May 19, 2017

California Public Utilities Commission
Re: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome St., Suite 300
San Francisco, CA 94111

To Whom It May Concern:

The Oceanside Chamber of Commerce Board of Directors recently voted to support SDG&E's proposed Pipeline Safety & Reliability Project. The Chamber is confident that the proposed 47-mile natural gas transmission pipeline will enhance the safety and reliability of the natural gas system to better meet the needs of the residents, businesses and institutions in the entire San Diego region.

The Chamber appreciates SDG&E putting safety at the top of the priority list with the company's proposal to replace an aging natural gas line which will make the natural gas system safer. In addition to the safety benefits, we support the project to ensure the reliable delivery of natural gas to residents and businesses, as well as to critical electric generators to protect our region against unnecessary electricity shortages.

As the Chamber is focused on creating a strong local economy, we recognize the importance of continuous infrastructure improvements. San Diego's \$200 billion economy relies on natural gas which supports thousands of jobs and the world's largest military concentration. Our region supports more than 95,000 manufacturing jobs, 33 million annual hotel visitors and more than 2,000 restaurants – and natural gas is critical to each of these industries.

Having a safe and reliable natural gas infrastructure is critical to supporting the current and future energy needs –both natural gas and electricity. We support the Pipeline Safety & Reliability Project as it provides a safe and reliable energy system which supports regional economic growth so that San Diego can continue to prosper.

Sincerely,

Scott M. Ashton
Chief Executive Officer

928 North Coast Highway • Oceanside, California 92054

phone (760) 722-1534 • fax (760) 722-8336 • www.oceansidechamber.com

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: Pipeline Safety and Reliability Project (Application No. A.15-09-013)
Date: Sunday, May 21, 2017 7:03:07 PM

Robert Peterson
California Public Utilities Commission
RE: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

RE: Pipeline Safety and Reliability Project (Application No. A.15-09-013)

I oppose both alternative routes of the proposed gas pipeline (Line 3602). Alternative routes through Mission Trails Regional Park and surrounding park expansion areas are not acceptable.

The first proposed alternative would disrupt the use of and degrade Mission Trails Regional Park's West Sycamore Area including parts of the new Stowe Trail, as well as the Goodan Ranch, and Fanita Ranch. These preserved areas and parklands are used by hundreds of visitors daily. Maintaining the integrity of the preservation of these natural lands is imperative for existing wildlife, flora, and habitat.

The second proposed alternative is equally unacceptable and would degrade Mission Trails's Spring Canyon and East Fortuna Staging Area, and also East Elliott, part of MTRP's larger ecosystem. The park and its surrounding expansion area must be protected. A new gas pipeline does not belong in these natural habitats which are used recreationally by park visitors.

Please drop or oppose these alternative routes. Thank you.

Sincerely,

[REDACTED]

[REDACTED]

San Diego, CA 92120

--

[REDACTED]

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Cc: ["Bill Cooper"](#)
Subject: IRT Gas Line 3602 (Application No. A.15-09-013)
Date: Sunday, May 21, 2017 7:23:36 PM

Mr. Robert Peterson;

I oppose both alternative routes of the proposed Natural Gas Line 3602 (Application No. A.15-09-013). Routing a gas pipeline through Mission Trails Regional Park (MTRP) and/or surrounding park expansion areas is not acceptable.

The first proposed alternative would seriously disrupt and degrade Mission Trails Regional Park's West Sycamore area, including parts of Goodan Ranch, Fanita Ranch, and the newly opened and historic Stowe Trail. These are preserved areas and parklands for a reason, and are used by hundreds of daily visitors. Maintaining the integrity of the preservation of these natural lands is imperative for existing flora, wildlife, and their habitat.

The second proposed alternative is equally unacceptable and would degrade Mission Trails' Spring Canyon and East Fortuna Staging Area, and also East Elliott, part of MTRP's larger ecosystem. The park and its surrounding expansion area must be protected. A new gas pipeline does not belong in these natural habitats which are used recreationally by park visitors.

The currently proposed primary route will travel across Miramar Marine Air Base that no one uses, will keep the pipeline protected from outside influences, and better fulfills the needs of the customers.

Please oppose the alternative routes. Thank you.

Santee. California

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: Pipeline Safety and Reliability Project – New Natural Gas Line 3602 (Application No. A.15-09-013)
Date: Sunday, May 21, 2017 7:39:15 PM

Robert Peterson
California Public Utilities Commission
RE: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

RE: Pipeline Safety and Reliability Project – New Natural Gas Line 3602 (Application No. A.15-09-013)

I oppose both alternative routes of the proposed gas pipeline (Line 3602). Alternative routes through Mission Trails Regional Park and surrounding park expansion areas are not acceptable.

The first proposed alternative would disrupt the use of and degrade Mission Trails Regional Park's West Sycamore Area including parts of the new Stowe Trail, as well as the Goodan Ranch, and Fanita Ranch. These preserved areas and parklands are used by hundreds of visitors daily. Maintaining the integrity of the preservation of these natural lands is imperative for existing wildlife, flora, and habitat.

The second proposed alternative is equally unacceptable and would degrade Mission Trails's Spring Canyon and East Fortuna Staging Area, and also East Elliott, part of MTRP's larger ecosystem. The park and its surrounding expansion area must be protected. A new gas pipeline does not belong in these natural habitats which are used recreationally by park visitors.

Please drop or oppose these alternative routes.

Thank you.

Sincerely,

[REDACTED]
San Diego, CA

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: Please do not destroy my favorite place to hike!!!!
Date: Sunday, May 21, 2017 8:12:26 PM

Robert Peterson
California Public Utilities Commission
RE: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

RE: Pipeline Safety and Reliability Project – New Natural Gas Line 3602 (Application No. A.15-09-013)

I oppose both alternative routes of the proposed gas pipeline (Line 3602). Alternative routes through Mission Trails Regional Park and surrounding park expansion areas are not acceptable.

The first proposed alternative would disrupt the use of and degrade Mission Trails Regional Park's West Sycamore Area including parts of the new Stowe Trail, as well as the Goodan Ranch, and Fanita Ranch. These preserved areas and parklands are used by hundreds of visitors daily. Maintaining the integrity of the preservation of these natural lands is imperative for existing wildlife, flora, and habitat.

The second proposed alternative is equally unacceptable and would degrade Mission Trails's Spring Canyon and East Fortuna Staging Area, and also East Elliott, part of MTRP's larger ecosystem. The park and its surrounding expansion area must be protected. A new gas pipeline does not belong in these natural habitats which are used recreationally by park visitors.

Please drop or oppose these alternative routes. Thank you.

Sincerely,
[REDACTED]
La Mesa, CA

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: SDGE pipeline proposal
Date: Sunday, May 21, 2017 9:46:31 PM

Robert Peterson
California Public Utilities Commission
RE: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

RE: Pipeline Safety and Reliability Project – New Natural Gas Line 3602 (Application No. A.15-09-013)

I oppose both alternative routes of the proposed gas pipeline (Line 3602). Alternative routes through Mission Trails Regional Park and surrounding park expansion areas are not acceptable. This is a priceless asset to the community that must be protected from intrusions such as this.

The first proposed alternative would disrupt the use of and degrade Mission Trails Regional Park's West Sycamore Area including parts of the new Stowe Trail, as well as the Goodan Ranch, and Fanita Ranch. These preserved areas and parklands are used by hundreds of visitors daily. Maintaining the integrity of the preservation of these natural lands is imperative for existing wildlife, flora, and habitat. These areas must be preserved for the many many visitors enjoying them as well as the endangered plants and animals needing protection. climate change and development has put and is putting extraordinary pressure on the environment. This is an abomination.

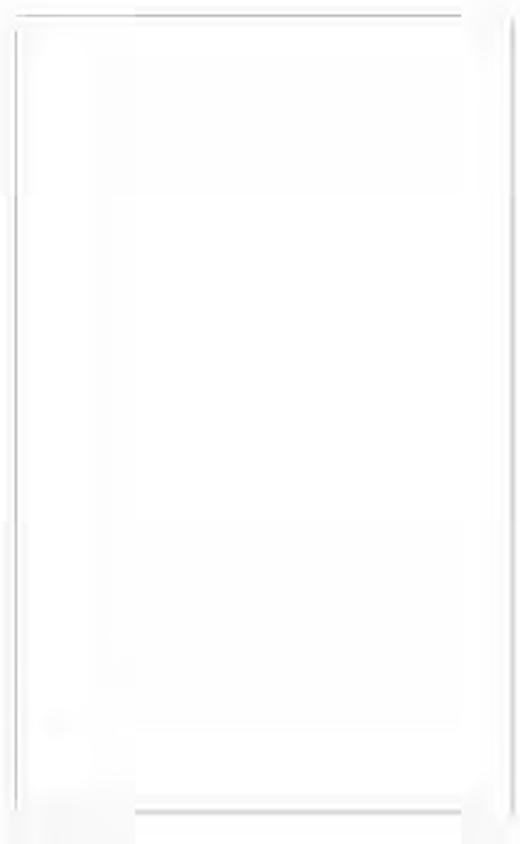
The second proposed alternative is equally unacceptable and would degrade Mission Trails's Spring Canyon and East Fortuna Staging Area, and also East Elliott, part of MTRP's larger ecosystem. The park and its surrounding expansion area must be protected. A new gas pipeline does not belong in these natural habitats which are used for recreation by park visitors.

Please drop or oppose these alternative routes. Thank you. SDGE's proposed route runs along a busy roadway where there is adequate land along the sides that is already degraded. Miramar is being ridiculous. The pipe line would go along I-15 which already dissects the base. The base would not lose any land. It would not disrupt their training since they cant do much alongside the road anyway.

Sincerely,

[REDACTED]
Chula Vista 91911

Keep SDG&E's proposed route (below), don't use alternative routes through Mission Trails!



From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: Pipeline Safety and Reliability Project – New Natural Gas Line 3602 and De-rating Line 1600 (PSRP)
Environmental Impact Report (EIR) Notification – Legal Notice process. (Application No. A.15-09-013)
Date: Sunday, May 21, 2017 10:45:05 PM

Robert Peterson
California Public Utilities Commission
RE: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
[505 Sansome Street, Suite 300](#)
[San Francisco, CA 94111](#)

RE: Pipeline Safety and Reliability Project – New Natural Gas Line 3602 (Application No. A.[15-09-013](#))

I oppose both alternative routes of the proposed gas pipeline (Line 3602). Alternative routes through Mission Trails Regional Park and surrounding park expansion areas are not acceptable.

The first proposed alternative would disrupt the use of and degrade Mission Trails Regional Park's West Sycamore Area including parts of the new Stowe Trail, as well as the Goodan Ranch, and Fanita Ranch. These preserved areas and parklands are used by hundreds of visitors daily. Maintaining the integrity of the preservation of these natural lands is imperative for existing wildlife, flora, and habitat.

The second proposed alternative is equally unacceptable and would degrade Mission Trails's Spring Canyon and East Fortuna Staging Area, and also East Elliott, part of MTRP's larger ecosystem. The park and its surrounding expansion area must be protected. A new gas pipeline does not belong in these natural habitats which are used recreationally by park visitors.

Please drop or oppose these alternative routes. Thank you.

Sincerely,
[REDACTED]
Santee, CA 92071

Keep SDG&E's proposed route (below), don't use alternative routes through Mission Trails!



Thanks,



Sent from my iPhone

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: Pipeline
Date: Sunday, May 21, 2017 11:27:10 PM

Dear SDG&E:

PLEASE do not put a pipeline through our wonderful Mission Trails Park.
This is sacred space. Do NOT violate the beauty of this very special park.

Thank you.

[REDACTED]

La Mesa, CA 91941

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: Do not put a gas pipeline through Mission Trails park
Date: Sunday, May 21, 2017 11:54:30 PM

PLEASE DO NOT PUT A PIPELINE THROUGH MISSION TRAILS PARK. THE PARK IS A TREASURE IN SAN DIEGO AND SHOULD BE PRESERVED AS OPEN SPACE FOR THE NEXT GENERATIONS OF SAN DIEGANS

Thank you,

[REDACTED]

San Diego, CA 92111

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Date: Monday, May 22, 2017 12:07:08 AM

Robert Peterson
California Public Utilities Commission
RE: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

RE: Pipeline Safety and Reliability Project – New Natural Gas Line 3602 (Application No. A.15-09-013)

I oppose both alternative routes of the proposed gas pipeline (Line 3602). Alternative routes through Mission Trails Regional Park and surrounding park expansion areas are not acceptable.

The first proposed alternative would disrupt the use of and degrade Mission Trails Regional Park's West Sycamore Area including parts of the new Stowe Trail, as well as the Goodan Ranch, and Fanita Ranch. These preserved areas and parklands are used by hundreds of visitors daily. Maintaining the integrity of the preservation of these natural lands is imperative for existing wildlife, flora, and habitat.

The second proposed alternative is equally unacceptable and would degrade Mission Trails's Spring Canyon and East Fortuna Staging Area, and also East Elliott, part of MTRP's larger ecosystem. The park and its surrounding expansion area must be protected. A new gas pipeline does not belong in these natural habitats which are used recreationally by park visitors.

Please drop or oppose these alternative routes. Thank you.

Sincerely,

[REDACTED]
Santee

From: [REDACTED]
To: [\[REDACTED\]@cpuc.ca.gov Pipeline_CPUC](#)
Subject: Pipeline Project
Date: Monday, May 22, 2017 3:43:47 AM

Message Center

Robert Peterson
California Public Utilities Commission
RE: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

RE: Pipeline Safety and Reliability Project - New Natural Gas Line 3602 (Application No. A.15-09-013)
I oppose both alternative routes of the proposed gas pipeline (Line 3602). Alternative routes through Mission Trails Regional Park and surrounding park expansion areas are not acceptable.

The first proposed alternative would disrupt the use of and degrade Mission Trails Regional Park's West Sycamore Area including parts of the new Stowe Trail, as well as the Goodan Ranch, and Fanita Ranch. These preserved areas and parklands are used by hundreds of visitors daily. Maintaining the integrity of the preservation of these natural lands is imperative for existing wildlife, flora, and habitat.

The second proposed alternative is equally unacceptable and would degrade Mission Trails's Spring Canyon and East Fortuna Staging Area, and also East Elliott, part of MTRP's larger ecosystem. The park and its surrounding expansion area must be protected. A new gas pipeline does not belong in these natural habitats which are used recreationally by park visitors. Please drop or oppose these alternative routes. Thank you.

Sincerely,
[REDACTED]
San Diego, CA.

[REDACTED]

[REDACTED]

From: ...
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: Gas pipeline Miramar
Date: Monday, May 22, 2017 10:12:53 AM

TWIMC,

We don't need this proposed Miramar gas pipeline and we certainly don't want to end up paying more taxes. Please reject this proposal from coming into Miramar.

Respectfully Submitted,

[REDACTED]

SanDiego, CA. 92121

[REDACTED]

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: Letter Opposing Alternate Routes of Proposed Gas Pipeline (Line 3602) (Application No. A. 15-09-013)
Date: Monday, May 22, 2017 10:17:51 AM

Robert Peterson
California Public Utilities Commission
RE: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

RE: Pipeline Safety and Reliability Project – New Natural Gas Line 3602 (Application No. A.15-09-013)

I oppose both alternative routes of the proposed gas pipeline (Line 3602). Alternative routes through Mission Trails Regional Park and surrounding park expansion areas are not acceptable. The first proposed alternative would disrupt the use of and degrade Mission Trails Regional Park's West Sycamore Area including parts of the new Stowe Trail, as well as the Goodan Ranch, and Fanita Ranch. These preserved areas and parklands are used by hundreds of visitors daily. Maintaining the integrity of the preservation of these natural lands is imperative for existing wildlife, flora, and habitat.

The second proposed alternative is equally unacceptable and would degrade Mission Trails' Spring Canyon and East Fortuna Staging Area, and also East Elliott, part of MTRP's larger ecosystem. The park and its surrounding expansion area must be protected. A new gas pipeline does not belong in these natural habitats which are used recreationally by park visitors. Please drop or oppose these alternative routes. Thank you.

Sincerely,

[REDACTED]
[REDACTED]
[REDACTED]

Santee CA 92071

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: I OPPOSE
Date: Monday, May 22, 2017 12:31:10 PM

I oppose both alternative routes of the proposed gas pipeline (Line 3602). Alternative routes through Mission Trails Regional Park and surrounding park expansion areas are not acceptable.

The first proposed alternative would disrupt the use of and degrade Mission Trails Regional Park's West Sycamore Area including parts of the new Stowe Trail, as well as the Goodan Ranch, and Fanita Ranch. These preserved areas and parklands are used by hundreds of visitors daily. Maintaining the integrity of the preservation of these natural lands is imperative for existing wildlife, flora, and habitat.

The second proposed alternative is equally unacceptable and would degrade Mission Trails's Spring Canyon and East Fortuna Staging Area, and also East Elliott, part of MTRP's larger ecosystem. The park and its surrounding expansion area must be protected. A new gas pipeline does not belong in these natural habitats which are used recreationally by park visitors.

Please drop or oppose these alternative routes. Thank you.

Sincerely,

[REDACTED]

Solano Beach, CA

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: RE: Pipeline Safety and Reliability Project – New Natural Gas Line 3602 (Application No. A.15-09-013)
Date: Monday, May 22, 2017 12:42:24 PM

I oppose both alternative routes of the proposed gas pipeline (Line 3602). Alternative routes through Mission Trails Regional Park and surrounding park expansion areas are not acceptable.

The first proposed alternative would disrupt the use of and degrade Mission Trails Regional Park's West Sycamore Area including parts of the new Stowe Trail, as well as the Goodan Ranch, and Fanita Ranch. These preserved areas and parklands are used by hundreds of visitors daily. Maintaining the integrity of the preservation of these natural lands is imperative for existing wildlife, flora, and habitat.

The second proposed alternative is equally unacceptable and would degrade Mission Trails's Spring Canyon and East Fortuna Staging Area, and also East Elliott, part of MTRP's larger ecosystem. The park and its surrounding expansion area must be protected. A new gas pipeline does not belong in these natural habitats which are used recreationally by park visitors. I use these areas regularly and they must stay off limits! Open spaces are vital to community well-being.

Please drop or oppose these alternative routes. Thank you.

Sincerely,

[REDACTED]

Santee

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: Oppose the pipeline safety and reliability project.
Date: Monday, May 22, 2017 1:33:42 PM

Robert Peterson
California Public Utilities Commission
RE: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

RE: Pipeline Safety and Reliability Project – New Natural Gas Line 3602 (Application No. A.15-09-013)

I oppose both alternative routes of the proposed gas pipeline (Line 3602). Alternative routes through Mission Trails Regional Park and surrounding park expansion areas are not acceptable.

The first proposed alternative would disrupt the use of and degrade Mission Trails Regional Park's West Sycamore Area including parts of the new Stowe Trail, as well as the Goodan Ranch, and Fanita Ranch. These preserved areas and parklands are used by hundreds of visitors daily. Maintaining the integrity of the preservation of these natural lands is imperative for existing wildlife, flora, and habitat.

The second proposed alternative is equally unacceptable and would degrade Mission Trails's Spring Canyon and East Fortuna Staging Area, and also East Elliott, part of MTRP's larger ecosystem. The park and its surrounding expansion area must be protected. A new gas pipeline does not belong in these natural habitats which are used recreationally by park visitors.

Please drop or oppose these alternative routes. Thank you.

Sincerely,

[REDACTED]
San Diego, CA 92128

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: Pipeline Safety and Reliability Project – New Natural Gas Line 3602 (Application No. A.15-09-013)
Date: Monday, May 22, 2017 1:40:16 PM

Robert Peterson
California Public Utilities Commission
RE: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

RE: Pipeline Safety and Reliability Project – New Natural Gas Line 3602 (Application No. A.15-09-013)

I oppose both alternative routes of the proposed gas pipeline (Line 3602). Alternative routes through Mission Trails Regional Park and surrounding park expansion areas are not acceptable.

The first proposed alternative would disrupt the use of and degrade Mission Trails Regional Park's West Sycamore Area including parts of the new Stowe Trail, as well as the Goodan Ranch, and Fanita Ranch. These preserved areas and parklands are used by hundreds of visitors daily. Maintaining the integrity of the preservation of these natural lands is imperative for existing wildlife, flora, and habitat.

The second proposed alternative is equally unacceptable and would degrade Mission Trails's Spring Canyon and East Fortuna Staging Area, and also East Elliott, part of MTRP's larger ecosystem. The park and its surrounding expansion area must be protected. A new gas pipeline does not belong in these natural habitats which are used recreationally by park visitors.

Please drop or oppose these alternative routes. Thank you.

Sincerely,

[REDACTED]
Santee, CA
[REDACTED]

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: Project 3620 Application No. A. 15-09-013 Gas Pipeline
Date: Monday, May 22, 2017 2:37:50 PM

Robert Peterson
California Public Utilities Commission
RE: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

RE: Pipeline Safety and Reliability Project – New Natural Gas Line 3602 (Application No. A.15-09-013)

I oppose both alternative routes of the proposed gas pipeline (Line 3602). Alternative routes through Mission Trails Regional Park and surrounding park expansion areas are not acceptable.

The first proposed alternative would disrupt the use of and degrade Mission Trails Regional Park's West Sycamore Area including parts of the new Stowe Trail, as well as the Goodan Ranch, and Fanita Ranch. These preserved areas and parklands are used by hundreds of visitors daily. Maintaining the integrity of the preservation of these natural lands is imperative for existing wildlife, flora, and habitat.

The second proposed alternative is equally unacceptable and would degrade Mission Trails's Spring Canyon and East Fortuna Staging Area, and also East Elliott, part of MTRP's larger ecosystem. The park and its surrounding expansion area must be protected. A new gas pipeline does not belong in these natural habitats which are used recreationally by park visitors.

Please drop or oppose these alternative routes. Thank you.

[REDACTED]

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: Pipeline Safety and Reliability Project – New Natural Gas Line 3602 (Application No. A.15-09-013)
Date: Monday, May 22, 2017 4:22:39 PM

Robert Peterson
California Public Utilities Commission
RE: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

I oppose both alternative routes of the proposed gas pipeline (Line 3602). Alternative routes through Mission Trails Regional Park and surrounding park expansion areas are not acceptable.

The first proposed alternative would disrupt the use of and degrade Mission Trails Regional Park's West Sycamore Area including parts of the new Stowe Trail, as well as the Goodan Ranch, and Fanita Ranch. These preserved areas and parklands are used by hundreds of visitors daily. Maintaining the integrity of the preservation of these natural lands is imperative for existing wildlife, flora, and habitat.

The second proposed alternative is equally unacceptable and would degrade Mission Trails's Spring Canyon and East Fortuna Staging Area, and also East Elliott, part of MTRP's larger ecosystem. The park and its surrounding expansion area must be protected. A new gas pipeline does not belong in these natural habitats which are used recreationally by park visitors.

Please drop or oppose these alternative routes. Thank you.

Sincerely,
[REDACTED] San Diego

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: Pipeline Safety and Reliability Project - New Natural Gas Line 3602 (Application No. A.15-09-013)
Date: Monday, May 22, 2017 4:24:32 PM

Robert Peterson
California Public Utilities Commission
RE: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

RE: Pipeline Safety and Reliability Project – New Natural Gas Line 3602 (Application No. A.15-09-013)

I oppose both alternative routes of the proposed gas pipeline (Line 3602). Alternative routes through Mission Trails Regional Park and surrounding park expansion areas are not acceptable.

The first proposed alternative would disrupt the use of and degrade Mission Trails Regional Park's West Sycamore Area including parts of the new Stowe Trail, as well as the Goodan Ranch, and Fanita Ranch. These preserved areas and parklands are used by hundreds of visitors daily. Maintaining the integrity of the preservation of these natural lands is imperative for existing wildlife, flora, and habitat.

The second proposed alternative is equally unacceptable and would degrade Mission Trails's Spring Canyon and East Fortuna Staging Area, and also East Elliott, part of MTRP's larger ecosystem. The park and its surrounding expansion area must be protected. A new gas pipeline does not belong in these natural habitats which are used recreationally by park visitors.

Please drop or oppose these alternative routes and locate the pipeline through MCAS Miramar to Mission Valley.

Sincerely,

[REDACTED]
[REDACTED]
San Diego, CA 92111 [REDACTED]

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Date: Monday, May 22, 2017 4:53:13 PM

Don't do it....

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: Nosd gas pipeline
Date: Monday, May 22, 2017 5:29:33 PM

Robert Peterson
California Public Utilities Commission
RE: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

RE: Pipeline Safety and Reliability Project – New Natural Gas Line 3602 (Application No. A.15-09-013)

I oppose both alternative routes of the proposed gas pipeline (Line 3602). Alternative routes through Mission Trails Regional Park and surrounding park expansion areas are not acceptable.

The first proposed alternative would disrupt the use of and degrade Mission Trails Regional Park's West Sycamore Area including parts of the new Stowe Trail, as well as the Goodan Ranch, and Fanita Ranch. These preserved areas and parklands are used by hundreds of visitors daily. Maintaining the integrity of the preservation of these natural lands is imperative for existing wildlife, flora, and habitat.

The second proposed alternative is equally unacceptable and would degrade Mission Trails's Spring Canyon and East Fortuna Staging Area, and also East Elliott, part of MTRP's larger ecosystem. The park and its surrounding expansion area must be protected. A new gas pipeline does not belong in these natural habitats which are used recreationally by park visitors.

Please drop or oppose these alternative routes. Thank you.

Sincerely, [REDACTED] Caregiver/Activist, San Diego CA

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: Pipeline Safety and Reliability Project – New Natural Gas Line 3602 (Application No. A.15-09-013)
Date: Monday, May 22, 2017 6:29:21 PM

Robert Peterson

California Public Utilities Commission
RE: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.

505 Sansome Street, Suite 300
San Francisco, CA 94111

RE: Pipeline Safety and Reliability Project – New Natural Gas Line 3602 (Application No. A.15-09-013)

I oppose both alternative routes of the proposed gas pipeline (Line 3602). Alternative routes through Mission Trails Regional Park and surrounding park expansion areas are not acceptable.

The first proposed alternative would disrupt the use of and degrade Mission Trails Regional Park's West Sycamore Area including parts of the new Stowe Trail, as well as the Goodan Ranch, and Fanita Ranch. These preserved areas and parklands are used by hundreds of visitors daily. Maintaining the integrity of the preservation of these natural lands is imperative for existing wildlife, flora, and habitat.

The second proposed alternative is equally unacceptable and would degrade Mission Trails's Spring Canyon and East Fortuna Staging Area, and also East Elliott, part of MTRP's larger ecosystem. The park and its surrounding expansion area must be protected. A new gas pipeline does not belong in these natural habitats which are used recreationally by park visitors.

Please drop or oppose these alternative routes. Thank you.

Sincerely,

[REDACTED]
San Diego

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: Comment on Application No. A.15-09-013
Date: Monday, May 22, 2017 8:28:15 PM

Robert Peterson
California Public Utilities Commission
RE: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

RE: Pipeline Safety and Reliability Project (Application No. A.15-09-013)

I oppose both alternative routes of the proposed gas pipeline (Line 3602). Alternative routes through Mission Trails Regional Park and surrounding park expansion areas are not acceptable.

The first proposed alternative would disrupt the use of and degrade Mission Trails Regional Park's West Sycamore Area including parts of the new Stowe Trail, as well as the Goodan Ranch, and Fanita Ranch. These preserved areas and parklands are used by hundreds of visitors daily. Maintaining the integrity of the preservation of these natural lands is imperative for existing wildlife, flora, and habitat.

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Please drop or oppose these alternative routes. Thank you!

[REDACTED]
Santee, CA 92071
[REDACTED]

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Author [Sandy](#) Posted on [May 21, 2017](#) Categories [Community](#), [Fire](#), [Meetings](#), [Mission Trails Regional Park](#), [San Diego](#), [Santee](#), [Take Action](#) Tags [CPUC](#), [Fanita Ranch](#), [gas](#), [Goodan Ranch](#), [Mission Trails](#), [Mission Trails Regional Park](#), [MTRP](#), [natural gas](#), [pipeline](#), [San Diego](#), [Santee](#), [SDG&E](#)

3 thoughts on “Gas Pipeline Threatens Park – Your Action Requested!”

1.  **Stephen Orosz** says:
[May 21, 2017 at 5:35 pm](#)

I'm on it , Stephen Orosz !!

[Reply](#)

2.  **mbfreeman** says:
[May 21, 2017 at 4:48 pm](#)

Maps?

Sent from my iPhone

>

[Reply](#)

1.  **Sandy** says:
[May 21, 2017 at 5:46 pm](#)

A map of the proposed route (preferred over alternates) can be found at the CPUC website:

<http://www.cpuc.ca.gov/Environment/info/ene/sandiego/sandiego.html#ProjectLocation>

The alternate routes map is also available there:

<http://www.cpuc.ca.gov/Environment/info/ene/sandiego/Documents/Figure5AAlternativesMap.pdf>

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From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: RE: Pipeline Safety and Reliability Project
Date: Monday, May 22, 2017 11:23:57 PM

Hi. I am fully in favor of any project such as this, to repair or replace, vital infrastructure! I'm sure you'll get a lot of knee-jerk opposition from NIMBYs and alarmists, as any project does these days. But not all of us feel that way.

[REDACTED]
San Diego CA 92122

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: Proposed Gas Pipeline on Pomerado Road through Poway
Date: Monday, May 22, 2017 11:34:46 PM

Please consider an alternate route for your proposed natural gas pipeline running down Pomerado Road through Poway and ending in Scripps Ranch near Miramar. The proposed route runs adjacent to many homes, public and private schools, churches, nursing homes, a fire station, and Pomerado Hospital. My family with young grandchildren live off Pomerado Road.

Pomerado is the **only access road in and out should there be an earthquake, or a leak in a pipe causing a major explosion**. An alternate route through a less populated area of eastern San Diego County or along I-15 should be considered.

I urgently request you reevaluate your proposed route for the safety of the citizens who live and work in this area. **This location poses significant danger to so many.**

I'm not able to attend a public meeting so I trust you will seriously consider my concerns as expressed in this email.

Thank you,

[REDACTED]


From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: RE: Oppose Pipeline Safety and Reliability Project – New Natural Gas Line 3602 (Application No. A.15-09-013)
Date: Monday, May 22, 2017 11:40:51 PM

Robert Peterson
California Public Utilities Commission
RE: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

RE: Pipeline Safety and Reliability Project – New Natural Gas Line
3602 (Application No. A.15-09-013)

I oppose both alternative routes of the proposed gas pipeline (Line 3602).

Alternative routes through Mission Trails Regional Park and surrounding
park expansion areas are not acceptable.

The first proposed alternative would disrupt the use of and degrade Mission Trails
Regional Park's West Sycamore Area including parts of the new Stowe Trail, as well
as the Goodan Ranch, and Fanita Ranch. These preserved areas and parklands are
used by hundreds of visitors daily. Maintaining the integrity of the preservation of
these natural lands is imperative for
existing wildlife, flora, and habitat.

The second proposed alternative is equally unacceptable and would degrade Mission
Trails's Spring Canyon and East Fortuna Staging Area, and also East Elliott, part of
MTRP's larger ecosystem. The park and its surrounding expansion area must be
protected. A new gas pipeline does not belong in these natural habitats which are
used recreationally by park visitors.

Please drop or oppose these alternative routes. Thank you.

Sincerely,

[REDACTED]

San Diego, CA 92101

Keep SDG&E's proposed route (below), don't use alternative routes through
Mission Trails!

From: [REDACTED] City Heights 92105
To: [REDACTED] [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: comments on Rainbow pipeline
Date: Tuesday, May 23, 2017 4:45:13 PM
Attachments: [Sullivan 882015 letter.docx](#)
[07-08-16 Letter to SDGE re reducing pressure on Line 1600.pdf](#)

Dear SD Gas pipeline and Ms. Rafferty,

The comment I am trying to raise , in my scoping comments for the Northern section, is that the Rainbow Pipeline is a continuous system to deliver gas from Rainbow to Southern San Diego. Mission Valley is just the midpoint not the terminus or major area of ultimate gas consumption. Most residential, industrial, and commercial users lie to the South of Mission Valley.

The Northern route alignment should not dictate the preferred Southern section route. Such a decision would be to wag the dog by its tail rather than its head. Alignment of the North must know where it is going to connect to the major Southern portion. Clearly the Northern section can no longer be routed with a Southern alignment that continues the health and safety hazards in San Diego's urban core.

Further, the Northern route is relatively dry but as it enters Mission Valley it gets wetter and crosses into more environmentally sensitive habitats. Beginning at Mission Valley it enters into the San Diego River water shed and then it must continue into some very impaired but sensitive water sheds. Chollas Creek and its tributaries like Auburn Creek and North Chollas have well documented habitat areas for listed and endangered flora and fauna. There are several environmental preserves to protect amphibian and avian species. I am particularly concerned about the under crossing of the Rainbow pipeline at Fairmount Avenue and Home Avenue, along the sensitive Auburn Creek and then through North Chollas creek's Sunshine-Berardini Park and environmental reserves.

Finally, in the Chollas watershed, nearly every recent project and its related CEQA / NEPA documents have identified prehistoric indigenous peoples sites including several well document burial and grinding sites.

This is why I have suggested that the terminus of the Northern Rainbow pipeline alignment terminate at a point so as to foster its continuation, South, by way of an entirely new alignment, outside of close proximity to schools, nursing homes and high density housing. One Southern alignments should consider parallel alignment with the I 805 freeway. The current Scoping should also call out the schedule for replacement of the more threatening Southern section.

Please include my comments in the environmental documents and provide written responses to my comments. Please notice me of future opportunities to comment and hearings on this matter.

All the best,

[REDACTED]
Attorney at Law

[REDACTED]
[REDACTED]
City Heights, California 92105
[REDACTED]

From: Miriam Raftery [mailto:editor@eastcountymagazine.org]

Sent: Tuesday, May 23, 2017 7:22 AM

To: [REDACTED]

Subject: RE: Rainbow Gas Pipeline Hazards and Opportunities

There is a pipeline on Mt. Helix near Bancroft that some people worry about here. There are probably lots of these aging lines such as the City Heights situation John mentions etc.

The one in question would go from Rainbow to Mission Valley. There was no discussion of anything south of I-8 for this proposal, from what I've seen, though there may well be dangerous lines down.

The question in this proposal is which route to take to get from Rainbow to Mission Valley.

From: [REDACTED]

Sent: Tuesday, May 23, 2017 12:19 AM

To: [REDACTED]

Subject: Rainbow Gas Pipeline Hazards and Opportunities

Friends,

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Any routing must carefully consider disturbance to amphibian populations and construction must be scheduled so as to not interfere with their reproductive cycles. The pipeline currently crosses segments of the San Diego River and several sections of the Chollas Creek, its tributaries, and its wetlands.

The greatest human risk from the current Rainbow Pipeline is, in my opinion, South of the I-8 freeway as it snakes underneath and through Mid City Heights residential neighborhoods. The current high pressure gas line passes through Central Elementary school and then is adjacent to the Mid City College, City Heights Library, Mid City Heights Police Station, numerous high density housing developments, Monroe Clark Middle School, Hamilton Elementary, and Webster Elementary. Children and students are at current risk. There after it passes through other neighborhoods in Southeast San Diego.

The current high pressure gas pipeline alignment is a hidden hazard that is hidden under low income and mostly minority communities of color, limited English speaking persons, and persons with no knowledge of this danger. The presence of the hazard in the Mid City Heights neighborhoods and

Southeast raises issues for consideration under standards which promote Environmental Justice. At minimum, environmental reviews should be published in languages other than English and briefing held in the routes neighborhoods.

The opportunity presented by the abandonment of this high risk alignment is the unique opportunity to reuse this alignment to bring Purple Pipe recycled water, for the first time, South of the I-8 Freeway to the parks and landscaping in the Mid City, Balboa Park and other large landscape water users like CALTRANS.

If done correctly the replacement of the dangerous pipeline could be a win for safety and the environment.

Please submit this letter to the scoping authorities. Please place me on the Notice list and respond to my comments in writing.

All the best,

██████████

On May 22, 2017, at 9:48 PM, Miriam Raftery <editor@eastcountymagazine.org> wrote:

Maris – What do you base your view on that this is not needed?

The proposal is to replace a 70-year-old line that is leaking and in dangerous condition. The old line would be decommissioned. This is not just building a new line for some future demand, but filling existing demand for the gas currently provided by the line set to be decommissioned.

UCAN has reviewed this and concluded the line really does have to be decommissioned as it's so dangerous it could cause a rupture of several MILES causing way worse damage than San Bruno did. Also older lines weren't built with new pressurized safety standards added after the San Bruno explosion. UCAN rarely agrees with the utility, but in this case, agrees there are serious safety issues that make the need for a new line critical and urgent. The old one is beyond repair.

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At first Miramar opposed this, but after the CPUC proposed a few variations, there seem to be a couple of them, on the base, that the commander suggested didn't pose serious problem or could be worked around, if I interpreted this correctly after reading all the documents.

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Here is our story: <http://www.eastcountymagazine.org/mission-trails-activists-oppose-proposed-major-gas-pipeline-through-regional-park-and-santee>

If you have info I do not have, to suggest how you calculated we could do without a new line AND decommission the extremely dangerous old line found to have over 2,000 problems in spot inspections,

some very serious, I'd like to hear it.

You are also welcome to post comments in the comments section if you have more information readers should see.

Miriam Raftery, Editor

www.EastCountyMagazine.org

From: [REDACTED]
Sent: Monday, May 22, 2017 9:18 PM
To: [REDACTED]
Subject:

SDG&E and Sempra Gas are wanting to put in a huge 47 mile 36-inch gas pipeline from up near Rainbow to down near the border, crossing through a bunch of SD County and increase GHG emissions. There is a decline in need for natural gas and this is a total sham. I can talk to you more about it, if you haven't heard.

But, this week there are three scoping meetings for the Draft EIR and it would be great to get people out to them and to start building up the resistance to the San Diego Pipeline!

Here are the details and information on the Fallbrook, Escondido, and San Diego meetings happening this week:

<http://www.cpuc.ca.gov/Environment/info/ene/sandiego/Documents/PSRPNOPFinalNoAttachmentsorFigs.pdf>

Written comments are due by June 12. I haven't heard much about these meetings and it's important for people to go and raise issues they want explored-- including that the line is not needed and will contribute to global climate change.

Can you inform your networks?

Thanks

Maris Brancheau
For Protect Our Communities Foundation

--

Maris Brancheau, Esq.
Protecting People, Animals, and the Environment
(760) 212-9928

All the best,

[REDACTED]
Attorney at Law

[REDACTED]
City Heights, California 92105
[REDACTED]

NO SERVICES WITHOUT WRITTEN CONTRACT

PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3298



July 8, 2016

Lee Schavrien
San Diego Gas & Electric Company
488 8th Avenue
San Diego, CA 92101

RE: Reducing Pressure on Line 1600

Dear Mr. Schavrien:

The Commission has received information in response to the Safety and Enforcement Division's and the Energy Division's data requests regarding SDG&E's Line 1600 in connection with Application (A.) 15-09-013. Line 1600, which was constructed in 1949, currently operates as a transmission line. To ensure the safety of the public and the safe operation of San Diego Gas & Electric's (SDG&E) natural gas transmission Line 1600, while maintaining reliability of natural gas delivery to SDG&E's customers, I direct SDG&E to do the following:

- Reduce pressure on Line 1600 to 512 psig, which represents a 20% reduction from design-based maximum allowable operating pressure (MAOP),
- Perform In Line Inspections (ILI) of Line 1600 using identical technologies as in your previous ILI run and compare the results with the 2012-2015 ILI data,
- Replace segment from Engineering Stations "17-131" on Line 1600; and
- Perform Quarterly Instrumented Leak Surveys on the entire transmission Line 1600.

These directives are effective immediately. Please confirm in 4 working days that SDG&E will implement these as expeditiously as possible. If SDG&E believes that complying with these directives may pose any risk to maintaining service reliability for its customers, it should provide supporting information within 4 working days to my office.

In addition, please provide a timeline for submitting the quarterly leak survey results and a plan in advance of the ILI work as well as the design and construction plan of the segment replacement for Engineering Stations 17-131 to the Safety and Enforcement Division. We plan to bring this action before the Commission as soon as possible for ratification in a manner that provides an opportunity for comment.

If you have any questions, please contact me or Deputy Executive Director Maryam Ebke at (415) 703-2271.

Sincerely,

A handwritten signature in blue ink that reads "Timothy Sullivan". The signature is written in a cursive, flowing style.

Tim Sullivan
Executive Director

[REDACTED]
Attorney at Law

[REDACTED]
CITY HEIGHTS, CALIFORNIA 92105
[REDACTED]

August 8, 2016

Mr. Tim Sullivan, Executive Director
PUBLIC UTILITIES COMMISSION - STATE OF CALIFORNIA
505 Van Ness Avenue
San Francisco, California 94102-3298

RE: SDG&E PIPELINE 1600 Safety Order, Future Inspection and Replacement Programs, and School Hazard Notices

Dear Mr. Sullivan,

Many thanks to the Public Utilities Commission, my Sierra Club, and the Union Tribune for their vigilance on this old and potentially very dangerous pipeline. This Pipeline is approaching 70 years of age and if it was human it would have retired, be collecting Social Security, and on Medicare. The San Bruno explosion made clear the scale of injury and property that could result from a pipeline failure. The Rainbow Pipeline 1600 is older, bigger, and under higher pressure than the disastrous San Bruno pipeline.

Rainbow Pipeline 1600 passes through heavily populated urban areas of San Diego, including my home community of City Heights. Not only does this old gas line pass under homes and apartment buildings, it passes through and directly adjacent to Central Elementary School, several child care facilities, the very and active City Heights Library, Farmers Market and park and police complexes, the Mid City Heights Community College campus, Clark Middle School, Hamilton Elementary School, and Webster Elementary School, in City Heights. The San Diego Unified School District maintains these facilities with some 2,500 or more students. Parents, teachers, and residents are unaware of the potential danger hidden just below the surface.

On several occasions, I have written San Diego Gas and Electric, the City of San Diego, the San Diego Unified School District, and the San Diego Community College to urge inspection and possible removal of this aged line. I believe that any future pipeline projects should **NOT** be routed through residential streets but rather should be rerouted along the Freeway corridors that follow along the about the same routes. This alternate should be considered as part of the project reviews, including but not limited to, the CEQA and NEPA processes.

If the pipeline is abandoned, then it should be considered for reuse and reconditioning as a conduit for recycled purple pipe water; which is produced along the pipeline north of the Highway 8 but unavailable in our area, south of Highway Eight. Additionally, the repurposed pipeline could be used as a secure conduit for undergrounding communications and fiber optics, whose hub is now in City Heights, along the current pipeline's route.

I request that the above information be considered in any future project or remediation and inspection programs and projects. I request notice of the ability to comment, in the future, and that such notices, be prominently placed at each of the schools and public facilities listed above and along the pipeline route. Such notices should be prepared to communicate the projects proposal and the hazards, in the languages common to our community.

I also want the Commission to carefully consider the extensive natural habits in our community which surround the Cholas Creek, an impaired waterway with listed flora and fauna. Our City Heights community is a well-documented site of pre settlement native indigenes peoples. Great care should be taken when planning any project through or along the Cholas watershed, creeks, and canyons.

Again, thank you for your oversight.

[REDACTED]

Copy: City of San Diego, San Diego Unified School District, San Diego Community College, SDG& E, and City Heights Planning Committee, City Heights Community Development Corporation, SD Union Tribune

From:
To:

[REDACTED]

Subject: RE: Rainbow Gas Pipeline Hazards and Opportunities
Date: Tuesday, May 23, 2017 10:33:55 AM

There is a pipeline on Mt. Helix near Bancroft that some people worry about here. There are probably lots of these aging lines such as the City Heights situation John mentions etc.

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Sent: Tuesday, May 23, 2017 12:19 AM
To:

[REDACTED]

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All the best,

[REDACTED]

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[REDACTED]
[REDACTED]

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From: [REDACTED] City Heights 92105
To: [Rainbow Natural Gas Pipeline CPUC](#); board@sandi.net; cityattorney@sandiego.gov; georgettegomez@sandiego.gov; myrtlecole@sandiego.gov; sdgrandjury@sdcounty.ca.gov; cityclerk@sandiego.gov; cityauditor@sandiego.gov
Cc: "Miriam Raftery"; [REDACTED]
Subject: Rainbow Pipeline is a like a Gas Highway RE: Rainbow Gas Pipeline Hazards and Opportunities
Date: Tuesday, May 23, 2017 12:26:29 PM
Attachments: [07-08-16 Letter to SDGE re reducing pressure on Line 1600.pdf](#)
[Sullivan 882015 letter.docx](#)

Comments RE Scoping for RAINBOW Pipeline replacement Phase One.

SDG&E operates its facilities under a public utility franchise with the City of San Diego and such operations have not been regularly performance audited by the offices of the Independent City Auditor or San Diego Grand Jury.

The San Diego Unified School District is aware of the subject pipeline as it passes through and adjacent to its properties , particularly at Central Elementary, as it has sought and obtained special arrangements and waivers to operate schools in close proximity to its inner city schools. Environmental studies for construction and reconstruction of the listed schools are incorporated, by reference, into these comments. The environmental studies for Mid-City Schools and Southeastern schools are on file at the offices of the San Diego Unified School District at 4100 Normal Street, San Diego, California

Includes 2016 letters from and to PUC – attached

Media coverage of Rainbow Pipeline at:

<http://www.sandiegouniontribune.com/business/sd-fi-sdge-pipeline-20170522-story.html>

<http://www.sandiegouniontribune.com/news/watchdog/sdut-sdge-pipeline-pressure-2016aug05-htmlstory.html>

<http://www.sandiegouniontribune.com/sdut-sdge-counting-on-smart-pig-for-pipeline-safety-2011feb10-htmlstory.html>

I am highlighting a whole series of investigation and reporting concerning lost or undocumented safety inspection records for the Rainbow pipeline , as it proceeds through San Diego and City Heights For example the Union Tribune reported :

“Safety documentation could not be found for 157 miles of pipeline in Southern California overseen by San Diego Gas & Electric and sister utility [Southern California Gas](#). SDG&E will test and possibly replace 25 miles of pipelines without documentation.” In one article, in that series, at:

<http://www.sandiegouniontribune.com/sdut-socal-pipeline-overhaul-underway-2014oct09-story.html>

Includes email from [REDACTED], of City Heights, California ,of May 23, 2017, presented below

All the best,

[REDACTED]
Attorney at Law

[REDACTED]
City Heights, California 92105
[REDACTED]

Dear Ms. Raftery,

Thank you for your coverage of this important environmental and safety issue.

The purpose of this gas pipe line is to distribute natural gas throughout the Southern portion of the County The primary receiving customers are South of the Mission Valley termination of the current project being studied.

It is important to know where the pipeline is going to proceed to once it reaches Mission Valley determines, practically, how it proceeds into the highly populated and developed communities of San Diego, like City Heights. The next phase is greatly affected by this first phase.

Please keep me in the loop and maintain your valuable vigilance.

I have attached my letters from last year on this subject, for inclusion in the record

All the best,

[REDACTED]
Attorney at Law

[REDACTED]
City Heights, California 92105
[REDACTED]

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To: [REDACTED]

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At first Miramar opposed this, but after the CPUC proposed a few variations, there seem to be a couple of them, on the base, that the commander suggested didn't pose serious problem or could be worked around, if I interpreted this correctly after reading all the documents.

We have a story on our site that lists all the scoping meetings which are over the next 3 days.

Here is our story: <http://www.eastcountymagazine.org/mission-trails-activists-oppose-proposed-major-gas-pipeline-through-regional-park-and-santee>

If you have info I do not have, to suggest how you calculated we could do without a new line AND decommission the extremely dangerous old line found to have over 2,000 problems in spot inspections, some very serious, I'd like to hear it.

You are also welcome to post comments in the comments section if you have more information readers should see.

Miriam Raftery, Editor
www.EastCountyMagazine.org

From: [REDACTED]
Sent: Monday, May 22, 2017 9:18 PM
To: [REDACTED]
Subject: [REDACTED]

SDG&E and Sempra Gas are wanting to put in a huge 47 mile 36-inch gas pipeline from up near Rainbow to down near the border, crossing through a bunch of SD County and increase GHG emissions. There is a decline in need for natural gas and this is a total sham. I can talk to you more about it, if you haven't heard.

But, this week there are three scoping meetings for the Draft EIR and it would be great to get people out to them and to start building up the resistance to the San Diego Pipeline!

Here are the details and information on the Fallbrook, Escondido, and San Diego meetings happening this week:

<http://www.cpuc.ca.gov/Environment/info/ene/sandiego/Documents/PSRPNOPFinalNoAttachmentsorFigs.pdf>

Written comments are due by June 12. I haven't heard much about these meetings and it's important for people to go and raise issues they want explored-- including that the line is not needed and will contribute to global climate change.

Can you inform your networks?

Thanks

[REDACTED]

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are hereby notified that any disclosure, dissemination, distribution, copying or other use of this transmission or any of the information contained in or attached to it is strictly prohibited. If you have received this e-mail transmission in error, please immediately notify us by return e-mail transmission, and destroy the original e-mail transmission and its attachments without reading or saving it in any manner. Thank you.

PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3298



July 8, 2016

Lee Schavrien
San Diego Gas & Electric Company
488 8th Avenue
San Diego, CA 92101

RE: Reducing Pressure on Line 1600

Dear Mr. Schavrien:

The Commission has received information in response to the Safety and Enforcement Division's and the Energy Division's data requests regarding SDG&E's Line 1600 in connection with Application (A.) 15-09-013. Line 1600, which was constructed in 1949, currently operates as a transmission line. To ensure the safety of the public and the safe operation of San Diego Gas & Electric's (SDG&E) natural gas transmission Line 1600, while maintaining reliability of natural gas delivery to SDG&E's customers, I direct SDG&E to do the following:

- Reduce pressure on Line 1600 to 512 psig, which represents a 20% reduction from design-based maximum allowable operating pressure (MAOP),
- Perform In Line Inspections (ILI) of Line 1600 using identical technologies as in your previous ILI run and compare the results with the 2012-2015 ILI data,
- Replace segment from Engineering Stations "17-131" on Line 1600; and
- Perform Quarterly Instrumented Leak Surveys on the entire transmission Line 1600.

These directives are effective immediately. Please confirm in 4 working days that SDG&E will implement these as expeditiously as possible. If SDG&E believes that complying with these directives may pose any risk to maintaining service reliability for its customers, it should provide supporting information within 4 working days to my office.

In addition, please provide a timeline for submitting the quarterly leak survey results and a plan in advance of the ILI work as well as the design and construction plan of the segment replacement for Engineering Stations 17-131 to the Safety and Enforcement Division. We plan to bring this action before the Commission as soon as possible for ratification in a manner that provides an opportunity for comment.

If you have any questions, please contact me or Deputy Executive Director Maryam Ebke at (415) 703-2271.

Sincerely,

A handwritten signature in blue ink that reads "Timothy Sullivan". The signature is written in a cursive style with a prominent initial "T".

Tim Sullivan
Executive Director

[REDACTED]
Attorney at Law

[REDACTED]
CITY HEIGHTS, CALIFORNIA 92105
[REDACTED]

August 8, 2016

Mr. Tim Sullivan, Executive Director
PUBLIC UTILITIES COMMISSION - STATE OF CALIFORNIA
505 Van Ness Avenue
San Francisco, California 94102-3298

RE: SDG&E PIPELINE 1600 Safety Order, Future Inspection and Replacement Programs, and School Hazard Notices

Dear Mr. Sullivan,

Many thanks to the Public Utilities Commission, my Sierra Club, and the Union Tribune for their vigilance on this old and potentially very dangerous pipeline. This Pipeline is approaching 70 years of age and if it was human it would have retired, be collecting Social Security, and on Medicare. The San Bruno explosion made clear the scale of injury and property that could result from a pipeline failure. The Rainbow Pipeline 1600 is older, bigger, and under higher pressure than the disastrous San Bruno pipeline.

Rainbow Pipeline 1600 passes through heavily populated urban areas of San Diego, including my home community of City Heights. Not only does this old gas line pass under homes and apartment buildings, it passes through and directly adjacent to Central Elementary School, several child care facilities, the very and active City Heights Library, Farmers Market and park and police complexes, the Mid City Heights Community College campus, Clark Middle School, Hamilton Elementary School, and Webster Elementary School, in City Heights. The San Diego Unified School District maintains these facilities with some 2,500 or more students. Parents, teachers, and residents are unaware of the potential danger hidden just below the surface.

On several occasions, I have written San Diego Gas and Electric, the City of San Diego, the San Diego Unified School District, and the San Diego Community College to urge inspection and possible removal of this aged line. I believe that any future pipeline projects should **NOT** be routed through residential streets but rather should be rerouted along the Freeway corridors that follow along the about the same routes. This alternate should be considered as part of the project reviews, including but not limited to, the CEQA and NEPA processes.

If the pipeline is abandoned, then it should be considered for reuse and reconditioning as a conduit for recycled purple pipe water; which is produced along the pipeline north of the Highway 8 but unavailable in our area, south of Highway Eight. Additionally, the repurposed pipeline could be used as a secure conduit for undergrounding communications and fiber optics, whose hub is now in City Heights, along the current pipeline's route.

I request that the above information be considered in any future project or remediation and inspection programs and projects. I request notice of the ability to comment, in the future, and that such notices, be prominently placed at each of the schools and public facilities listed above and along the pipeline route. Such notices should be prepared to communicate the projects proposal and the hazards, in the languages common to our community.

I also want the Commission to carefully consider the extensive natural habits in our community which surround the Cholas Creek, an impaired waterway with listed flora and fauna. Our City Heights community is a well-documented site of pre settlement native indigenes peoples. Great care should be taken when planning any project through or along the Cholas watershed, creeks, and canyons.

Again, thank you for your oversight.

[REDACTED]

Copy: City of San Diego, San Diego Unified School District, San Diego Community College, SDG& E, and City Heights Planning Committee, City Heights Community Development Corporation, SD Union Tribune

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: RE: Pipeline Safety and Reliability Project – New Natural Gas Line 3602 (Application No. A.15-09-013)
Date: Tuesday, May 23, 2017 3:54:22 PM

TO: Robert Peterson
California Public Utilities Commission
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

RE: Pipeline Safety and Reliability Project – New Natural Gas Line 3602 (Application No. A.15-09-013)

Dear Mr. Peterson:

The gas pipeline proposed by SDG&E is in direct contradiction to California's climate action plan, which calls for a 80% cut in emissions from 1990 levels by 2050. Building new fossil fuel infrastructure runs counter to those goals, which the majority of Californians strongly support.

What's more, this pipeline is not necessary. The current pipeline can operate reliably for the next 20 years. Meanwhile, natural gas usage is already in a steep decline, projected by SDG&E to drop 15% over the next 10 years.

We should be investing instead in renewable energy projects. Asking ratepayers to subsidize the \$600 million cost of this pipeline is unnecessary and unfair, considering that it would be of little benefit to San Diego, and likely instead to serve as a supply line for gas to Sempra's proposed liquefied natural gas export facility near Ensenada.

I urge to reject this proposed pipeline. Thank you.

Sincerely,

[REDACTED]

[REDACTED]

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: Pipeline Safety and Reliability Project – New Natural Gas Line 3602 (Application No. A.15-09-013)
Date: Tuesday, May 23, 2017 4:03:45 PM

Dear Mr. Peterson,

I oppose both alternative routes of the proposed gas pipeline (Line 3602). Alternative routes through Mission Trails Regional Park and surrounding park expansion areas are not acceptable.

The first proposed alternative would disrupt the use of and degrade Mission Trails Regional Park's West Sycamore Area including parts of the new Stowe Trail, as well as the Goodan Ranch, and Fanita Ranch. These preserved areas and parklands are used by hundreds of visitors daily. Maintaining the integrity of the preservation of these natural lands is imperative for existing wildlife, flora, and habitat.

The second proposed alternative is equally unacceptable and would degrade Mission Trails's Spring Canyon and East Fortuna Staging Area, and also East Elliott, part of MTRP's larger ecosystem. The park and its surrounding expansion area must be protected. A new gas pipeline does not belong in these natural habitats which are used recreationally by park visitors.

Please drop or oppose these alternative routes. Thank you.

Sincerely,

[REDACTED]

From:

To:

Subject:

Date:

[REDACTED]
Rainbow Gas Pipeline Hazards and Opportunities

Tuesday, May 23, 2017 3:37:53 AM

Friends,

I have not yet been able to fully study the proposals for replacement of the Rainbow high pressure gas line. My understanding is that the proposal under consideration is for replacement of the line segment North of Interstate 8 Freeway.

Any routing must carefully consider disturbance to amphibian populations and construction must be scheduled so as to not interfere with their reproductive cycles. The pipeline currently crosses segments of the San Diego River and several sections of the Chollas Creek, its tributaries, and its wetlands.

The greatest human risk from the current Rainbow Pipeline is, in my opinion, South of the I-8 freeway as it snakes underneath and through Mid City Heights residential neighborhoods. The current high pressure gas line passes through Central Elementary school and then is adjacent to the Mid City College, City Heights Library, Mid City Heights Police Station, numerous high density housing developments, Monroe Clark Middle School, Hamilton Elementary, and Webster Elementary. Children and students are at current risk. There after it passes through other neighborhoods in Southeast San Diego.

The current high pressure gas pipeline alignment is a hidden hazard that is hidden under low income and mostly minority communities of color, limited English speaking persons, and persons with no knowledge of this danger. The presence of the hazard in the Mid City Heights neighborhoods and Southeast raises issues for consideration under standards which promote Environmental Justice. At minimum, environmental reviews should be published in languages other than English and briefing held in the routes neighborhoods.

The opportunity presented by the abandonment of this high risk alignment is the unique opportunity to reuse this alignment to bring Purple Pipe recycled water, for the first time, South of the I-8 Freeway to the parks and landscaping in the Mid City, Balboa Park and other large landscape water users like CALTRANS.

If done correctly the replacement of the dangerous pipeline could be a win for safety and the environment.

Please submit this letter to the scoping authorities. Please place me on the Notice list and respond to my comments in writing.

All the best,

[REDACTED]

[REDACTED]:

[REDACTED] – What do you base your view on that this is not needed?

The proposal is to replace a 70-year-old line that is leaking and in dangerous condition. The old line would be

decommissioned. This is not just building a new line for some future demand, but filling existing demand for the gas currently provided by the line set to be decommissioned.

UCAN has reviewed this and concluded the line really does have to be decommissioned as it's so dangerous it could cause a rupture of several MILES causing way worse damage than San Bruno did. Also older lines weren't built with new pressurized safety standards added after the San Bruno explosion. UCAN rarely agrees with the utility, but in this case, agrees there are serious safety issues that make the need for a new line critical and urgent. The old one is beyond repair.

There are several options for various routes, the worst of which probably is through Santee and Mission Trails Regional Park, which even SDG&E doesn't want. They are pushing for a route through Miramar air base.

At first Miramar opposed this, but after the CPUC proposed a few variations, there seem to be a couple of them, on the base, that the commander suggested didn't pose serious problem or could be worked around, if I interpreted this correctly after reading all the documents.

We have a story on our site that lists all the scoping meetings which are over the next 3 days.

Here is our story: <http://www.eastcountymagazine.org/mission-trails-activists-oppose-proposed-major-gas-pipeline-through-regional-park-and-santee>

If you have info I do not have, to suggest how you calculated we could do without a new line AND decommission the extremely dangerous old line found to have over 2,000 problems in spot inspections, some very serious, I'd like to hear it.

You are also welcome to post comments in the comments section if you have more information readers should see.

[REDACTED]

www.FastCountyMagazine.org

From: [REDACTED]
Sent: Monday, May 22, 2017 9:18 PM
To: [REDACTED]
Subject: [REDACTED]

SDG&E and Sempra Gas are wanting to put in a huge 47 mile 36-inch gas pipeline from up near Rainbow to down near the border, crossing through a bunch of SD County and increase GHG emissions. There is a decline in need for natural gas and this is a total sham. I can talk to you more about it, if you haven't heard.

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<http://www.cpuc.ca.gov/Environment/info/ene/sandiego/Documents/PSRPNOPFinalNoAttachmentsorFigs.pdf>

Written comments are due by June 12. I haven't heard much about these meetings and it's important for people to go and raise issues they want explored-- including that the line is not needed and will contribute to global climate change.

Can you inform your networks?

Thanks

[REDACTED]

For Protect Our Communities Foundation

--

[REDACTED]

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From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: Pipeline Safety and Reliability Project – New Natural Gas Line 3602 (Application No. A.15-09-013)
Date: Tuesday, May 23, 2017 5:47:36 PM

To: Robert Peterson
California Public Utilities Commission
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

RE: Pipeline Safety and Reliability Project – New Natural Gas Line 3602 (Application No. A.15-09-013)

Dear Mr. Peterson,

The gas pipeline proposed by SDG&E should be rejected for the following reasons:

- There is an immediate need to decrease our reliance on fossil fuels and transition to renewable energy.
- The proposed pipeline is unnecessary and would saddle ratepayers with costs through 2063 totalling over \$600 million. Natural gas usage is in a steep decline in California and SDG&E has determined that the existing pipeline can operate reliably for twenty more years.

Ratepayers must NOT be asked to subsidize SDG&E plans which are not necessary and are counterproductive to California climate goals. I urge you to reject this proposal for a new gas pipeline.

Thank you for your consideration.

May the Holy Spirit dance in our hearts!

[REDACTED]

"If this is going to be a Christian nation that doesn't help the poor, either we have to pretend that Jesus was just as selfish as we are or we've got to acknowledge that He commanded us to love the poor and serve the needy without condition and then admit that we just don't want to do it." Stephen Colbert

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: Reject proposed gas pipeline 3602 (Application No. A.15-09-013)
Date: Tuesday, May 23, 2017 6:40:51 PM

This pipeline is irresponsible. Not everthing should be about money. Do the right thing and reject the proposed gas pipeline. Your employers are the tax paying citizens of this county. You represent us, and we don't want it.

[REDACTED]

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: Gas Pipeline Safety
Date: Tuesday, May 23, 2017 7:33:46 PM

To whom it may concern,

Please consider an alternate route for your proposed natural gas pipeline running down Pomerado Road through Poway and ending in Scripps Ranch near Miramar. The proposed route runs right next to many homes, including my own home, which lies directly parallel to Pomerado road. In addition, there are schools, a hospital, and businesses that would be directly affected by the construction traffic. Not to mention hat a disaster it would be in case of an accident.

Pomerado is the **only access road in and out should there be an earthquake, or a leak in a pipe causing a major explosion**. An alternate route through a less populated area of eastern San Diego County or along I-15 should be considered.

Please consider an alternative route, I can not voice my concern loud enough.

Sincerely,

[REDACTED]

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: Pipeline
Date: Tuesday, May 23, 2017 7:45:32 PM

The pipeline that has been suggested is unnecessary and the monies could be well spent elsewhere. The area's use of gas has declined in the past few years and the expense incurred for this project, paid for by the people, is unreasonable, unneeded, and unjust. Think forward, please.

[REDACTED]

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: Pipeline comments
Date: Tuesday, May 23, 2017 10:55:25 PM

I do not think it's in the interest of the public to run a gas pipeline through a highly populated neighborhood. There are multiple schools, medical facilities, senior citizen housing, businesses and homes that would be placed in an unnecessary danger from this pipeline. SDG&E will say that this is safe, I don't believe them..

I saw what happened in San Bruno and Greenwood, what about the people that lost their lives. You should find another route where there's less danger to people. If it costs more just do it we the taxpayers always end up paying for what SDG&E does anyway.

It's not safe find another route away from communities.

Thank you for taking my comments into consideration.

[REDACTED]

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: Pipeline Safety & Reliability Project - New Natural Gas Line 3602 (Application No. A.15-09-013)
Date: Tuesday, May 23, 2017 11:38:19 PM

To: Robert Peterson
California Public Utilities Commission
c/o Ecology and Environment, Inc..
505 Sansome Street, Suite 300
San Francisco, CA 94111

Dear Mr. Peterson,

The gas pipeline proposed by SDG&E should be rejected for the following reasons:

- There is an immediate need to decrease our reliance on fossil fuels and transition to renewable energy.
- The proposed pipeline is unnecessary and would saddle ratepayers with costs through 2063 totaling over \$600 million. Natural gas usage is in a steep decline in California and SDG&E has determined that the existing pipeline can operate reliably for twenty more years.

Ratepayers must NOT be asked to subsidize SDG&E plans which are not necessary and are counterproductive to California climate goals. I urge you to reject this proposal for a new gas pipeline.

Thank you for your consideration.

Sincerely,

[REDACTED]

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: Gas pipeline
Date: Wednesday, May 24, 2017 1:03:26 AM

To Whom it may concern:

Let me assure you that I am opposed to this pipeline. Its requirement has not been shown valid. This is another of SDGE's attempts to make utility users pay for the fat dividends to shareholders. The previous efforts included the peaking power station for fast response that was planned for east of Santee until we showed it as unneeded and we blocked it. We shall do the same here.

The credibility of SDGE is very low. Go back and show why you need to build it after all that song and dance that was made for that large powerline from the desert to import solar generated power. We did not need that either. Local solar power generation has SDGE beaten flat. Batteries to assist local generation sources during sunless days and nighttimes will reduce the needs for more natural gas to feed that overpriced Calpine plant in Chula Vista. We need no more shennanigans that people like Peevey brought to the process.

Go back and do your homework and speak straight, if only for once. Citizens of San Diego are opposed to your demands for a new pipeline for natural gas.

[REDACTED]

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: "Fracked" Gas Line 3602 (Application No. A.15-09-013)
Date: Wednesday, May 24, 2017 1:31:20 AM

Robert Peterson,

We must reduce - not expand the use of fossil fuels! Study an alternative in the EIR that maintains the existing line until it can be decommissioned permanently. A new gas supply line through our parks and open spaces is unacceptable. Our parks are not profit corridors for private utilities.

Sincerely,

[REDACTED]
Santee CA resident

From: [REDACTED]

Sent: Wednesday, May 24, 2017 12:56 PM

To: [REDACTED] [REDACTED]

Cc: [REDACTED]

Subject: Rainbow pipeline standards, timing of next phase, and avoidance of predetermination of Southern Phase Route through highly populated neighborhoods

Dear Ms. [REDACTED]

Thank you for conducting the environmental processes for the northern section of the Rainbow pipeline.

My concerns are primarily concerning the destination end of this project and establishing community safety standards for sensitive habitats, sensitive receptors and facilities, and the reuse of the existing pipeline for recycled purple pipe water.

I want to make sure that current projects Southern termination does not dictate the alternatives for the next phase.

When do you anticipate that the Southern portion be scoped and replaced?

Please keep me informed on the progress of the current project and the next phase, through the more highly populated Southern urban areas, like City Heights.

Please include the comments in your current study and respond in writing.

All the best,

[REDACTED]
[REDACTED]
[REDACTED]

From: [REDACTED]
Sent: Tuesday, May 23, 2017 11:23 AM
To: SDgaspipeline@ene.com
Cc: [REDACTED]

Subject: Copies of letters submitted to PUC to be included in my scoping comments

Dear SDgaspipeline@ene.com,

I am concerned that the Southern terminus, of the project being scoped for the Rainbow pipeline alignment, not predetermine its route through the very populated areas of San Diego's Mid City Heights.

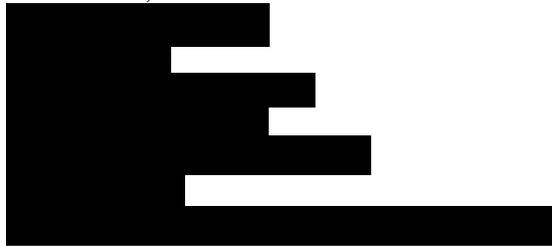
I suggest that the route for the next phase follow one of the several freeway corridors South. I think that the I 805 corridor would be preferable over the SR 15 because it is not a major mass transit and bicycle corridor.

Please incorporate the attached documents into my comments

Please respond in writing to these attachments as part of my comments. Please notice me of future

documents and hearings

All the best,



From: [REDACTED]
To: [REDACTED]
Subject: RE: SDG&E PIPELINE 1600 Safety Order, Future Inspection and Replacement Programs, and School Hazard Notices
Attachments: [image006.png](#)
[07-08-16 Letter to SDGE re reducing pressure on Line 1600.pdf](#)
[REDACTED].docx

Dear [REDACTED],

I do not believe that the Mayor or City Council are engaged in any quasi-judicial hearings concerning the dangerous pipeline, as it is a matter of State regulation. I would, therefore, like it distributed to the Mayor and Council.

I also think it should be distributed to the Parks & Recreation Director (because of the pipelines proximity to City Heights Parks), Real Estate Assets (as the pipeline passes adjacent to City lands); Streets and Engineering (as the pipeline passes under and adjacent to City Streets); Storm water (as the Pipeline crosses both San Diego River and Cholas Creek); Water Treatment Department (as the pipeline could be repurposed, if abandoned , to carry purple pipe recycled water) and the City Auditor (as this pipeline is a franchise utility running under city properties).

Thank you for your attention to details

All the best,

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

From: [REDACTED]
Sent: Monday, August 8, 2016 11:08 AM
To: [REDACTED]
Subject: RE: SDG&E PIPELINE 1600 Safety Order, Future Inspection and Replacement Programs, and School Hazard Notices

Hello, [REDACTED].

Office of the City Clerk is in receipt of your e-mail. Please advise me on instructions for distribution.

Thank you,

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

CONFIDENTIAL COMMUNICATION

This electronic mail message and any attachments are intended only for the use of the addressee(s) named above and may contain information that is privileged, confidential and exempt from disclosure under applicable law. If you are not an intended recipient, or the employee or agent responsible for delivering this e-mail to the intended recipient, you are hereby notified that any dissemination, distribution or copying of this communication is

strictly prohibited. If you received this e-mail message in error, please immediately notify the sender by replying to this message or by telephone. Thank you.

From: [REDACTED]
Sent: Saturday, August 06, 2016 4:16 PM
To: [REDACTED]
Subject: SDG&E PIPELINE 1600 Safety Order, Future Inspection and Replacement Programs, and School Hazard Notices

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

August 8, 2016

[REDACTED]
PUBLIC UTILITIES COMMISSION - STATE OF CALIFORNIA
[REDACTED]
[REDACTED]

RE: SDG&E PIPELINE 1600 Safety Order, Future Inspection and Replacement Programs, and School Hazard Notices

Dear [REDACTED],

Many thanks to the Public Utilities Commission, my Sierra Club, and the Union Tribune for their vigilance on this old and potentially very dangerous pipeline. This Pipeline is approaching 70 years of age and if it was human it would have retired, be collecting Social Security, and on Medicare. The San Bruno explosion made clear the scale of injury and property that could result from a pipeline failure. The Rainbow Pipeline 1600 is older, bigger, and under higher pressure than the disastrous San Bruno pipeline.

Rainbow Pipeline 1600 passes through heavily populated urban areas of San Diego, including my home community of City Heights. Not only does this old gas line pass under homes and apartment buildings, it passes through and directly adjacent to Central Elementary School, several child care facilities, the very and active City Heights Library, Farmers Market and park and police complexes, the Mid City Heights Community College campus, Clark Middle School, Hamilton Elementary School, and Webster Elementary School, in City Heights. The San Diego Unified School District maintains these facilities with some 2,500 or more students. Parents, teachers, and residents are unaware of the potential danger hidden just below the surface.

On several occasions, I have written San Diego Gas and Electric, the City of San Diego, the San Diego Unified School District, and the San Diego Community College to urge inspection and possible removal of this aged line. I believe that any future pipeline projects should NOT be routed through residential streets but rather should be rerouted along the Freeway corridors that follow along the about the same routes. This alternate should be considered as part of the project reviews, including but not limited to, the CEQA and NEPA processes.

If the pipeline is abandoned, then it should be considered for reuse and reconditioning as a conduit for recycled purple pipe water; which is produced along the pipeline North of the Highway 8 but unavailable in our area, south of Highway Eight. Additionally, the repurposed pipeline could be used as a secure conduit for undergrounding communications and fiber optics, whose hub is now in City Heights, along the current pipeline's route.

I request that the above information be considered in any future project or remediation and inspection programs and projects. I request notice of the ability to comment, in the future, and that such notices, be prominently placed at each of the schools and public facilities listed above and along the pipeline route. Such notices should be prepared to communicate the projects proposal and the hazards, in the languages common to our community.

I also want the Commission to carefully consider the extensive natural habits in our community which surround the Cholas Creek, an impaired waterway with listed flora and fauna. Our city Heights community is a well-documented site of pre settlement native indigenes peoples. Great care should be taken when planning any project through or along the Cholas watershed, creeks, and canyons.

Again, thank you for your oversight.

Copy: City of San Diego, San Diego Unified School District, San Diego Community College, SDG& E, and City Heights Planning Committee, City Heights Community Development Corporation, SD Union Tribune

From: [REDACTED]
Sent: Saturday, August 6, 2016 1:03 PM
To: [REDACTED]
Subject: Google Alert - sierra club san diego

<<https://www.google.com/alerts?source=alertsmail&hl=en&gl=US&msgid=NTAxMDYxNTcyODQzMzI3NDk4NQ>>Image removed by sender. GoogleAlerts club san diegoDaily update · August 6, 2016NEWS
<<https://www.google.com/alerts?source=alertsmail&hl=en&gl=US&msgid=NTAxMDYxNTcyODQzMzI3NDk4NQ>>Image removed by sender. State orders pressure reduction in gas pipelineThe San Diego Union-TribuneState regulators have ordered San Diego Gas & Electric to immediately . Utility officials rejected the Sierra Club assertion and said the new pipeline is ...
<<https://www.google.com/alerts/share?hl=en&gl=US&ru=http://www.sandiegouniontribune.com/news/2016/08/05/sdge-pipeline-pressure/&ss=fb&rt=State+orders+pressure+reduction+in+gas+pipeline&cd=KHM1MDEwNjE1NzI4NDMzMjc0OTg1Mho5ZmNmODAxYWUzNDBiYWQ1OmNvbTlpljVUw&ssp=AMJHsmUQJRPZ9uqVpmNu-Ex2WOiWfC1A>> Image removed by sender. Google Plus <<https://www.google.com/alerts/share?hl=en&gl=US&ru=http://www.sandiegouniontribune.com/news/2016/08/05/sdge-pipeline-pressure/&ss=fb&rt=State+orders+pressure+reduction+in+gas+pipeline&cd=KHM1MDEwNjE1NzI4NDMzMjc0OTg1Mho5ZmNmODAxYWUzNDBiYWQ1OmNvbTlpljVUw&ssp=AMJHsmUQJRPZ9uqVpmNu-Ex2WOiWfC1A>> Image removed by sender. Facebook <<https://www.google.com/alerts/share?hl=en&gl=US&ru=http://www.sandiegouniontribune.com/news/2016/08/05/sdge-pipeline-pressure/&ss=tw&rt=State+orders+pressure+reduction+in+gas+pipeline&cd=KHM1MDEwNjE1NzI4NDMzMjc0OTg1Mho5ZmNmODAxYWUzNDBiYWQ1OmNvbTlpljVUw&ssp=AMJHsmUQJRPZ9uqVpmNu-Ex2WOiWfC1A>> Image removed by sender. Twitter <[https://www.google.com/alerts?source=alerts&hl=en&gl=US&msgid=NTAxMDYxNTcyODQzMzI3NDk4NQ&=AB2Xq4g9bJ0WThvIw4xI3GKNUBRDyVv_SlyHgHQ&start=1470340981&end=1470513753&source=alerts&hl=en&gl=US&msgid=NTAxMDYxNTcyODQzMzI3NDk4NQ&=AB2Xq4g9bJ0WThvIw4xI3GKNUBRDyVv_SlyHgHQ&email=jwstump%40cox.net](https://www.google.com/alerts/feedback?fu=http://www.sandiegouniontribune.com/news/2016/08/05/sdge-pipeline-pressure/&source=alerts&hl=en&gl=US&msgid=NTAxMDYxNTcyODQzMzI3NDk4NQ&=AB2Xq4g9bJ0WThvIw4xI3GKNUBRDyVv_SlyHgHQ-Flag as irrelevant < See more results | <https://www.google.com/alerts/edit?source=alerts&hl=en&gl=US&msgid=NTAxMDYxNTcyODQzMzI3NDk4NQ&=AB2Xq4g9bJ0WThvIw4xI3GKNUBRDyVv_SlyHgHQ&edit=jwstump%40cox.net> Edit this alert You have received this email because you have subscribed to Google Alerts. <https://www.google.com/alerts/remove?source=alerts&hl=en&gl=US&msgid=NTAxMDYxNTcyODQzMzI3NDk4NQ&=AB2Xq4g9bJ0WThvIw4xI3GKNUBRDyVv_SlyHgHQ> Unsubscribe <<https://www.google.com/alerts?source=alerts&hl=en&gl=US&msgid=NTAxMDYxNTcyODQzMzI3NDk4NQ>> View all your alerts <<https://www.google.com/alerts/feeds/16865979160238951108/3833645192782525111>> Image removed by sender. RSSReceive this alert as RSS feed <https://www.google.com/alerts?source=alerts&hl=en&gl=US&msgid=NTAxMDYxNTcyODQzMzI3NDk4NQ&=AB2Xq4g9bJ0WThvIw4xI3GKNUBRDyVv_SlyHgHQ&feed> SendFeedback Watchdog <http://www.sandiegouniontribune.com/news/watchdog?source=alerts&hl=en&gl=US&msgid=NTAxMDYxNTcyODQzMzI3NDk4NQ&=AB2Xq4g9bJ0WThvIw4xI3GKNUBRDyVv_SlyHgHQ&feed> State orders pressure reduction in gas pipelineCPUC acts on information received in application for new line <<http://www.sandiegouniontribune.com/staff/jeff-mcdonald/>> Description:Mugshot of Jeff McDonaldBy <<http://www.sandiegouniontribune.com/staff/jeff-mcdonald/>> Jeff McDonald| 7 p.m. Aug. 5, 2016- <<http://www.sandiegouniontribune.com/news/2016/08/05/sdge-pipeline-pressure/#comments-module>> <http://www.facebook.com/sharer.php?url=http://www.sandiegouniontribune.com/news/2016/08/05/sdge-pipeline-pressure/?fbshare=2099505&_state=20orders%20pressure%20reduction%20in%20gas%20pipeline> <<https://twitter.com/share?url=http://www.sandiegouniontribune.com/news/2016/08/05/sdge-pipeline-pressure/&text=State%20orders%20pressure%20reduction%20in%20gas%20pipeline&via=sdu>> <<http://www.reddit.com/submit?url=http://www.sandiegouniontribune.com/news/2016/08/05/sdge-pipeline-pressure/&title=State%20orders%20pressure%20reduction%20in%20gas%20pipeline>> <<http://www.sandiegouniontribune.com/news/2016/08/05/sdge-pipeline-pressure/>> <<http://www.sandiegouniontribune.com/news/2016/08/05/sdge-pipeline-pressure/all?print>> State regulators have ordered San Diego Gas & Electric to immediately reduce the pressure inside one of its gas pipelines, saying information they received from the utility convinced them the 16-inch line could no longer be operated at the higher capacity without risk.Neither the California Public Utilities Commission nor SDG&E would say what prompted last month's order, which directed the utility to lower pressure by 20 percent. It also required the company to speed up inspections, replace a segment of the pipe and perform surveys to detect possible leaks."These directives are effective immediately," Executive Director Timothy Sullivan wrote to SDG&E on July 8. "Please confirm in 4 working days that SDG&E will implement these as expeditiously as possible." Document <<http://www.sandiegouniontribune.com/documents/2016/08/05/letter-cpuc-regarding-line-1600>> Description:<http://cdn.sandiegouniontrib.com/img/news/documents/2016/08/05/UT1800747_p900x493_1_t180.jpg?6ec45598a0efd272cf6d6631efc8bbae7a2ee9181> Letter from CPUC regarding Line 1600 <<http://www.sandiegouniontribune.com/documents/2016/08/05/letter-cpuc-regarding-line-1600>> Download PDF <http://cdn.sandiegouniontrib.com/news/documents/2016/08/05/07-08-16_Letter_to_SDGE_re_reducing_pressure_on_Line_1600.pdf>The utility lowered the pressure in Line 1600 to 512 pounds per square inch the next day. The line, which dates back to 1949, runs from Fallbrook to San Diego.SDG&E also said it accelerated the line's inspection schedule and planned to replace the segment identified by the commission before the end of December.Company officials also said they would continue bi-monthly checks and alert regulators to any leaks."Our top priority for our customers and our employees is safety," the utility said in a statement. "SDG&E has an obligation and a commitment to continue to provide safe and reliable service to our customers in San Diego."The utilities commission has made pipeline safety a high priority since 2010, when a Pacific Gas & Electric pipeline explosion in San Bruno killed eight people and destroyed dozens of homes.The blast prompted stricter rules for operating pipelines. It also led to a \$1.6 billion civil penalty and criminal charges against PG&E. The San Francisco-based utility has denied all charges and a jury has been deliberating the criminal case since early last week.[week of 8/1]It is not clear what specifically prompted Sullivan to order SDG&E to reduce the pressure in Line 1600. Utilities commission spokeswoman Terrie Prosper issued a statement saying the order was based on unspecified information disclosed during a review of SDG&E's application for a new \$600 million pipeline the company wants to build between Rainbow Valley and Miramar."While there was no indication of an immediate safety threat, SDG&E made statements in a 15-09-013 that CPUC staff found to be indicative of potential issues in the future and decided to take steps to mitigate safety risks," the statement said. "SDG&E has been cooperative."San Diego Gas & Electric and Southern California Gas, two regulated subsidiaries of San Diego-based Sempra Energy, want to replace the aging Line 1600 with a nearly 50-mile pipeline capable of pushing more natural gas through San Diego County and beyond.The utilities currently rely on two primary lines to move natural gas across San Diego County — Line 1600 and Line 3010, which carries up to 90 percent of the load. Critics point to that disparity in saying Line 1600 could shut down without a notable impact to service reliability. The company plan calls for replacing Line 1600 with a 36-inch pipe running generally along the east side of Interstate 15 from Riverside County to Marine Corps Air Station Miramar. The new line would be more than twice the size of its predecessor. The application, filed with the utilities commission in September, drew opposition from consumer and environmental groups, who said the project is unnecessary, would raise costs and may instead be intended to boost Sempra's international business interests. Proposed pipeline Description:<<http://cdn.sandiegouniontrib.com/img/photos/2015/10/12/sd-fi-pipeline-cost-02.png>>Critics point out that the utility monopolies make little to no money providing energy to customers, but are approved by the utilities commission to receive investment returns on infrastructure investments, so it is in their economic interest to keep developing more pipes, wires and pipelines.They also note the new pipeline application comes as policymakers are working to reduce greenhouse gas-emitting fuel sources and consumer demand for natural gas is estimated to keep diminishing over the next decades."California ratepayers should not foot the bill for costly new fossil fuel infrastructure investments that are, or will soon become, stranded assets, and whose benefits appear primarily intended to flow to Sempra's unregulated subsidiaries," Sierra Club attorney Matthew Vespa wrote in a commission filing.As evidence, the Sierra Club cited Sempra Energy annual reports, which say there is enough natural gas for the country to become a net exporter and Sempra is "evaluating the economics of converting" its liquefied natural gas import terminal in Baja California to an export operation.Such a move would provide a "first mover advantage on West Coast of North America" and a "location/shipping cost advantage for Asia," Sempra Energy President Mark Snell told analysts at a 2014 conference, but would require "additional pipeline capacity."Sempra as a company is very bullish on gas exports," Vespa said in an interview. "They're looking to lock in as many reliable sources as they can.This (new pipeline application) is not about need."Utility officials rejected the Sierra Club assertion and said the new pipeline is part of an overall strategy to improve operations, which they call the Pipeline Safety & Reliability Project."SDG&E has no plans to use the proposed pipeline to export gas to Mexico, as this pipeline is needed for safety and reliability in San Diego," the company statement said. "The need for this project is distinct and separate from the business goals of any other project or company."Utility officials said even with the looming transition away from fossil fuels, natural gas will play an important role in the energy sector for many years to come."Customers rely on natural gas every day to meet a variety of needs, from home and water heating to cooking, electric generation to transportation," SDG&E said. "In addition to the millions of residents, small businesses and advisors that rely on natural gas every day, San Diego's top natural gas customers include the military, hospitals and electric generators."In addition to protests from consumer organizations and environmental groups, the city of Long Beach

has raised concerns. The city is one of the largest municipal gas utilities in the country and relies on Southern California Gas for service. "SoCalGas' estimated rate impact on the (transportation) rate is an increase of 51 percent," lawyers for Long Beach told the commission. "The 51 percent increase is in addition to the 17.3 percent (transportation) rate increase the applicants are currently requesting." In June, three weeks before Sullivan ordered the pressure lowered on Line 1600, the commission's Office of Ratepayer Advocates filed a motion urging regulators to reject the new pipeline. "Applicants' own information fails to show the need of the proposed project," the ratepayer advocate argued in its motion, rejected weeks later by a utilities commission judge. The Utility Reform Network, or TURN, said SDG&E and Southern California Gas have not demonstrated a need for additional pipeline capacity. Lawyers at the San Francisco consumer group said Line 1600 can be safely operated after appropriate testing. "Sempra had promised to hydrotest this line several years back, but it has failed to hydrotest because it prefers to replace the line," TURN staff attorney Marcel Hawiger said. "Given the lack of a hydrotest, the (commission) properly required a pressure reduction and additional measures until the decision on whether to hydrotest or replace is made." The utility said the Natural Gas Pipeline Safety Act of 2011, enacted in the wake of the San Bruno explosion, calls for Line 1600 to be tested or replaced, and constructing a new pipeline is a more appropriate solution. "SDG&E is still required by law to either 'pressure test' or 'replace' the pipeline," the company said. "We believe the Pipeline Safety & Reliability Project, which was filed more than 10 months ago, is the long-term solution for implementing safety measures and increasing reliability." The commission has yet to schedule a hearing on the pending application.

PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3298



July 8, 2016

Lee Schavrien
San Diego Gas & Electric Company
488 8th Avenue
San Diego, CA 92101

RE: Reducing Pressure on Line 1600

Dear Mr. Schavrien:

The Commission has received information in response to the Safety and Enforcement Division's and the Energy Division's data requests regarding SDG&E's Line 1600 in connection with Application (A.) 15-09-013. Line 1600, which was constructed in 1949, currently operates as a transmission line. To ensure the safety of the public and the safe operation of San Diego Gas & Electric's (SDG&E) natural gas transmission Line 1600, while maintaining reliability of natural gas delivery to SDG&E's customers, I direct SDG&E to do the following:

- Reduce pressure on Line 1600 to 512 psig, which represents a 20% reduction from design-based maximum allowable operating pressure (MAOP),
- Perform In Line Inspections (ILI) of Line 1600 using identical technologies as in your previous ILI run and compare the results with the 2012-2015 ILI data,
- Replace segment from Engineering Stations "17-131" on Line 1600; and
- Perform Quarterly Instrumented Leak Surveys on the entire transmission Line 1600.

These directives are effective immediately. Please confirm in 4 working days that SDG&E will implement these as expeditiously as possible. If SDG&E believes that complying with these directives may pose any risk to maintaining service reliability for its customers, it should provide supporting information within 4 working days to my office.

In addition, please provide a timeline for submitting the quarterly leak survey results and a plan in advance of the ILI work as well as the design and construction plan of the segment replacement for Engineering Stations 17-131 to the Safety and Enforcement Division. We plan to bring this action before the Commission as soon as possible for ratification in a manner that provides an opportunity for comment.

If you have any questions, please contact me or Deputy Executive Director Maryam Ebke at (415) 703-2271.

Sincerely,

A handwritten signature in blue ink that reads "Timothy Sullivan". The signature is written in a cursive style with a prominent initial "T".

Tim Sullivan
Executive Director

[REDACTED]
Attorney at Law

[REDACTED]
CITY HEIGHTS, CALIFORNIA 92105
[REDACTED]

August 8, 2016

Mr. Tim Sullivan, Executive Director
PUBLIC UTILITIES COMMISSION - STATE OF CALIFORNIA
505 Van Ness Avenue
San Francisco, California 94102-3298

RE: SDG&E PIPELINE 1600 Safety Order, Future Inspection and Replacement Programs, and School Hazard Notices

Dear Mr. Sullivan,

Many thanks to the Public Utilities Commission, my Sierra Club, and the Union Tribune for their vigilance on this old and potentially very dangerous pipeline. This Pipeline is approaching 70 years of age and if it was human it would have retired, be collecting Social Security, and on Medicare. The San Bruno explosion made clear the scale of injury and property that could result from a pipeline failure. The Rainbow Pipeline 1600 is older, bigger, and under higher pressure than the disastrous San Bruno pipeline.

Rainbow Pipeline 1600 passes through heavily populated urban areas of San Diego, including my home community of City Heights. Not only does this old gas line pass under homes and apartment buildings, it passes through and directly adjacent to Central Elementary School, several child care facilities, the very and active City Heights Library, Farmers Market and park and police complexes, the Mid City Heights Community College campus, Clark Middle School, Hamilton Elementary School, and Webster Elementary School, in City Heights. The San Diego Unified School District maintains these facilities with some 2,500 or more students. Parents, teachers, and residents are unaware of the potential danger hidden just below the surface.

On several occasions, I have written San Diego Gas and Electric, the City of San Diego, the San Diego Unified School District, and the San Diego Community College to urge inspection and possible removal of this aged line. I believe that any future pipeline projects should **NOT** be routed through residential streets but rather should be rerouted along the Freeway corridors that follow along the about the same routes. This alternate should be considered as part of the project reviews, including but not limited to, the CEQA and NEPA processes.

If the pipeline is abandoned, then it should be considered for reuse and reconditioning as a conduit for recycled purple pipe water; which is produced along the pipeline north of the Highway 8 but unavailable in our area, south of Highway Eight. Additionally, the repurposed pipeline could be used as a secure conduit for undergrounding communications and fiber optics, whose hub is now in City Heights, along the current pipeline's route.

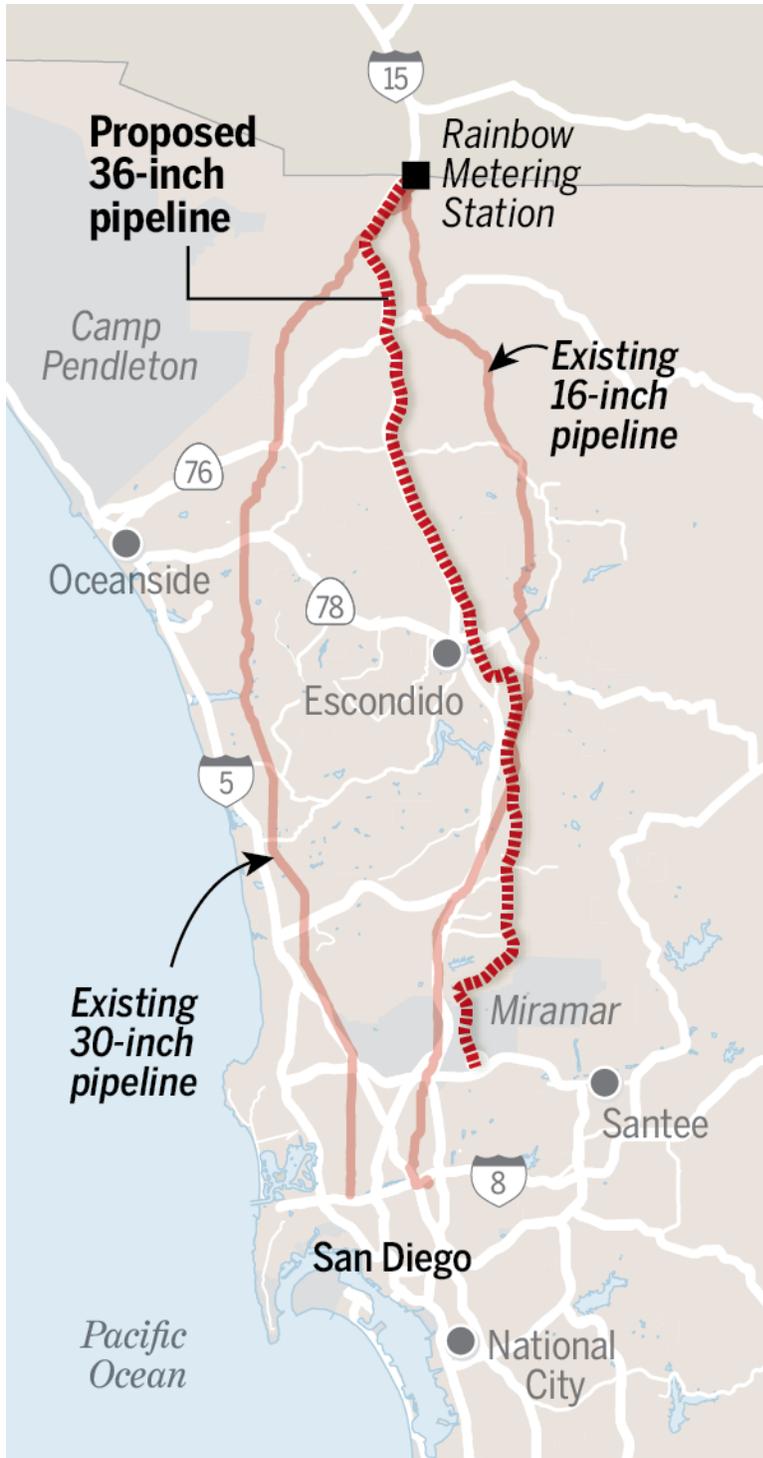
I request that the above information be considered in any future project or remediation and inspection programs and projects. I request notice of the ability to comment, in the future, and that such notices, be prominently placed at each of the schools and public facilities listed above and along the pipeline route. Such notices should be prepared to communicate the projects proposal and the hazards, in the languages common to our community.

I also want the Commission to carefully consider the extensive natural habits in our community which surround the Cholas Creek, an impaired waterway with listed flora and fauna. Our City Heights community is a well-documented site of pre settlement native indigenes peoples. Great care should be taken when planning any project through or along the Cholas watershed, creeks, and canyons.

Again, thank you for your oversight.

[REDACTED]

Copy: City of San Diego, San Diego Unified School District, San Diego Community College, SDG& E, and City Heights Planning Committee, City Heights Community Development Corporation, SD Union Tribune



AARON ATENCIO • U-T

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: pipeline/Mission Trails
Date: Wednesday, May 24, 2017 3:49:41 PM

To whom it concerns,

I am alarmed that a proposed gasoline might potentially run through parts of Mission Trail Regional Park. I frequently hike/run all over the whole park and enjoy viewing and photographing the beautiful flora and fauna. The riparian habitat is very unique and the San Diego community is so fortunate to have the park in close proximity to visit, which on weekends is very busy. Just last week on one of my hikes I was so surprised to find in a recently opened area containing thousands of polliwogs in the stream! Mission Trails is a gem to be valued and kept untouched.

Sincerely,

[REDACTED]

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: Pipeline Safety and Reliability Project-New Natural Gas Line 3602 (Application No. A.15-09-013)
Date: Wednesday, May 24, 2017 6:54:43 PM

Robert Peterson
California Public Utilities Commission

Dear Mr. Peterson:

The gas pipeline proposed by SDG&E should be rejected for the following reasons:

- There is an immediate need to decrease our reliance on fossil fuels and transition to renewable energy.
- The proposed pipeline is unnecessary and would saddle ratepayers with costs that total over \$600 million. Natural gas usage is in decline in California and SDG&E has determined that the existing pipeline can operate reliably for 20 more years.

Ratepayers should not be asked to subsidize plans which are not necessary and are counterproductive to California climate goals. I urge you to reject this proposal for a new gas pipeline.

Thank you for your consideration.

[REDACTED]
[REDACTED]
[REDACTED]

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: Pipeline Safety and Reliability Project – New Natural Gas Line 3602 (Application No. A.15-09-013)
Date: Wednesday, May 24, 2017 11:30:36 PM

To: Robert Peterson
California Public Utilities Commission
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

RE: Pipeline Safety and Reliability Project – New Natural Gas Line 3602 (Application No. A.15-09-013)

Dear Mr. Peterson,

The gas pipeline proposed by SDG&E should be rejected for the following reasons:

There is an immediate need to decrease our reliance on fossil fuels and transition to renewable energy.

The proposed pipeline is unnecessary and would saddle ratepayers with costs through 2063 totalling over \$600 million. Natural gas usage is in a steep decline in California and SDG&E has determined that the existing pipeline can operate reliably for twenty more years.

Ratepayers must NOT be asked to subsidize SDG&E plans which are not necessary and are counterproductive to California climate goals. I urge you to reject this proposal for a new gas pipeline.

Thank you for your consideration.

Sincerely,

[REDACTED]

Sent from my iPhone

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: Application No. A.15-09-013
Date: Thursday, May 25, 2017 9:28:22 AM

ATTTN: Robert Peterson

I attended the Project Public Scoping meeting in Fallbrook this week and talked to you informally afterward.

I recall a slide on your formal presentation that listed an alternative that included renewables energy alternatives - wind and solar at least. That slide went by too fast for me to take notes and I have not been able to locate any reference to such an alternative on the CPUC web site.

If possible, could you forward to me a copy of that slide or a snippet of it's content.

- Thank you.

[REDACTED] Resident of Rancho Bernardo

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: Reject proposed gas pipeline 3602 (Application No. A.15-09-013)
Date: Thursday, May 25, 2017 11:46:15 AM

Hello-do not approve this gas pipeline. The future in California is solar and wind-don't waste our money on this unnecessary project. I am against this!!! [REDACTED]

Sent from my iPad

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: Pipeline Safety and Reliability Project (Application No. A.15-09-013)
Date: Thursday, May 25, 2017 1:23:44 PM

Robert Peterson
California Public Utilities Commission
RE: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

RE: Pipeline Safety and Reliability Project (Application No. A.15-09-013)

I oppose both alternative routes of the proposed gas pipeline (Line 3602). Alternative routes through Mission Trails Regional Park and surrounding park expansion areas are not acceptable.

The first proposed alternative would disrupt the use of and degrade Mission Trails Regional Park's West Sycamore Area including parts of the new Stowe Trail, as well as the Goodan Ranch, and Fanita Ranch. These preserved areas and parklands are used by hundreds of visitors daily. Maintaining the integrity of the preservation of these natural lands is imperative for existing wildlife, flora, and habitat.

The second proposed alternative is equally unacceptable and would degrade Mission Trails's Spring Canyon and East Fortuna Staging Area, and also East Elliott, part of MTRP's larger ecosystem. The park and its surrounding expansion area must be protected. A new gas pipeline does not belong in these natural habitats which are used recreationally by park visitors.

I run and train on the trails in the park daily and it has become such a special place for me and I know it's the same for others. It's a unique open space and needs to be preserved. I'm certain a pipeline can be placed somewhere else. We've ruined enough of the world, leave a few patches of earth unscathed.

Please drop or oppose these alternative routes. Thank you.

[REDACTED]

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: RE: gas pipeline re-routes (application 15-09013)
Date: Thursday, May 25, 2017 2:18:23 PM

Robert Peterson
California Public Utilities Commission
RE: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

RE: Pipeline Safety and Reliability Project – New Natural Gas Line 3602 (Application No. A.15-09-013)

I oppose both alternative routes of the proposed gas pipeline (Line 3602). Alternative routes through Mission Trails Regional Park and surrounding park expansion areas are not acceptable.

The first proposed alternative would disrupt the use of and degrade Mission Trails Regional Park's West Sycamore Area including parts of the new Stowe Trail, as well as the Goodan Ranch, and Fanita Ranch. These preserved areas and parklands are used by hundreds of visitors daily. Maintaining the integrity of the preservation of these natural lands is imperative for existing wildlife, flora, and habitat.

The second proposed alternative is equally unacceptable and would degrade Mission Trails's Spring Canyon and East Fortuna Staging Area, and also East Elliott, part of MTRP's larger ecosystem. The park and its surrounding expansion area must be protected. A new gas pipeline does not belong in these natural habitats which are used recreationally by park visitors.

Please drop or oppose these alternative routes. Thank you.

Sincerely,

[REDACTED]
[REDACTED]

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Cc: [REDACTED]
Subject: Line 3602
Date: Thursday, May 25, 2017 7:57:36 PM

To whom it may concern:

We are writing to strongly voice our opposition to the placement of a major gas line along Pomerado Road in the Scripps Ranch area of San Diego. My home is less than 200 feet from Pomerado Road. The events of September 9, 2010 in San Bruno terrify me and my family. 38 homes were destroyed in San Bruno. 8 people died due to an explosion and resulting fire of a major gas line. Fire is a 4 letter word in our community. Have you ever heard of the Cedar Fire and the destruction it rained down on Scripps Ranch? A proposed pipeline of this magnitude does not belong in a residential area. On top of safety concerns, having this pipeline so close to my home has the potential to decrease my property value as I suppose its existence would have to be disclosed if I were to sell my home.

There is also the disruption of the lives of the people in my community during the installation of this pipeline. In the coming months, a major electric transmission line is also being installed under Pomerado Road. Our lives will be majorly disrupted by this installation. I did not play the NIMBY card with this installation. I decided to keep my mouth shut and suck up the inconvenience for the greater good. The major difference with this gas pipeline is SAFETY. Its also my understanding that very little of the natural gas transported in this line is actually going to be used locally. You are putting my family at risk for your profits.

We say no to Line 3602 through Scripps Ranch.

[REDACTED]

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Date: Friday, May 26, 2017 1:11:06 PM

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Cc: [REDACTED]
Subject: Pipeline Safety and Reliability Project - OMCC Support Letter
Date: Friday, May 26, 2017 1:29:11 PM
Attachments: [PSRP Project SDGE \(May\) - OMCC Support Letter.pdf](#)

Greetings,

Enclosed please find a support letter from the Otay Mesa Chamber of Commerce for the PSRP.

Should you need further documentation, please let me know.

Respectfully,

[REDACTED]

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Zisser Group

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Platinum Circle

Co-Production International &
Call Center Services International

Republic Services

Turner Construction Company

UETA

Uniradio

President's Circle

Cubic Corporation

Deloitte: Baja California

Metropolitan Airpark LLC

MEX-CAL Truckline

Pardee Homes

Plantronics, Inc.

Quality Suites

LBA Realty

R.L. Jones Customhouse Brokers

Smurfit Kappa Orange County

Torrey Pines Bank

XEWT 12 Televisa/Rep. ECC

May 19, 2017

Robert Peterson

California Public Utilities Commission

Re: Pipeline Safety & Reliability Project

c/o Ecology and Environment, Inc.

505 Sansome Sts, Suite 300

San Francisco, CA 94111

Dear Robert,

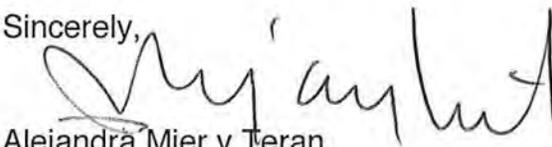
On behalf of the Otay Mesa Chamber of Commerce, I would like to express our full support of San Diego Gas & Electric's Pipeline Safety and Reliability Project (PSRP).

The proposed pipeline would reduce the region's overdependence on one primary pipeline that brings more than 90 percent of the natural gas into San Diego, making the natural gas system more reliable and better able to handle the changing energy needs of homes and businesses in San Diego. Having a safe and reliable natural gas infrastructure is critical to supporting the current and future energy needs.

In South County, we have a large presence of medical and manufacturing facilities, electric generators and local, state and federal government that all depend on natural gas for operations. This proposed pipeline would strengthen the natural gas system, which feeds South County.

Once again, we support the Pipeline Safety & Reliability Project as it provides a safe and reliable energy system, which supports regional economic growth so that San Diego can continue to prosper.

Sincerely,



Alejandra Mier y Teran
Executive Director

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Cc: [REDACTED]
Subject: Copies of letters submitted to PUC to be included in my scoping comments
Date: Friday, May 26, 2017 1:29:14 PM
Attachments: [REDACTED] [882015 letter.docx](#)
[RE SDGE PIPELINE 1600 Safety Order Future Inspection and Replacement Programs and School Hazard Notices.msg](#)
[07-08-16 Letter to SDGE re reducing pressure on Line 1600.pdf](#)

Dear SDgaspipeline@ene.com,

I am concerned that the Southern terminus, of the project being scoped for the Rainbow pipeline alignment, not predetermine its route through the very populated areas of San Diego's Mid City Heights.

I suggest that the route for the next phase follow one of the several freeway corridors South. I think that the I 805 corridor would be preferable over the SR 15 because it is not a major mass transit and bicycle corridor.

Please incorporate the attached documents into my comments

Please respond in writing to these attachments as part of my comments. Please notice me of future documents and hearings

All the best,

[REDACTED]

[REDACTED]
Attorney at Law

[REDACTED]
CITY HEIGHTS, CALIFORNIA 92105
[REDACTED]

August 8, 2016

Mr. Tim Sullivan, Executive Director
PUBLIC UTILITIES COMMISSION - STATE OF CALIFORNIA
505 Van Ness Avenue
San Francisco, California 94102-3298

RE: SDG&E PIPELINE 1600 Safety Order, Future Inspection and Replacement Programs, and School Hazard Notices

Dear Mr. Sullivan,

Many thanks to the Public Utilities Commission, my Sierra Club, and the Union Tribune for their vigilance on this old and potentially very dangerous pipeline. This Pipeline is approaching 70 years of age and if it was human it would have retired, be collecting Social Security, and on Medicare. The San Bruno explosion made clear the scale of injury and property that could result from a pipeline failure. The Rainbow Pipeline 1600 is older, bigger, and under higher pressure than the disastrous San Bruno pipeline.

Rainbow Pipeline 1600 passes through heavily populated urban areas of San Diego, including my home community of City Heights. Not only does this old gas line pass under homes and apartment buildings, it passes through and directly adjacent to Central Elementary School, several child care facilities, the very and active City Heights Library, Farmers Market and park and police complexes, the Mid City Heights Community College campus, Clark Middle School, Hamilton Elementary School, and Webster Elementary School, in City Heights. The San Diego Unified School District maintains these facilities with some 2,500 or more students. Parents, teachers, and residents are unaware of the potential danger hidden just below the surface.

On several occasions, I have written San Diego Gas and Electric, the City of San Diego, the San Diego Unified School District, and the San Diego Community College to urge inspection and possible removal of this aged line. I believe that any future pipeline projects should **NOT** be routed through residential streets but rather should be rerouted along the Freeway corridors that follow along the about the same routes. This alternate should be considered as part of the project reviews, including but not limited to, the CEQA and NEPA processes.

If the pipeline is abandoned, then it should be considered for reuse and reconditioning as a conduit for recycled purple pipe water; which is produced along the pipeline north of the Highway 8 but unavailable in our area, south of Highway Eight. Additionally, the repurposed pipeline could be used as a secure conduit for undergrounding communications and fiber optics, whose hub is now in City Heights, along the current pipeline's route.

I request that the above information be considered in any future project or remediation and inspection programs and projects. I request notice of the ability to comment, in the future, and that such notices, be prominently placed at each of the schools and public facilities listed above and along the pipeline route. Such notices should be prepared to communicate the projects proposal and the hazards, in the languages common to our community.

I also want the Commission to carefully consider the extensive natural habits in our community which surround the Cholas Creek, an impaired waterway with listed flora and fauna. Our City Heights community is a well-documented site of pre settlement native indigenes peoples. Great care should be taken when planning any project through or along the Cholas watershed, creeks, and canyons.

Again, thank you for your oversight.

[REDACTED]

Copy: City of San Diego, San Diego Unified School District, San Diego Community College, SDG& E, and City Heights Planning Committee, City Heights Community Development Corporation, SD Union Tribune

From: [REDACTED]
To: [REDACTED]
Subject: RE: SDG&E PIPELINE 1600 Safety Order, Future Inspection and Replacement Programs, and School Hazard Notices
Attachments: [image006.png](#)
[07-08-16 Letter to SDGE re reducing pressure on Line 1600.pdf](#)
[882015 letter.docx](#)

Dear [REDACTED],

I do not believe that the Mayor or City Council are engaged in any quasi-judicial hearings concerning the dangerous pipeline, as it is a matter of State regulation. I would, therefore, like it distributed to the Mayor and Council.

I also think it should be distributed to the Parks & Recreation Director (because of the pipelines proximity to City Heights Parks), Real Estate Assets (as the pipeline passes adjacent to City lands); Streets and Engineering (as the pipeline passes under and adjacent to City Streets); Storm water (as the Pipeline crosses both San Diego River and Cholas Creek); Water Treatment Department (as the pipeline could be repurposed, if abandoned , to carry purple pipe recycled water) and the City Auditor (as this pipeline is a franchise utility running under city properties).

Thank you for your attention to details

All the best,

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

From: [REDACTED]
Sent: Monday, August 8, 2016 11:08 AM
To: [REDACTED]
Subject: RE: SDG&E PIPELINE 1600 Safety Order, Future Inspection and Replacement Programs, and School Hazard Notices

Hello, [REDACTED]

Office of the City Clerk is in receipt of your e-mail. Please advise me on instructions for distribution.

Thank you,

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

CONFIDENTIAL COMMUNICATION

This electronic mail message and any attachments are intended only for the use of the addressee(s) named above and may contain information that is privileged, confidential and exempt from disclosure under applicable law. If you are not an intended recipient, or the employee or agent responsible for delivering this e-mail to the intended recipient, you are hereby notified that any dissemination, distribution or copying of this communication is

strictly prohibited. If you received this e-mail message in error, please immediately notify the sender by replying to this message or by telephone. Thank you.

From: [REDACTED]
Sent: Saturday, August 06, 2016 4:16 PM
To: [REDACTED]
Subject: SDG&E PIPELINE 1600 Safety Order, Future Inspection and Replacement Programs, and School Hazard Notices

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

August 8, 2016

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

RE: SDG&E PIPELINE 1600 Safety Order, Future Inspection and Replacement Programs, and School Hazard Notices

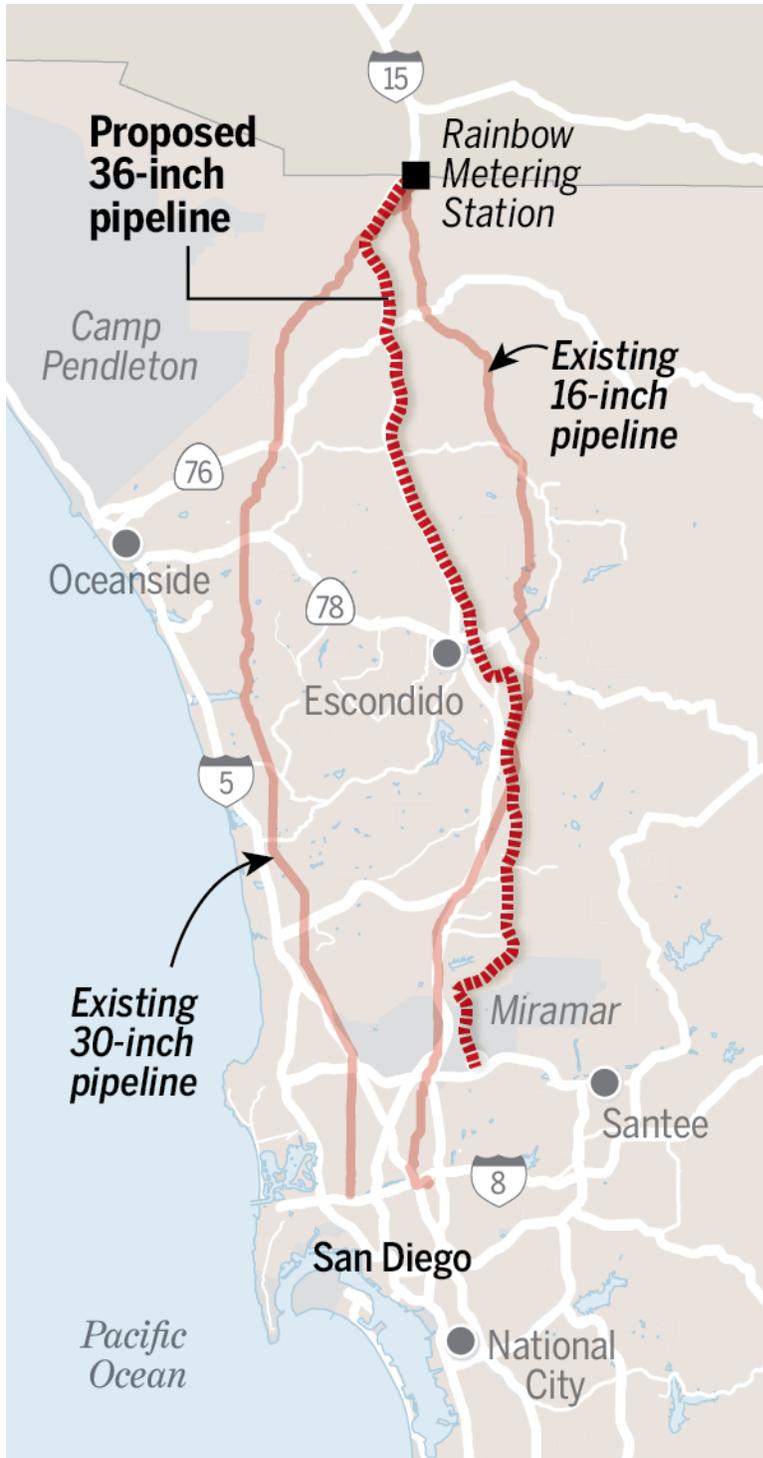
Dear [REDACTED],

Many thanks to the Public Utilities Commission, my Sierra Club, and the Union Tribune for their vigilance on this old and potentially very dangerous pipeline. This Pipeline is approaching 70 years of age and if it was human it would have retired, be collecting Social Security, and on Medicare. The San Bruno explosion made clear the scale of injury and property that could result from a pipeline failure. The Rainbow Pipeline 1600 is older, bigger, and under higher pressure than the disastrous San Bruno pipeline.

Rainbow Pipeline 1600 passes through heavily populated urban areas of San Diego, including my home community of City Heights. Not only does this old gas line pass under homes and apartment buildings, it passes through and directly adjacent to Central Elementary School, several child care facilities, the very and active City Heights Library, Farmers Market and park and police complexes, the Mid City Heights Community College campus, Clark Middle School, Hamilton Elementary School, and Webster Elementary School, in City Heights. The San Diego Unified School District maintains these facilities with some 2,500 or more students. Parents, teachers, and residents are unaware of the potential danger hidden just below the surface.

On several occasions, I have written San Diego Gas and Electric, the City of San Diego, the San Diego Unified School District, and the San Diego Community College to urge inspection and possible removal of this aged line. I believe that any future pipeline projects should NOT be routed through residential streets but rather should be rerouted along the Freeway corridors that follow along the about the same routes. This alternate should be considered as part of the project reviews, including but not limited to, the CEQA and NEPA processes.

If the pipeline is abandoned, then it should be considered for reuse and reconditioning as a conduit for recycled purple pipe water; which is produced along the pipeline North of the Highway 8 but unavailable in our area, south of Highway Eight. Additionally, the repurposed pipeline could be used as a secure conduit for undergrounding communications and fiber optics, whose hub is now in City Heights, along the current pipeline's route.



AARON ATENCIO • U-T

I request that the above information be considered in any future project or remediation and inspection programs and projects. I request notice of the ability to comment, in the future, and that such notices, be prominently placed at each of the schools and public facilities listed above and along the pipeline route. Such notices should be prepared to communicate the projects proposal and the hazards, in the languages common to our community.

I also want the Commission to carefully consider the extensive natural habits in our community which surround the Cholas Creek, an impaired waterway with listed flora and fauna. Our city Heights community is a well-documented site of pre settlement native indigenes peoples. Great care should be taken when planning any project through or along the Cholas watershed, creeks, and canyons.

Again, thank you for your oversight.



Copy: City of San Diego, San Diego Unified School District, San Diego Community College, SDG& E, and City Heights Planning Committee, City Heights Community Development Corporation, SD Union Tribune

From: Google Alerts [mailto:googlealerts-noreply@google.com]
Sent: Saturday, August 6, 2016 1:03 PM
To: [REDACTED]
Subject: Google Alert - sierra club san diego

<https://www.google.com/alerts?source=alertsmail&hl=en&gl=US&msgid=NTAxMDYxNTcyODQzMzI3NDk4NQ>Image removed by sender. Googlesierra club san diegoDaily update · August 6, 2016NEWS
<https://www.google.com/alerts?source=alertsmail&hl=en&gl=US&msgid=NTAxMDYxNTcyODQzMzI3NDk4NQ>State orders pressure reduction in gas pipelineThe San Diego Union-TribuneState regulators have ordered San Diego Gas & Electric to immediately . Utility officials rejected the Sierra Club assertion and said the new pipeline is ...
<https://www.google.com/alerts/share?hl=en&gl=US&ru=http://www.sandiegouniontribune.com/news/2016/aug/05/sdge-pipeline-pressure/&ss=fb&rt=State+orders+pressure+reduction+in+gas+pipeline&cd=KHM1MDEwNjE1NzI4NDMzMjc0OTg1Mho5ZmNmODAxYWUzNDBiYWQ1OmNvbTlpljVUw&ssp=AMJHsmUQJRPZ9uqVpmNu-Ex2WOIWfC1A> Image removed by sender. Google Plus <https://www.google.com/alerts/share?hl=en&gl=US&ru=http://www.sandiegouniontribune.com/news/2016/aug/05/sdge-pipeline-pressure/&ss=fb&rt=State+orders+pressure+reduction+in+gas+pipeline&cd=KHM1MDEwNjE1NzI4NDMzMjc0OTg1Mho5ZmNmODAxYWUzNDBiYWQ1OmNvbTlpljVUw&ssp=AMJHsmUQJRPZ9uqVpmNu-Ex2WOIWfC1A> Image removed by sender. Facebook <https://www.google.com/alerts/share?hl=en&gl=US&ru=http://www.sandiegouniontribune.com/news/2016/aug/05/sdge-pipeline-pressure/&ss=tw&rt=State+orders+pressure+reduction+in+gas+pipeline&cd=KHM1MDEwNjE1NzI4NDMzMjc0OTg1Mho5ZmNmODAxYWUzNDBiYWQ1OmNvbTlpljVUw&ssp=AMJHsmUQJRPZ9uqVpmNu-Ex2WOIWfC1A> Image removed by sender. Twitter <https://www.google.com/alerts/feedback?fu=http://www.sandiegouniontribune.com/news/2016/aug/05/sdge-pipeline-pressure/&source=alerts&hl=en&gl=US&msgid=NTAxMDYxNTcyODQzMzI3NDk4NQ&s=AB2Xq4g9bJ0WThvIw4xI3GKNUBRDyVV_SlyHgHQ-Flag as irrelevant <https://www.google.com/alerts?s=AB2Xq4g9bJ0WThvIw4xI3GKNUBRDyVV_SlyHgHQ&start=1470340981&end=1470513753&source=alerts&hl=en&gl=US&msgid=NTAxMDYxNTcyODQzMzI3NDk4NQ> See more results | <https://www.google.com/alerts/edit?source=alerts&hl=en&gl=US&msgid=NTAxMDYxNTcyODQzMzI3NDk4NQ&s=AB2Xq4g9bJ0WThvIw4xI3GKNUBRDyVV_SlyHgHQ&email=jwstump%40cox.net> Edit this alert You have received this email because you have subscribed to Google Alerts. <https://www.google.com/alerts/remove?source=alerts&hl=en&gl=US&msgid=NTAxMDYxNTcyODQzMzI3NDk4NQ&s=AB2Xq4g9bJ0WThvIw4xI3GKNUBRDyVV_SlyHgHQ> Unsubscribe | <https://www.google.com/alerts?source=alerts&hl=en&gl=US&msgid=NTAxMDYxNTcyODQzMzI3NDk4NQ> View all your alerts <https://www.google.com/alerts/feeds/16865979160238951108/3833645192782525111> Image removed by sender. RSS Receive this alert as RSS feed <https://www.google.com/alerts?source=alerts&hl=en&gl=US&msgid=NTAxMDYxNTcyODQzMzI3NDk4NQ&s=AB2Xq4g9bJ0WThvIw4xI3GKNUBRDyVV_SlyHgHQ&fu=> Send Feedback Watchdog <http://www.sandiegouniontribune.com/news/watchdog> State orders pressure reduction in gas pipeline CPUC acts on information received in application for new line <http://www.sandiegouniontribune.com/staff/jeff-mcdonald/> Description: Mugshot of Jeff McDonald by <http://www.sandiegouniontribune.com/staff/jeff-mcdonald/> Jeff McDonald | 7 p.m. Aug. 5, 2016 - <http://www.sandiegouniontribune.com/news/2016/aug/05/sdge-pipeline-pressure/#comments-module> <http://www.facebook.com/sharer.php?u=http://www.sandiegouniontribune.com/news/2016/aug/05/sdge-pipeline-pressure/?fbshare=2099505&t=State%20orders%20pressure%20reduction%20in%20gas%20pipeline> <https://twitter.com/share?url=http://www.sandiegouniontribune.com/news/2016/aug/05/sdge-pipeline-pressure/&text=State%20orders%20pressure%20reduction%20in%20gas%20pipeline&via=sdu> <http://www.reddit.com/submit?url=http://www.sandiegouniontribune.com/news/2016/aug/05/sdge-pipeline-pressure/&title=State%20orders%20pressure%20reduction%20in%20gas%20pipeline> <http://www.sandiegouniontribune.com/news/2016/aug/05/sdge-pipeline-pressure/> <http://www.sandiegouniontribune.com/news/2016/aug/05/sdge-pipeline-pressure/all?print> State regulators have ordered San Diego Gas & Electric to immediately reduce the pressure inside one of its gas pipelines, saying information they received from the utility convinced them the 16-inch line could no longer be operated at the higher capacity without risk. Neither the California Public Utilities Commission nor SDG&E would say what prompted last month's order, which directed the utility to lower pressure by 20 percent. It also required the company to speed up inspections, replace a segment of the pipe and perform surveys to detect possible leaks. "These directives are effective immediately," Executive Director Timothy Sullivan wrote to SDG&E on July 8. "Please confirm in 4 working days that SDG&E will implement these as expeditiously as possible." Document - <http://www.sandiegouniontribune.com/documents/2016/aug/05/letter-cpuc-regarding-line-1600> Description: <http://cdn.sandiegouniontrib.com/img/news/documents/2016/08/05/UT1800747_p900x493_1_t180.jpg?6ec45598a0efd272cf6d6631efc8bbae7a2ee9181> Letter from CPUC regarding Line 1600 <http://www.sandiegouniontribune.com/documents/2016/aug/05/letter-cpuc-regarding-line-1600> Download PDF <http://cdn.sandiegouniontrib.com/news/documents/2016/08/05/07-08-16_Letter_to_SDGE_re_reducing_pressure_on_Line_1600.pdf> The utility lowered the pressure in Line 1600 to 512 pounds per square inch the next day. The line, which dates back to 1949, runs from Fallbrook to San Diego. SDG&E also said it accelerated the line's inspection schedule and planned to replace the segment identified by the commission before the end of December. Company officials also said they would continue bi-monthly checks and alert regulators to any leaks. "Our top priority for our customers and our employees is safety," the utility said in a statement. "SDG&E has an obligation and a commitment to continue to provide safe and reliable service to our customers in San Diego." The utilities commission has made pipeline safety a high priority since 2010, when a Pacific Gas & Electric pipeline explosion in San Bruno killed eight people and destroyed dozens of homes. The blast prompted stricter rules for operating pipelines. It also led to a \$1.6 billion civil penalty and criminal charges against PG&E. The San Francisco-based utility has denied all charges and a jury has been deliberating the criminal case since early last week. [week of 8/1] It is not clear what specifically prompted Sullivan to order SDG&E to reduce the pressure in Line 1600. Utilities commission spokeswoman Terrie Prosser issued a statement saying the order was based on unspecified information disclosed during a review of SDG&E's application for a new \$600 million pipeline the company wants to build between Rainbow Valley and Miramar. "While there was no indication of an immediate safety threat, SDG&E made statements in a 15-09-013 that CPUC staff found to be indicative of potential issues in the future and decided to take steps to mitigate safety risks," the statement said. "SDG&E has been cooperative." San Diego Gas & Electric and Southern California Gas, two regulated subsidiaries of San Diego-based Sempra Energy, want to replace the aging Line 1600 with a nearly 50-mile pipeline capable of pushing more natural gas through San Diego County and beyond. The utilities currently rely on two primary lines to move natural gas across San Diego County — Line 1600 and Line 3010, which carries up to 90 percent of the load. Critics point to that disparity in saying Line 1600 could shut down without a notable impact to service reliability. The company plan calls for replacing Line 1600 with a 36-inch pipe running generally along the east side of Interstate 15 from Riverside County to Marine Corps Air Station Miramar. The new line would be more than twice the size of its predecessor. The application, filed with the utilities commission in September, drew opposition from consumer and environmental groups, who said the project is unnecessary, would raise costs and may instead be intended to boost Sempra's international business interests. Proposed pipeline Description: <http://cdn.sandiegouniontrib.com/img/photos/2015/10/12/sd-fi-pipeline-cost-02.png> Critics point out that the utility monopolies make little to no money providing energy to customers, but are approved by the utilities commission to receive investment returns on infrastructure investments, so it is in their economic interest to keep developing more pipes, wires and pipelines. They also note the new pipeline application comes as policymakers are working to reduce greenhouse gas-emitting fuel sources and consumer demand for natural gas is estimated to keep diminishing over the next decades. "California ratepayers should not foot the bill for costly new fossil fuel infrastructure investments that are, or will soon become, stranded assets, and whose benefits appear primarily intended to flow to Sempra's unregulated subsidiaries," Sierra Club attorney Matthew Vespa wrote in a commission filing. As evidence, the Sierra Club cited Sempra Energy annual reports, which say there is enough natural gas for the country to become a net exporter and Sempra is "evaluating the economics of converting" its liquefied natural gas import terminal in Baja California to an export operation. Such a move would provide a "first mover advantage on West Coast of North America" and a "location/shipping cost advantage for Asia," Sempra Energy President Mark Snell told analysts at a 2014 conference, but would require "additional pipeline capacity." Sempra as a company is very bullish on gas exports," Vespa said in an interview. "They're looking to lock in as many reliable sources as they can. This (new pipeline application) is not about need." Utility officials rejected the Sierra Club assertion and said the new pipeline is part of an overall strategy to improve operations, which they call the Pipeline Safety & Reliability Project. "SDG&E has no plans to use the proposed pipeline to export gas to Mexico, as this pipeline is needed for safety and reliability in San Diego," the company statement said. "The need for this project is distinct and separate from the business goals of any other project or company." Utility officials said even with the looming transition away from fossil fuels, natural gas will play an important role in the energy sector for many years to come. "Customers rely on natural gas every day to meet a variety of needs, from home and water heating to cooking, electric generation to transportation," SDG&E said. "In addition to the millions of residents, small businesses and advisors that rely on natural gas every day, San Diego's top natural gas customers include the military, hospitals and electric generators." In addition to protests from consumer organizations and environmental groups, the city of Long Beach

has raised concerns. The city is one of the largest municipal gas utilities in the country and relies on Southern California Gas for service. "SoCalGas' estimated rate impact on the (transportation) rate is an increase of 51 percent," lawyers for Long Beach told the commission. "The 51 percent increase is in addition to the 17.3 percent (transportation) rate increase the applicants are currently requesting." In June, three weeks before Sullivan ordered the pressure lowered on Line 1600, the commission's Office of Ratepayer Advocates filed a motion urging regulators to reject the new pipeline. "Applicants' own information fails to show the need of the proposed project," the ratepayer advocate argued in its motion, rejected weeks later by a utilities commission judge. The Utility Reform Network, or TURN, said SDG&E and Southern California Gas have not demonstrated a need for additional pipeline capacity. Lawyers at the San Francisco consumer group said Line 1600 can be safely operated after appropriate testing. "Sempra had promised to hydrotest this line several years back, but it has failed to hydrotest because it prefers to replace the line," TURN staff attorney Marcel Hawiger said. "Given the lack of a hydrotest, the (commission) properly required a pressure reduction and additional measures until the decision on whether to hydrotest or replace is made." The utility said the Natural Gas Pipeline Safety Act of 2011, enacted in the wake of the San Bruno explosion, calls for Line 1600 to be tested or replaced, and constructing a new pipeline is a more appropriate solution. "SDG&E is still required by law to either 'pressure test' or 'replace' the pipeline," the company said. "We believe the Pipeline Safety & Reliability Project, which was filed more than 10 months ago, is the long-term solution for implementing safety measures and increasing reliability." The commission has yet to schedule a hearing on the pending application.

PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3298



July 8, 2016

Lee Schavrien
San Diego Gas & Electric Company
488 8th Avenue
San Diego, CA 92101

RE: Reducing Pressure on Line 1600

Dear Mr. Schavrien:

The Commission has received information in response to the Safety and Enforcement Division's and the Energy Division's data requests regarding SDG&E's Line 1600 in connection with Application (A.) 15-09-013. Line 1600, which was constructed in 1949, currently operates as a transmission line. To ensure the safety of the public and the safe operation of San Diego Gas & Electric's (SDG&E) natural gas transmission Line 1600, while maintaining reliability of natural gas delivery to SDG&E's customers, I direct SDG&E to do the following:

- Reduce pressure on Line 1600 to 512 psig, which represents a 20% reduction from design-based maximum allowable operating pressure (MAOP),
- Perform In Line Inspections (ILI) of Line 1600 using identical technologies as in your previous ILI run and compare the results with the 2012-2015 ILI data,
- Replace segment from Engineering Stations "17-131" on Line 1600; and
- Perform Quarterly Instrumented Leak Surveys on the entire transmission Line 1600.

These directives are effective immediately. Please confirm in 4 working days that SDG&E will implement these as expeditiously as possible. If SDG&E believes that complying with these directives may pose any risk to maintaining service reliability for its customers, it should provide supporting information within 4 working days to my office.

In addition, please provide a timeline for submitting the quarterly leak survey results and a plan in advance of the ILI work as well as the design and construction plan of the segment replacement for Engineering Stations 17-131 to the Safety and Enforcement Division. We plan to bring this action before the Commission as soon as possible for ratification in a manner that provides an opportunity for comment.

If you have any questions, please contact me or Deputy Executive Director Maryam Ebke at (415) 703-2271.

Sincerely,

A handwritten signature in blue ink that reads "Timothy Sullivan". The signature is written in a cursive style with a prominent initial "T".

Tim Sullivan
Executive Director

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: SDG&E Pipeline Project
Date: Friday, May 26, 2017 1:45:50 PM

Hello, I am writing to voice my opposition to the proposed New Natural Gas Line 3602 running within Pomerado Road.

I am concerned about the safety of running a pipeline within Pomerado Road adjacent to many homes, schools, and a hospital. A newly constructed pipeline built to high safety standards doesn't necessarily translate to a safe pipeline over the long term. My understanding is that the current pipeline is outdated and has serious flaws. So, SDG&E currently operates a pipeline that could have a catastrophic failure. Given enough time, it is easy to make the assumption that the new pipeline would have the same risk. And SDG&E is already responsible for the 2007 fire that affected many residents living near Pomerado Road.

Why build a bigger pipeline (with potentially more risk) in such a densely populated residential area? And how can the pipeline be constructed so close to the hospital? What would happen if an event such as an earthquake affected the pipeline and then blocked access to the hospital?

Additionally, in the near future, I am concerned how construction will impact traffic and/or noise along Pomerado Road.

Finally, I am concerned about how the cost of this new pipeline will be passed on to existing utility customers.

Thank you for your attention.

Sincerely,

[REDACTED]
[REDACTED]

██████████
Private consumer

San Diego, CA ██████████

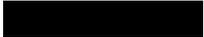
I have been hiking in Mission Trails Park regularly since moving to San Diego in 1984. It is truly an oasis in San Diego and we are extremely fortunate to have such a natural environment right in our own back yard. Please don't spoil it. It's so hard to find anywhere natural and we already have it. PLEASE DO NOT PUT YOUR GAS PIPE IN OUR BACK YARD. PLEASE KEEP IT PURE.

[REDACTED]

[REDACTED]

Why when the rest of the competitive Western world is moving towards renewable energy, are we going backwards? California's climate plans require us to transition rapidly from fossil fuels to renewable energy - cutting emissions to 80% below 1990 levels by 2050. Building unnecessary new fossil fuel infrastructure runs completely counter to those goals, which polls show Californians strongly support. We want to see investment in local renewable energy projects instead. SDG&E has acknowledged that the existing and much smaller pipeline [16 inches] this proposed 36 inch pipeline would replace can operate reliably for at least another 20 years. It should be pressure tested to confirm it is reliable, as required by California law, and kept in operation as the CPUC's Office of Ratepayer Advocates is recommending. SDG&E should also follow the CPUC recommendations to regularly test for leaks and proper operations using the latest technology. Natural gas usage is already in steep decline in California, projected by SDG&E to drop about 15 percent over the next 10 years. The pipeline is not needed in San Diego. It would be a financial windfall for SDG&E and would serve as a major gas supply for Sempra's proposed liquefied natural gas export facility near Ensenada. The CPUC should not force ratepayers to subsidize Sempra boondoggles that are unnecessary and don't support California's climate plan. The pipeline cost is estimated at over \$600 million, which customers will be paying for until 2063. The short two-week notice given by the CPUC for these public participation meetings is a good way to ensure as little public participation as possible. I'm asking the CPUC to reject the proposed pipeline. Thank you.



I have enjoyed mountain biking in the canyons and hills around Goodan Ranch and Sycamore Canyon Open Space for 29 years. I'm 86 now, but I hope to find the area in its natural state for many more years. Please do not disturb it with a pipe line. 



[REDACTED]

[REDACTED]

I am worried about what this pipeline will do to the flora and fauna of MTRP. I am NOT in favor of the pipeline being redirected here!

[REDACTED]

[REDACTED]

I have concerns about this new pipeline with respect to those portions that will be run under Pomerado Road, and I am opposed to the placement of the new pipeline under Pomerado Road. For many of the neighborhoods located off of Pomerado Road, including the "Montelena" neighborhood where my family and I reside, the only means of ingress and egress from the neighborhood is via Pomerado Road. This means that in the event of an emergency, the only way the Montelena residents (as well as for numerous others living off of Pomerado Road) could evacuate is via Pomerado Road. Clearly this presents a serious safety issue if an evacuation was needed due to a problem with the pipeline under Pomerado Road. Moreover, there are various schools, medical facilities, and Pomerado Hospital itself which are all located right off of Pomerado Road. Again, should there be a problem with the pipeline, this puts these facilities in grave danger, as well as those who need to get to or leave these facilities. The proposed pipeline should be re-routed through a less populated area, not one as busy as Pomerado Road where numerous residents will be subject to great risk should an emergency situation occur with the pipeline.

[REDACTED]

[REDACTED]

I have concerns about this new pipeline with respect to those portions that will be run under Pomerado Road, and I am opposed to the placement of the new pipeline under Pomerado Road. For many of the neighborhoods located off of Pomerado Road, including the "Montelena" neighborhood [REDACTED], the only means of ingress and egress from the neighborhood is via Pomerado Road. This means that in the event of an emergency, the only way the Montelena residents (as well as for numerous others living off of Pomerado Road) could evacuate is via Pomerado Road. Clearly this presents a serious safety issue if an evacuation was needed due to a problem with the pipeline under Pomerado Road. Moreover, there are various schools, medical facilities, and Pomerado Hospital itself which are all located right off of Pomerado Road. Again, should there be a problem with the pipeline, this puts these facilities in grave danger, as well as those who need to get to or leave these facilities. The proposed pipeline should be re-routed through a less populated area, not one as busy as Pomerado Road where numerous residents will be subject to great risk should an emergency situation occur with the pipeline.

[REDACTED]

[REDACTED]

TRAFFIC Pomerado road goes through Rancho Bernardo, Poway, and Scripps Ranch. The impacted areas during construction would include: Palomar Pomerado Hospital, medical clinics, many schools, churches, stores, convalescent facilities, and a fire station. Many of these institutions have no outlet but Pomerado Road.

[REDACTED]

[REDACTED]

RATE PAYER CONCERNS SDG&E will charge rate-payers for the cost of construction. The no project alternative is roccomended. The cure-in-place lining systems are adequate to repair. Existing systems are much cheaper. No increase in natural gas use is projected for San Diego. Existing smaller gas lines should continue to be used.

[REDACTED]

[REDACTED]

PUBLIC SAFETY THE PIPELINE SAFETY AND RELIABILITY PROJECT IS A MISNOMRE. Expanding the pipeline from 16 to 36 inches is a risk to public safety for the following reasons. Increased traffic near vulnerable locations (hospitals, schools, fire station etc) during construction. Potential "Blast Zone" near vulnerable locations (same as above) once pipeline is in place.



We do not need another gas line. Least of all we do not need a gas line to be run through Poway and Goodan Ranch. Please do not do this! Thank-you!

[REDACTED]

[REDACTED]

I oppose both alternative routes of the proposed gas pipeline (Line 3602). Alternative routes through Mission Trails Regional Park and surrounding park expansion areas are not acceptable. The first proposed alternative would disrupt the use of and degrade Mission Trails Regional Park's West Sycamore Area including parts of the new Stowe Trail, as well as the Goodan Ranch, and Fanita Ranch. These preserved areas and parklands are used by hundreds of visitors daily. Maintaining the integrity of the preservation of these natural lands is imperative for existing wildlife, flora, and habitat. The second proposed alternative is equally unacceptable and would degrade Mission Trails's Spring Canyon and East Fortuna Staging Area, and also East Elliott, part of MTRP's larger ecosystem. The park and its surrounding expansion area must be protected. A new gas pipeline does not belong in these natural habitats which are used recreationally by park visitors. Please drop or oppose these alternative routes. Thank you.



It is appalling that this is even up for consideration. Mission Trails is a beautiful and special place in a city that has been continuously overbuilt and mismanaged. We have a jail, a dump, horrificly maintained streets, and traffic that is turing our once charming town into a daily nightmare. Mission Trails is the one place that we can still find solitude and peace. It is vital to preserve and maintain this ecosystem not only for us, but for the many animals that call it home. The potential damage, and danger to the area is inappropriate, and not necessary. Please reconsider this action, and make a decision that your conscience can live with.



Natural Gas is literally a fossil industry, in that it is based on ancient technology no longer relevant to modern standards, beliefs or demand. Please, please, please DENY this project. Sometimes I think that SDG&E, a monopoly that is investor-based, just throws project ideas against a wall to see what will stick, and how much money they can extort from rate-payers. Do not allow them to continue this ill-fated game. Say NO to this Natural Gas Line which is increasingly more and more unnecessary as San Diego moves towards a solar- and wind-powered future.



As an SDG&E customer and concerned resident of San Diego, I urge the CPUC to stop Sempra, proposed new pipeline running south from Rainbow (on the San Diego/Riverside county line) to Miramar. I understand that the project's estimated cost, which will be borne by customers, is over \$600 million and customers will be forced to pay for the pipeline on their bills until 2063. There is no evidence or legitimate rationale for the project is of providing gas supply in the event the existing large line serving San Diego goes out of service. The fact is this last occurred in 1985 for one day only and SDG&E has the ability to import gas through Otay Mesa on the Mexican border if needed. This is unneeded fossil fuel infrastructure runs counter to our movement globally and locally toward clean energy. Customers see this as a maneuver by dying fossil fuel industries to chain the public financially for years to come. Please stop the Pipeline.

,

Keep existing line!!! DO NOT go into Goodan Ranch Sycamore Canyon



Please do not allow SDGE to destroy Sycamore Canyon/Goodan Ranch Open Space preserve. So much history will be lost, along with one of the last truly unique spaces in San Diego County. The approval of a new pipeline through the preserve would wipeout the last Oak Grove in Goodan Ranch that survived the 2003 fire. It would possibly damage Native American sites. Myself and many others use Sycamore Canyon/Goodan Ranch as a sanctuary of sorts. A place you can't get in crowded Mission Trails, or anywhere else in the county. Also consider all the other alternative routes. Miramar has plenty of space, Kearny Mesa Rd is a direct route to mission valley that wouldn't destroy the natural landscape that is Goodan Ranch. Someday, I want my grandchildren to know what San Diego used to look like before people moved in. Goodan Ranch may very well be the last place with that feel.



RE: Pipeline Safety and Reliability Project (Application No. A.15-09-013) I oppose both alternative routes of the proposed gas pipeline (Line 3602). Alternative routes through Mission Trails Regional Park and surrounding park expansion areas are not acceptable. The first proposed alternative would disrupt the use of and degrade Mission Trails Regional Park's West Sycamore Area including parts of the new Stowe Trail, as well as the Goodan Ranch, and Fanita Ranch. These preserved areas and parklands are used by hundreds of visitors daily. Maintaining the integrity of the preservation of these natural lands is imperative for existing wildlife, flora, and habitat. The second proposed alternative is equally unacceptable and would degrade Mission Trails's Spring Canyon and East Fortuna Staging Area, and also East Elliott, part of MTRP's larger ecosystem. The park and its surrounding expansion area must be protected. A new gas pipeline does not belong in these natural habitats which are used recreationally by park visitors. Please drop or oppose these alternative routes. Thank you, 



Absolutely against this pipeline going across public park land, or thru the city of Santee. This is a government pipeline and should be routed through government land (i.e. Miramar MCAS).

[REDACTED]

[REDACTED]

Do not take away some of the last open land easily accessible in the county for a pipeline.

[REDACTED]

[REDACTED]

Please don't have this go through our neighborhood.




The alternative route through Santee/Mission Trails is a terrible idea and potential environmental disaster. This public space is one of the few natural habitats enjoyed by wildlife and residents. It also includes historical Kumeyaay sites of importance. If the pipeline needs to be built, it should be build on already developed land.



I think this is a terrible idea to put in a pipeline that will cut through our very important bike paths.

[REDACTED]

[REDACTED]

Please do not disrupt or destroy any hiking and recreation areas in Mission Trails.



I am submitting the following comments in opposition to the proposed New Natural Gas Line 3602, as follows: 1) Recommended Alternative: No Project 3602. Instead, test and repair existing line 1600 since it will soon become obsolete itself. REASONS FOR ALTERNATIVE RECOMMENDATION. 1) Pipeline 3602 is slated to run through an area that is highly prone to fires and has been devastated 3 times in the last 10 years by such fires that have led to disasters to the environment, local economy, and cost loss of human and animal lives. Placing this pipeline where it is suggested would cause much larger damage the next time another fire happens. 2) Pipeline 3602 is slated to run through a very heavily populated area, specially in zip codes 92128, 92064 and 92131, that along with the remaining zip codes of the various affected areas are inhabited by approximately 300,000 people, 2/3rds of whom are within a mile of the proposed line, 1/3rd within 200 yards. Pomerado Road is hugged on both sides by high density housing, and one of the largest 55+ senior communities in the state of California, in 92128/92064 zip codes. Any mishap would devastate the area, even a minor one. 3) As a result of its proposed location Pipeline 3602 will have negative effects on air quality during its installation as well in the event of any accident as a result of pipeline puncture due to an earthquake (prone area), utility mishap, equipment failure, etc. 4) It would inadvertently worsen area traffic problems already in existence due to the small size of Pomerado Rd and surrounding roads in the context of the high population density of the area on both a temporary and permanent basis. 5) There are numerous schools that are located within 1,000 feet of the proposed pipeline route, specially in the zip 92131 (Chabad school, Jerabek Elementary and Marshall Middle School) to mention some. 6) SDGE/Sempra is already planning a high power, underground, transmission line, to pass through some of the same parts of Pomerado Rd as the proposed gas line route. 7) Proposed Pipeline passes very closely to a number of heavily frequented recreation areas and parks as well in zip codes 92029, 92128, 92064 and 92131. 8) The initial cost of the pipeline, in 2015, was in the \$550 million range, it now stands at @669 million and will likely reach 1 BILLION by proposed construction time in 2020, cost that will be paid by many fixed income seniors in the affected communities that can not afford to and which will affect the rest of their economic lifestyle/survival. 9) This line is being rendered unnecessary/obsolete, as we speak, due to the following facts, from the California Energy Commission's site. a) Natural Gas use in San Diego County has declined from 2010 to 2015, from 560.8 millions of Therms to 464.5 millions. b) Energy usage has only increased from 18978.25 GWh to 19781.18, or 4.2% at the same period, while c) Population increased 6.6% from 3.095.342 to 3.299.521, implying rising energy efficiencies, d) Sempra energy has increased the production of RENEWABLE energy provided to 40% of total from 30% in just 3 years (14-16) according to the CEO and the annual reports, e) Patrick Lee, a Sempra energy VP, clearly stated, on May 25th, at UCSD, in a speech, that Sempra is presently capable of providing 100% of its energy from renewable sources, f) Various state laws and the De Leon proposal that will make 100% renewable energy mandatory in the state by 2045, will make this pipeline obsolete, as well, before its economic life use, g) Rooftop Solar Energy, alone, as part of San Diego energy consumption has reached 200.2 MegaWatts as of 5/24/2017 and is rapidly

increasing, as well. For the proposed expense for pipeline 3602, Sempra can install rooftop solar systems in over 10% of the county's housing units, doubling coverage and benefiting the environment. Thank you.

[REDACTED]

[REDACTED]

As a homeowner [REDACTED] in Santee, I do not want gas pipeline anywhere close, possible danger factor. As someone who enjoys Mission Trails often, I do not want gas pipeline. The construction would cause severe damage to terrain, plants & dislocation of native wild life. The construction would take away access to area for too long and be an eye sore.

[REDACTED]

[REDACTED]

Please don't route pipelines through MTRP or wild land. It's not necessary.



As a resident of Oaks North community the pipeline will directly impact our community. Our only route in and out of our community is Pomerado Road. This same stretch of road which is our direct line anywhere also is used by Caltrans as an alternate route when the I-15 is blocked and is used by all the offices and business in South Poway as a direct route to the I-15. There is Pomerado Hospital on this road along with a fire station an assisted living facility and St. Michael's School, a children's soccer field, plus several shopping centers. This is not only a wrong place to be placing this pipeline, but will also be putting the residents and all the community services in great jeopardy by allowing this to proceed.



The proposed pipeline would cut off access to a lot of open space that is used by many different groups.

[REDACTED]

[REDACTED]

I truly hope no one is even considering putting a gas pipeline on Pomerado Rd. . The existing pipeline is out of that area FOR A GOOD REASON! No only is it an escape route for RB and Poway, but it is used extensively for school bus routes as well as commuters. It is a densely populated area. The Danger to the public needs to be addressed, as well as the disruption to the communities it will impact. PLEASE do not approve a time bomb for Pomerado Rd.



Please keep to SDG&E's proposed plan for the proposed pipeline route - not through Mission Trails Park, a beautiful unspoiled area. In addition to being perhaps the most popular nature park in San Diego, it's also home to a lot of wildlife not seen elsewhere. If you would like a tour of this area, please let me know and one will be arranged.

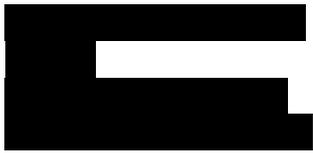
[REDACTED]

[REDACTED]

I oppose the new pipeline construction alternate route through the regional park and the city of Santee. It's a ridiculous idea. Only even entertained because the Marine Corp is crying about the best route coming through their uninhabited land that's already destroyed with military drills. Selecting this alternate route will never be accepted by the citizens who will be impacted by such a maneuver. It will be challenged every step of the way. Please use common sense (lacking in government these days) to come to the correct decision. Don't bow to pressure from the US military. Thank you

Stephen Zolezzi
Food & Beverage Association of SDC
3110 Camino Del Rio South #215
San Diego, CA 92108

California Public Utilities Commission, Concerning the New Natural Gas Line 3602 and De-rating Line 1600--- On behalf of the Food & Beverage Association Board of Directors and our over 1200 member Hospitality businesses in San Diego County we wholeheartedly support the proposed new line which will help insure safe and adequate supplies of natural gas to our region. It's instillation is long overdue and proposed path is well planned to be most efficient and least disruptive to our businesses. Stephen A Zolezzi President, Food & Beverage Association of San Diego County 619 228 2291 fbasd@foodnbeverage.org



I attended the CPUC Scoping meeting at Alliant University in Scripps Ranch, 92131 on 25 May 2017 and I am very interested in the routes discussed as likely options for the Natural Gas Line. My comments are directed at the options that will affect Scripps Ranch traffic and safety issues. If any of the the Pomerado Road options (from Scripps Poway Road towards Interstate Highway (I-15), are selected then I expect the lengthy installation period will significantly affect traffic flow especially during peak traffic hours. Pomerado Road is a two lane road with a number of traffic intersections..in addition to the fact that it winds in several places making traffic visibility difficult. Further, Pomerado Road is a documented Fire / Emergency Evacuation Route critical for the safety of a large number of Scripps Ranch residents (2003 Cedar Fire, 2007 Witch Creek Fire, for example) in addition to a very high number of Poway and Ramona evacuees. During those evacuations very heavy traffic congestion existed even without the added construction interference that this project will cause. In 2003, the Eucalyptus trees on both the north and south sides of Pomerado Road burned. The trees have re-grown in even greater numbers/density. Further, the adjacent Federal Wetlands along the south side of Pomerado Road increase the likelihood of those conditions being repeated during an emergency because it has precluded significant clearing of existing non-native trees (Eucalyptus, Mexican Palms). I would like to request that CPUC include the safety issues associated with the Evacuation Route, density/closeness of highly flammable trees, and extremely limited options for evacuating a large population under those emergency conditions.

[REDACTED]

[REDACTED]

I am against the natural gas pipeline down our street - Encino Drive to Bear Valley. My concerns are about safety during the installation and afterwards. There are schools in this route and a church that will be affected. Felicita and Encino is a busy narrow street. Bear Valley is very busy thoroughfare bringing traffic from Valley Center and East Escondido to get on I 15. There is an alternative route for this pipeline and this is to continue down Centre City and then on to S. Escondido Blvd. Is the pipeline even needed?



The gas pipeline should NOT be routed through such highly populated areas of Escondido, Poway and Scripps Ranch, as is being suggested. While the consumers no doubt will be paying for this, safety should still be the main concern, and the route of the pipeline, though more costly, should be routed through less populated areas. My wife and I oppose the currently suggested route. Please keep us informed of ALL pending and future developments. Thank you.





SAN DIEGO

CA 920 SAN DIEGO CA 920

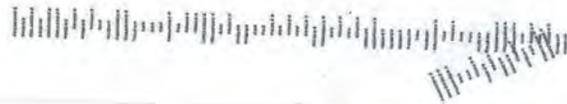
26 MAY '17

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Robert Peterson
CPUC - RE: Pipeline Safety + Reliability Proj.
% Ecology + Environment, inc
505 Sansome St. Ste. 300
San Francisco CA 94111

94111-015575



May 24, 2017

Robert Peterson
California Public Utilities Commission
RE: PIPELINE SAFETY AND RELIABILITY PROJECT
C/O Ecology and Environment, Inc.
505 Sansome St. Suite 300
San Francisco CA 94111

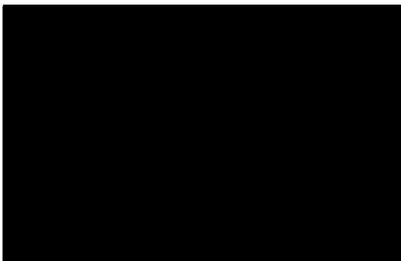
RE: PIPELINE SAFETY AND RELIABILITY PROJECT - NEW NATURAL GAS LINE
3602 (APPLICATION NO. A.15-09-013)

I oppose both alternative routes of the proposed gas pipeline (line 3602).
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The second proposed alternative is equally unacceptable and would degrade Mission
Trails Spring Canyon and East Fortuna Staging Area, and also East Elliott, part of
MTRP's larger ecosystem. The park and its surrounding expansion area must be
protected. A new gas pipeline does not belong in these natural habitats which are
used recreationally by the numerous visitors to the park.

Thank you,



CORPORATE
PROFIT over
PLANET & PEOPLE

SOLAR IS THE WAY

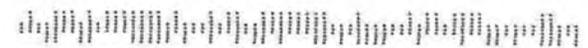
SAN DIEGO CA 920

22 MAY 2017 PM 9 L



CA Public Utilities Commission
c/o Ecology Safety & Reliability Project
505 Sansome St. Suite 300
SAN FRANCISCO CA 94111

94111-015575



5/22/17

Robert Peterson
California Public Utilities Commission
RE: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

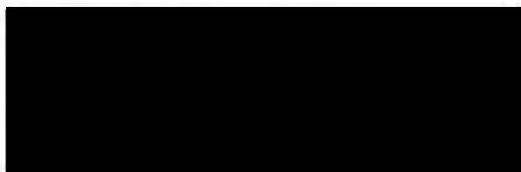
RE: Pipeline Safety and Reliability Project – New Natural Gas Line 3602 (Application No. A.15-09-013)

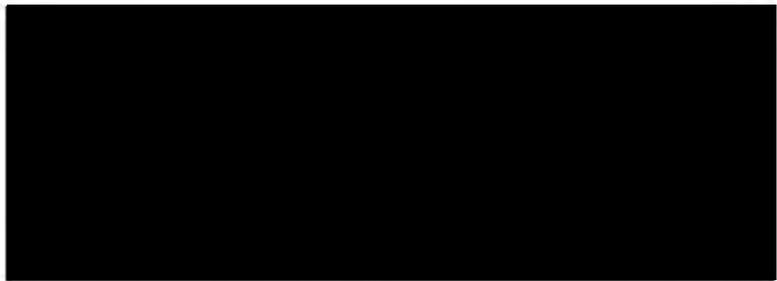
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Please drop or oppose these alternative routes. Thank you.





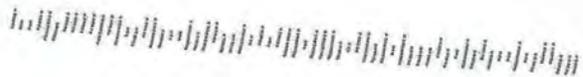
SAN DIEGO CA 920

26 MAY 2017



Robert Peterson
CPUC - RE: Pipelines Safety & Reliability Project
c/o Ecology & Environment, inc.
505 Sansome St. Ste 300
San Francisco, CA 94111

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May 24, 2017

Robert Peterson
California Public Utilities Commission
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C/O Ecology and Environment, Inc.
505 Sansome St. Suite 300
San Francisco CA 94111

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protected. A new gas pipeline does not belong in these natural habitats which are
used recreationally by the numerous visitors to the park.

I have lived in Santee for over 40 years and have enjoyed Mission Trails Park
throughout these years: by myself, with family and friends, and with my dogs. It is
a place to 'escape' to that is nearby. It restores my spirit, provides me with the
bond to nature we all need (whether we realize it or not), allows me to share nature
with family and friends. It's a lot more fun to get your exercise walking the many
trails in the park than on a treadmill in Family Fitness.

My three nephews walk the trails with me, we have picnics of peanut butter
sandwiches and bananas, nuts and prunes, etc. We just sit on rocks under a shade
tree and enjoy. We've seen lizards, bunnies, coyotes, hawks, nesting birds (with
binoculars), turtles in the pond by the campground, butterflies, wildflowers, Indian
grinding rocks, the river after a rain when streams run into it, or when it's low
during the drought. We have walked the trails in different seasons, at different

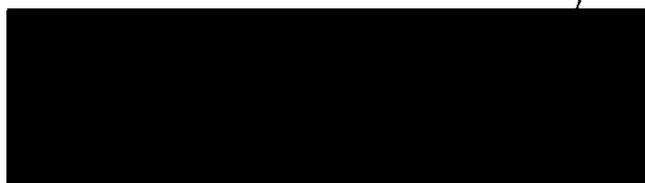
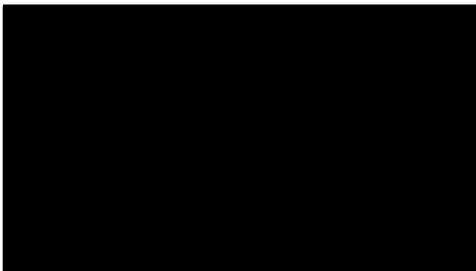
times of the day, in different weather. Each visit is a unique experience. It's a place where 'play' doesn't have to be 'structured'. Kids can throw rocks in the river and see who makes the biggest splash. They can throw a stick in the river on one side of a bridge and run to the other side of the bridge to see where the stick comes out (these things are FUN...remember??)

I believe my love of nature and the outdoors stems from my experiences as a child. I had an aunt who would take my brother and me for walks in and around a nearby creek. We had many adventures. Sometimes the creek was dry, but after a rain, we would create makeshift rafts with old scraps of wood and inflated inner tubes (remember when tires had tubes). We'd use sticks to move along in the water like Huckieberry Finn..ha ha. Anyway, I want to pass this important value on to the next generation.....I started with my nephews, and will continue now that I have a little granddaughter.

I have so many memories, I could go on and on, but I think you get the picture. This is a place that is not to be spoiled. You must visit before you make a decision., and you will see that you can't allow this wonderful place and surrounding areas to be marred by inserting a gas line where it doesn't belong.

Let's keep Mission Trails Regional Park the haven that it is.

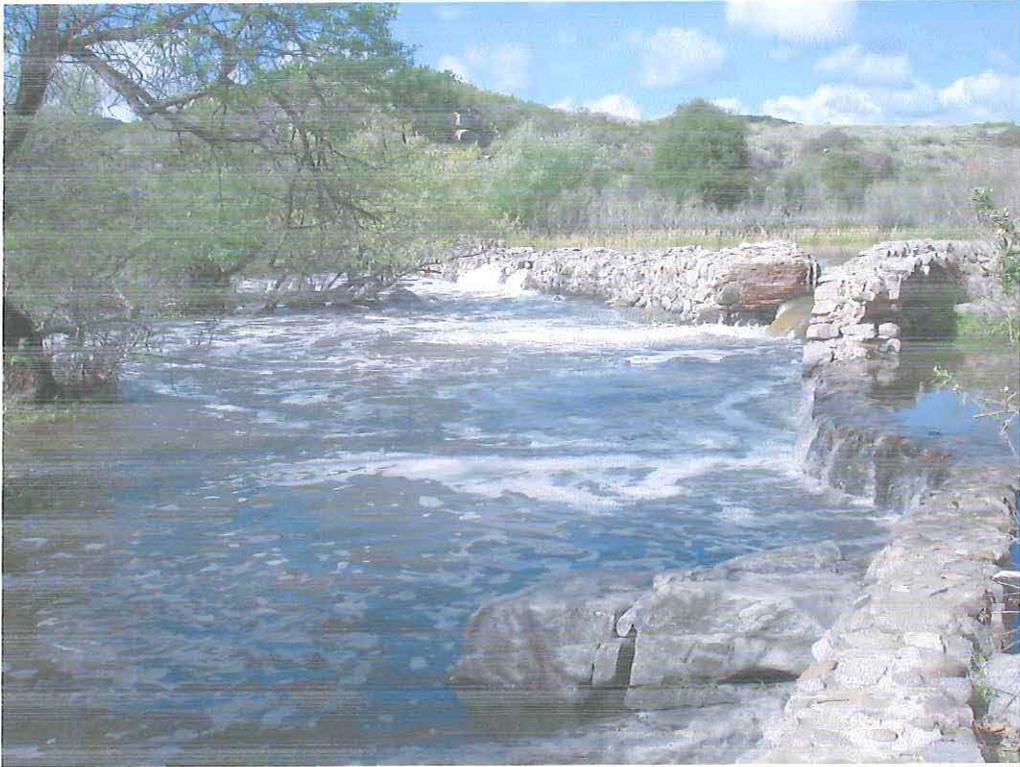
Thank you,



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Untitled

SDG&E and SoCalGas have applied to the CPUC to build a new natural gas pipeline from Rainbow through MCAS Miramar to Mission Valley. Miramar is requesting alternative pipeline routes through Mission Trails Regional Park, East Elliott, and Goodman Ranch INSTEAD of through Miramar. The alternative routes would be a major degradation to our natural areas and a disruption to park visitors and native flora and fauna. They are unacceptable.

KEY ACTION ITEM: The number one action is to send an email or letter NOW - before the close of public comments on June 12. Your letter should explain why the pipeline should NOT travel through MTRP, East Elliott, or Goodan Ranch.

You may use the brief letter below (copy and paste) or (better) craft your own letter. ***Be sure to add your name and city to the bottom of the drafted letter below.

EMAIL your letter to SDGaspipeline@ene.com OR submit comments online here: <http://sdgaspipeline.cores.ene.com/SubmitComment/>

DETAILS: A 36" high pressure natural gas "transmission line" is being built from Rainbow to Mission Valley to replace the 70 year-old pipeline currently in use. Unfortunately, Colonel Woodworth, the Miramar CO, wants the California Public Utilities Commission (CPUC) and SDG&E to consider alternative routes that avoid Miramar completely. The two alternative routes would impact MTRP, the Goodan Ranch, and the City of Santee.

SDG&E would like the pipeline to pass through Miramar providing the cheapest and most direct route for this infrastructural upgrade project. However, without action by the affected communities, the alternatives could become reality.

The two alternative routes proposed by SDG&E pass through MTRP and the City of Santee. The first alternative route travels from Poway through the MTRP West Sycamore Area, the Goodan Ranch, the Fanita Ranch Property, under Fanita Parkway, turning west under Carlton Oaks Blvd, and terminating at the Rumson Rd Natural Gas Pipeline access point. The second alternative route travels from Poway through East Elliott, down MTRP's Spring Canyon, through the East Mission Trails Staging Area, under the SR-52/Mast intersection, under the West Hills Pkwy/Mast intersection terminating at the Rumson Rd Natural Gas access point.

Both of these alternatives are unacceptable! SMT will oppose this project through the grassroots methods which we employed to stop the Quail Brush Power Plant! That means YOU taking action NOW. If this Transmission Pipeline is placed in Santee and MTRP, we have strong concerns that another Power Plant proposal will follow.

MORE INFO: View the SDG&E's pipeline project website or the CPUC's PSRP website.

ADDITIONAL ACTIONS TO TAKE:

A) ATTEND a PUBLIC SCOPING MEETING to comment in writing or verbally. The May 25 meeting is in San Diego. These meetings provide another opportunity to comment and share info on the proposed project and the environmental review.

The public scoping meetings will be held from 2:00 to 4:00 p.m. AND 6:00 to 8:00 p.m., each day, at the following locations:

Tuesday, May 23, 2017

Pala Mesa Resort, Ballroom, 2001 Old Highway 395, Fallbrook, CA 92028

Wednesday, May 24, 2017

Park Avenue Community Center, Auditorium 210 E. Park Ave., Escondido, CA 92025

Thursday, May 25, 2017

Alliant International University, San Diego Campus, Green Hall, 10455 Pomerado Road, San Diego, CA 92131

Project Name: Pipeline Safety and Reliability Project - New Natural Gas Line 3602 and De-rating Line 1600 (PSRP) Environmental Impact Report (EIR) Notification - Legal Notice process. (Application No. A.15-09-013)

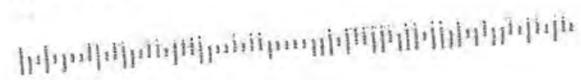
SANTA ANA CA 926

27 MAY 2017 PM 3 L



Robert Peterson
California Public Utilities Commission
RE: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

94111-315575



Robert Peterson
California Public Utilities Commission
RE: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

RE: Pipeline Safety and Reliability Project – New Natural Gas Line 3602 (Application No. A.15-09-013)

Dear Mr. Peterson,

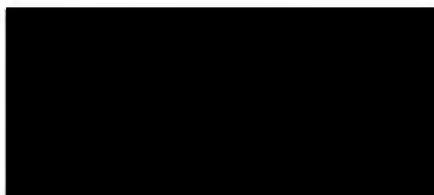
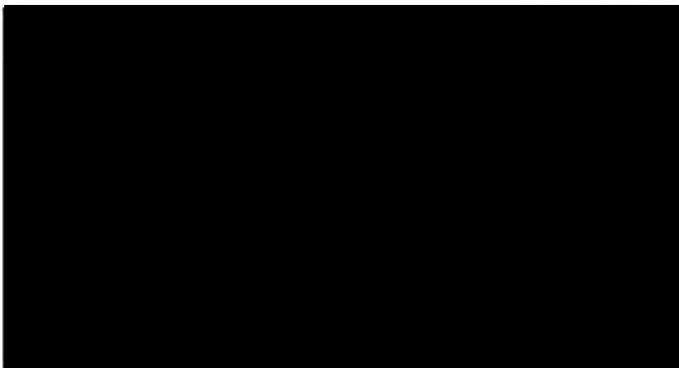
I oppose both alternative routes of the proposed gas pipeline (Line 3602). Alternative routes through Mission Trails Regional Park and surrounding park expansion areas are not acceptable.

My family and friends enjoy the wild animals we see in these areas. We want to speak up for them. Nature is important.

The first proposed alternative would disrupt the use of and degrade Mission Trails Regional Park's West Sycamore Area including parts of the new Stowe Trail, as well as the Goodan Ranch, and Fanita Ranch. These preserved areas and parklands are used by hundreds of visitors daily. Maintaining the integrity of the preservation of these natural lands is imperative for existing wildlife, flora, and habitat.

The second proposed alternative is equally unacceptable and would degrade Mission Trails's Spring Canyon and East Fortuna Staging Area, and also East Elliott, part of MTRP's larger ecosystem. The park and its surrounding expansion area must be protected. A new gas pipeline does not belong in these natural habitats which are used recreationally by park visitors.

Please drop or oppose these alternative routes. Thank you.



San Diego Port Tenants Association
2390 Shelter Island Drive, Suite 210 San
Diego, CA 92106

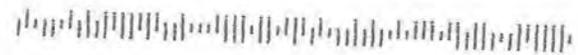
SAN DIEGO CA 920

13 MAY 2017 PM 3 L



Robert Peterson
California Public Utilities Commission
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

94111-015575



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Corchelle E. Worsham
MEMBERSHIP & EVENTS COORDINATOR
Chelsea Bernie
SPECIAL PROJECTS DIRECTOR

May 19, 2017

Robert Peterson
California Public Utilities Commission
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

RE: Pipeline Safety and Reliability Project

Dear President Picker and Commissioners:

The San Diego Port Tenants Association is pleased to support San Diego Gas & Electric's proposal to construct a new natural gas pipeline in San Diego County. The existing pipeline has aged significantly and we believe testing it will only demonstrate the need for a full replacement. We support a full replacement of the existing SDG&E pipeline to ensure reliable access to energy for our region's businesses and residents.

Our members are incredibly diverse and represent various industries that collectively generate \$7.6 billion annually in the regional economic impact. We use natural gas in equally diverse ways. When it comes to fueling the Port, natural gas is an important resource with clean and cost-effective attributes that make it an attractive energy option for the hotels, restaurants, shipping docks and cargo storage facilities along the Bay.

That is why, I urge the CPUC to approve this project. Natural gas is the most affordable source of energy available to our region, and by enhancing our aging transmission system, we are securing access to clean, safe and affordable energy for decades to come.

Thank you for considering this information and please do not hesitate to contact me with any questions.

Most Sincerely,

Sharon Cloward
President



OCEANSIDE
CHAMBER OF
COMMERCE

928 No. Coast Highway, Oceanside, CA 92054

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California Public Utilities Commission
c/o Ecology and Environment, Inc
505 Sansome St. Ste 300
San Francisco, CA 94111

94111-015575





May 19, 2017

California Public Utilities Commission
Re: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome St., Suite 300
San Francisco, CA 94111

To Whom It May Concern:

The Oceanside Chamber of Commerce Board of Directors recently voted to support SDG&E's proposed Pipeline Safety & Reliability Project. The Chamber is confident that the proposed 47-mile natural gas transmission pipeline will enhance the safety and reliability of the natural gas system to better meet the needs of the residents, businesses and institutions in the entire San Diego region.

The Chamber appreciates SDG&E putting safety at the top of the priority list with the company's proposal to replace an aging natural gas line which will make the natural gas system safer. In addition to the safety benefits, we support the project to ensure the reliable delivery of natural gas to residents and businesses, as well as to critical electric generators to protect our region against unnecessary electricity shortages.

As the Chamber is focused on creating a strong local economy, we recognize the importance of continuous infrastructure improvements. San Diego's \$200 billion economy relies on natural gas which supports thousands of jobs and the world's largest military concentration. Our region supports more than 95,000 manufacturing jobs, 33 million annual hotel visitors and more than 2,000 restaurants – and natural gas is critical to each of these industries.

Having a safe and reliable natural gas infrastructure is critical to supporting the current and future energy needs –both natural gas and electricity. We support the Pipeline Safety & Reliability Project as it provides a safe and reliable energy system which supports regional economic growth so that San Diego can continue to prosper.

Sincerely,

Scott M. Ashton
Chief Executive Officer

928 North Coast Highway • Oceanside, California 92054

phone (760) 722-1534 • fax (760) 722-8336 • www.oceansidechamber.com



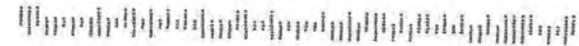
CHULA VISTA CHAMBER OF COMMERCE
233 FOURTH AVENUE • CHULA VISTA, CA 91910

SAN DIEGO
CA 920
24 MAY '17
PM 3 L



Mr. Robert Peterson
California Public Utilities Commission
Ecology and Environment, Inc.
505 Sansome St., Suite 300
San Francisco, CA 94111

94111-315575





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Susana Villegas

CEO
Lisa Cohen

May 17th, 2017

Mr. Robert Peterson
California Public Utilities Commission
Re: Pipeline Safety & Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome St., Suite 300
San Francisco, CA 94111

Dear Mr. Peterson:

SDG&E is a national leader in the transition to renewable energy and green technologies. 43 percent of our regional power is generated from sustainable, renewable technologies. Looking back 15 years, it was projected that this level of renewable generation could only be achieved if, within San Diego County, we made the timely, necessary investments in infrastructure, building quick-start, rapid-response surge capacity using clean, natural gas powered "peaker-plants".

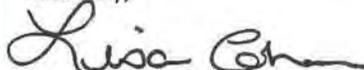
The implementation of a synergistic energy strategy, incorporating natural gas, will allow the continued expansion of our regional economy and, concurrently, to proudly anticipate the use of renewable energy sources that will further reduce greenhouse gases, simultaneously supporting energy supply reliability, business and residential growth.

The single most significant energy project that will sustain our San Diego economy, concurrently maintain our local power generation capacity, fueled predominantly by natural gas, and promote a diverse, highly-dependable energy strategy, enhancing public safety, is the SDG&E Pipeline Safety and Reliability Project (PSRP). This proposal constructs a modern pipeline to augment the line now transporting 90 percent of our regional natural gas.

The current generation, quick-start, high-efficiency base and peaker units, essential to the implementation of our regional energy strategy, are fueled predominantly by clean, natural gas. Transport of natural gas to our region is best accomplished through the near-term construction of a 36 inch pipeline that incorporates the latest safety features and technology, including high strength steel piping, tested to 2.5 times the normal working pressures, outfitted with cathodic protection systems and monitoring equipment that will ensure pipeline integrity for a century. Additional safety features that are incorporated into the latest new construction projects, such as fiber optic technology, yellow mesh overlay, and remote operated robotic "pigs" that assess pipe wall thickness and detect defects or deterioration, will allow this project to achieve the highest level of operating safety and service.

After a thorough project review by our Chamber Public Policy committee and our executive leadership team, we heartily endorse the SDG&E Pipeline Safety and Reliability Project and encourage the immediate approval by the CPUC. The PSRP supports regional economic growth, preserves and enhances regional energy availability, and facilitates the implementation of rate control measures as well as an effective green energy strategy.

Sincerely,



Lisa Cohen

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: New natural Gas Line 3602
Date: Sunday, May 28, 2017 11:41:18 PM

Robert Peterson
California Public Utilities Commission
RE: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

RE: Pipeline Safety and Reliability Project - New Natural Gas Line 3602
(Application No. A.15-09-013)

Hello,

I oppose both alternative routes of the proposed gas pipeline (Line 3602).
Alternative routes through Mission Trails Regional Park and surrounding park
expansion areas are not acceptable.

The first proposed alternative would disrupt the use of and degrade Mission
Trails Regional Park's West Sycamore Area including parts of the new Stowe
Trail, as well as the Goodan Ranch, and Fanita Ranch. These preserved areas
and parklands are used by hundreds of visitors daily. Maintaining the
integrity of the preservation of these natural lands is imperative for
existing wildlife, flora, and habitat.

The second proposed alternative is equally unacceptable and would degrade
Mission Trails's Spring Canyon and East Fortuna Staging Area, and also East
Elliott, part of MTRP's larger ecosystem. The park and its surrounding
expansion area must be protected. A new gas pipeline does not belong in
these natural habitats which are used recreationally by park visitors. It
also could increase the fire danger risk within Mission Trails Regional
park.

Please drop or oppose these alternative routes. Thank you.

Sincerely,

[REDACTED]

Keep SDG&E's proposed route (below), don't use alternative routes through
Mission Trails Regional Park!

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: Gas Line Under Pomerado Road
Date: Monday, May 29, 2017 5:59:42 PM

To whom it may concern:

I have concerns about this new pipeline with respect to those portions that will be run under Pomerado Road, and I am opposed to the placement of the new pipeline under Pomerado Road. For many of the neighborhoods located off of Pomerado Road, including the "Montelena" neighborhood where my family and I reside, the only means of ingress and egress from the neighborhood is via Pomerado Road. This means that in the event of an emergency, the only way the Montelena residents (as well as for numerous others living off of Pomerado Road) could evacuate is via Pomerado Road. Clearly this presents a serious safety issue if an evacuation was needed due to a problem with the pipeline under Pomerado Road. Moreover, there are various schools, medical facilities, and Pomerado Hospital itself which are all located right off of Pomerado Road. Again, should there be a problem with the pipeline, this puts these facilities in grave danger, as well as those who need to get to or leave these facilities. The proposed pipeline should be re-routed through a less populated area, not one as busy as Pomerado Road where numerous residents will be subject to great risk should an emergency situation occur with the pipeline.

Sincerely,

[REDACTED]

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: Pipeline Safety and Reliability Project
Date: Tuesday, May 30, 2017 2:44:23 PM

Reaching out to ask if there is a better option for the proposed pipeline placement? Are the benefits/ risks of the proposed placement truly being weighed in reference to our community, schools, and hospitals along the route?

There must be a better option.

Thank you for finding one,

[REDACTED]
Poway Resident

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: Gas Pipeline
Date: Monday, May 29, 2017 7:03:33 PM

Robert Peterson

California Public Utilities Commission

RE: Pipeline Safety and Reliability Project

c/o Ecology and Environment, Inc.

505 Sansome Street, Suite 300

San Francisco, CA 94111

RE: Pipeline Safety and Reliability Project (Application No. A.15-09-013)

As a nearby resident and equestrian, I oppose both alternative routes of the proposed gas pipeline (Line 3602). These routes through Mission Trails Park and Gooden Ranch are in some of the most loved and utilized park areas left in San Diego County.

The first proposed alternative would disrupt the use of and degrade Mission Trails Regional Park's West Sycamore Area including parts of the new Stowe Trail, as well as the Goodan Ranch, and Fanita Ranch. These preserved areas and parklands are used by hundreds of visitors daily. Maintaining the integrity of the preservation of these natural lands is imperative for existing wildlife, flora, and habitat.

The second proposed alternative is equally unacceptable and would degrade Mission Trails's Spring Canyon and East Fortuna Staging Area, and also East Elliott, part of MTRP's larger ecosystem. The park and its surrounding expansion area must be protected. A new gas pipeline does not belong in these natural habitats which are used recreationally by park visitors.

Miramar is a more direct route and would not damage our preserves. Please do not support these two alternate routes.

Thank you,



From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Cc: [REDACTED]
Subject: Line 3602 Pipeline through Scripps Ranch
Date: Saturday, May 27, 2017 9:06:27 PM

To Whom It May Concern:

Please accept this letter as a strong opposition to the placement of a major gas line along Pomerado Road in the Scripps Ranch area of San Diego. A pipeline of this magnitude does not belong in a residential area. I have horrific visions of the San Bruno pipeline explosion that killed people and destroyed homes. This is a neighborhood full of families and many, many children. This pipeline will be far too close to the many schools in this neighborhood.

This is a neighborhood that has already experienced devastation in the Cedar Fire of 2003. I was one of the people who lost their home in that fire; one of the approximately 350 homes that were destroyed. I don't want to go through that again, and I certainly don't want any type of endangerment to my neighbors and friends...especially the children.

I know there are other alternatives; and ones that do not run through a heavily packed residential area. Safety of our families is of the essence. My family, friends and neighbors are at risk.

And this is to say nothing about the disruption of lives during the installation of this pipeline. It is just not a viable option, and I say NO to Line 3602 through Scripps Ranch.

[REDACTED]
[REDACTED]
[REDACTED]

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: RE: Pipeline Safety and Reliability Project (Application No. A.15-09-013)
Date: Tuesday, May 30, 2017 5:28:27 PM

Robert Peterson
California Public Utilities Commission
RE: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

RE: Pipeline Safety and Reliability Project (Application No. A.15-09-013)

I oppose both alternative routes of the proposed gas pipeline (Line 3602). Alternative routes through Mission Trails Regional Park and surrounding park expansion areas are not acceptable. This is my HOME, I live one street south of Rumson and I do not want to see my exploded neighborhood on the news and my life destroyed. I use Mission Trails on a regular basis, fought the Quail Brush Powerplant along with my fellow Santee neighbors. Please do not allow this happen to Santee.

The first proposed alternative would disrupt the use of and degrade Mission Trails Regional Park's West Sycamore Area including parts of the new Stowe Trail, as well as the Goodan Ranch, and Fanita Ranch. These preserved areas and parklands are used by hundreds of visitors daily. Maintaining the integrity of the preservation of these natural lands is imperative for existing wildlife, flora, and habitat.

The second proposed alternative is equally unacceptable and would degrade Mission Trails's Spring Canyon and East Fortuna Staging Area, and also East Elliott, part of MTRP's larger ecosystem. The park and its surrounding expansion area must be protected. A new gas pipeline does not belong in these natural habitats which are used recreationally by park visitors.

Please drop or oppose these alternative routes. Thank you.

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: "Fracked" Gas Line 3602 (Application No. A.15-09-013)
Date: Wednesday, May 31, 2017 9:50:28 PM

Robert Peterson
California Public Utilities Commission
RE: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

We must reduce - not expand the use of fossil fuels! Study an alternative in the EIR that maintains the existing line until it can be decommissioned permanently. A new gas supply line through our parks and open spaces is unacceptable. Our parks are not profit corridors for private utilities.

This is a place for families to spend time in nature and the risk is too high. Find another way. We care about our open space and do not want to see it destroyed!

[REDACTED]



May 30, 2017

Robert Peterson
California Public Utilities Commission
RE: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

To Whom It May Concern,

On behalf of the San Diego Chapter of the California Restaurant Association, I want to express support for SDG&E's proposed natural gas pipeline, the Pipeline Safety & Reliability Project.

The California Restaurant Association is a leading voice for the food service industry here in San Diego and throughout the State of California. Founded in 1906, the Association assists its members through advocacy, education and support while creating a better climate for their businesses. In San Diego County, more than 180 restaurants are members of our association, collectively employing thousands of San Diegans.

The overwhelming majority of these restaurants, and other eateries throughout our region, rely on natural gas to cook and store food, sanitize kitchens, and clean linens. That's in addition to the important role natural gas plays in electric generation, which ensures that restaurants can operate and patrons can enjoy a pleasant dining experience. Ensuring the availability of this resource is a top priority for the Association and restaurants throughout San Diego.

That's why the California Restaurant Association supports the Pipeline Safety & Reliability Project. By replacing an aging pipeline with a new, state-of-the-art pipeline, we can greatly reduce the risk of being without natural gas, which restaurants need to stay in business. This, in turn, helps to keep more than 100,000 local residents who work at restaurants gainfully employed and our regional economy strong.

On behalf of the San Diego Chapter of the California Restaurant Association, I urge you to move forward on the Pipeline Safety & Reliability Project. Doing so will benefit our region's economy and residents, and support our thriving restaurant and hospitality industry.

Sincerely,

A handwritten signature in black ink, appearing to read "Chris Duggan".

Chris Duggan, Director, Local Government Affairs
California Restaurant Association

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: Public concerns
Date: Wednesday, May 31, 2017 2:30:06 PM

May 30, 2017

I went to the meeting last week at Alliant University and have a few big concerns. 1) If one of the reasons for moving the pipeline is to get it away from populated areas, does that mean that the pipeline is not 100% safe? They are proposing to put it in an area that is developing in the future. This is especially a concern up by the Lawrence Welk resort, a very dense project right along Old Hwy. 395.

2) Adjacent to the Welk property is also where they plan to put Main Line Valve 4. [REDACTED] the property slated for MLV4 and the planned development for that property is a gas station and restaurant. It is not safe to have the valve so close to this new development.

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

[REDACTED]
[REDACTED]

Thank You for Recommending Me to Your Friends!

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: NO PIPELINE THROUGH MISSION TRAILS AND SURROUNDING AREAS!
Date: Thursday, June 1, 2017 1:00:45 AM

Robert Peterson
California Public Utilities Commission
RE: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

RE: Pipeline Safety and Reliability Project (Application No. A.15-09-013)

I oppose both alternative routes of the proposed gas pipeline (Line 3602). Alternative routes through Mission Trails Regional Park and surrounding park expansion areas are not acceptable.

The first proposed alternative would disrupt the use of and degrade Mission Trails Regional Park's West Sycamore Area including parts of the new Stowe Trail, as well as the Goodan Ranch, and Fanita Ranch. These preserved areas and parklands are used by hundreds of visitors daily. Maintaining the integrity of the preservation of these natural lands is imperative for existing wildlife, flora, and habitat.

The second proposed alternative is equally unacceptable and would degrade Mission Trails's Spring Canyon and East Fortuna Staging Area, and also East Elliott, part of MTRP's larger ecosystem. The park and its surrounding expansion area must be protected. A new gas pipeline does not belong in these natural habitats which are used recreationally by park visitors.

Please drop or oppose these alternative routes. Thank you.

Sincerely,
[REDACTED]

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: SDG&E Pipeline Project - Support Letter
Date: Thursday, June 1, 2017 1:13:45 AM
Attachments: [SDG&E Support Letter - EDS.pdf](#)

Dear Sirs,

I hope you are well.

Please find attached the signed Support Letter for the Pipeline Project.

Best Regards,

[REDACTED]



May 31, 2017

California Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102

Re: Urging Approval of SDG&E's New Pipeline Project

To Whom It May Concern,

I wish to express support for SDG&E's new natural gas pipeline project in San Diego County. Approval of the Pipeline Safety & Reliability Project would enhance natural gas access for SDG&E customers throughout the region.

I am the President and CEO of Eat.Drink.Sleep., a leading lifestyle hospitality group that owns and operates numerous hotels and restaurants throughout Southern California. In this highly competitive market, we are always looking for ways to stay ahead of our competitors. Natural gas helps do that because it is one of the most affordable and reliable energy sources available to our region.

Natural gas is attractive to hotels and restaurants because it is cost-effective and easy to use. This is why we rely heavily on it for cooking, cleaning, electricity and more. For this reason, the success of my company's numerous business ventures is dependent on consistent access to clean and safe natural gas.

As this project is decided before the California Public Utilities Commission, I urge you to not only consider the strong need for this pipeline, but also the vast benefits that natural gas offers San Diego's business community and residents alike.

Sincerely,

A handwritten signature in black ink, appearing to read "Brett Miller".

Brett Miller
President & CEO, Eat.Drink.Sleep

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: Pipeline Safety and Reliability Project
Date: Wednesday, May 31, 2017 9:06:23 PM
Attachments: [Letter of Support SDGE Natural Gas Pipeline Reliability Project 5.31.17.pdf](#)

To Whom It May Concern:

Please see attached, a letter of support from the Downtown San Diego Partnership regarding SDG&E's proposed Pipeline Safety and Reliability Project. Please confirm that this transmission has been received and let me know if you have any questions.

Best Regards,

[REDACTED]



May 31, 2017

Mr. Robert Peterson
California Public Utilities Commission
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

Subject: Pipeline Safety and Reliability Project

Dear Commissioners:

I am writing this letter on behalf of the Downtown San Diego Partnership, which is proud to endorse SDG&E's new natural gas pipeline project in San Diego. The Pipeline Safety & Reliability Project will provide affordable and reliable energy to support the economic growth of Downtown San Diego, the hub of our region's thriving economy.

The Partnership represents more than 11,000 property owners and 350 member businesses in the finance, technology, real estate, defense, professional services and tourism industries. From the waterfront to the up-and-coming East Village, we encompass a unique combination of offices, retail, convention space and attractions like Petco Park and the Embarcadero. One thing these amenities all have in common is they rely on natural gas to fuel their operations.

My organization recognizes the important role natural gas plays in our regional economy, helping to green our energy while protecting our members' bottom lines. For our member businesses, ensuring consistent access to safe, clean, and affordable energy is an operational necessity, which is why we support the Pipeline Safety & Reliability Project.

May 31, 2017
Mr. Robert Peterson
Page 2

As this project is considered for approval, I urge you to recognize the critical role that natural gas plays in San Diego County and the important economic benefits it brings to businesses competing to thrive in the region. Replacing the existing pipeline will support the continued use of natural gas to fuel our economy for decades to come.

Sincerely,



Kris Michell
President & CEO
Downtown San Diego Partnership

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: Pipeline Safety and Reliability Project (Application No. A.15-09-013)
Date: Wednesday, May 31, 2017 11:46:51 PM

Robert Peterson
California Public Utilities Commission
RE: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

I oppose both alternative routes of the proposed gas pipeline (Line 3602). Alternative routes through Mission Trails Regional Park and surrounding park expansion areas are not acceptable.

The first proposed alternative would disrupt the use of and degrade Mission Trails Regional Park's West Sycamore Area including parts of the new Stowe Trail, as well as the Goodan Ranch, and Fanita Ranch. These preserved areas and parklands are used by hundreds of visitors daily. Maintaining the integrity of the preservation of these natural lands is imperative for existing wildlife, flora, and habitat.

The second proposed alternative is equally unacceptable and would degrade Mission Trails's Spring Canyon and East Fortuna Staging Area, and also East Elliott, part of MTRP's larger ecosystem. The park and its surrounding expansion area must be protected. A new gas pipeline does not belong in these natural habitats which are used recreationally by park visitors.

Please drop or oppose these alternative routes. Thank you

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: RE: Pipeline Safety and Reliability Project (Application No. A.15-09-013)
Date: Thursday, June 1, 2017 9:56:33 PM

To Whom it may concern,

I oppose both alternative routes of the proposed gas pipeline (Line 3602). Alternative routes through Mission Trails Regional Park and surrounding park expansion areas are not acceptable.

The first proposed alternative would disrupt the use of and degrade Mission Trails Regional Park's West Sycamore Area including parts of the new Stowe Trail, as well as the Goodan Ranch, and Fanita Ranch. These preserved areas and parklands are used by hundreds of visitors daily. Maintaining the integrity of the preservation of these natural lands is imperative for existing wildlife, flora, and habitat.

The second proposed alternative is equally unacceptable and would degrade Mission Trails's Spring Canyon and East Fortuna Staging Area, and also East Elliott, part of MTRP's larger ecosystem. The park and its surrounding expansion area must be protected. A new gas pipeline does not belong in these natural habitats which are used recreationally by park visitors.

Now, more than ever, we must take a strong stance to protect our environment and nature, for years to come.

Please drop or oppose these alternative routes. Thank you.

Sincerely,

[REDACTED]

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: support for PSRP
Date: Thursday, June 1, 2017 10:33:18 PM

Subject: Opinion in support of PSRP

In regard the pending proposal of a 47-mile gas-transmission line in San Diego County, I respectfully submit my views in support.

1. While a significant share of energy supply at present is already based upon natural gas, the need for it will be increased even as alternate energy sources become developed more. Both solar and wind power fluctuate in their diurnal availability, and electric storage in order to assure continuity strongly raises costs. For natural gas, storage is only a logistics option and not cost-intensive by comparison to electric storage.

2. The extensive presentations by SDG&E demonstrate that an exceptional effort has been made to provide for an above-standard level in the design, construction and eventual operation of the line. The upgrade of infrastructure will assure that disasters such as the San Bruno line failure in 2010 are not likely to occur.

3 In view of the concentration of military and important public installations in the San Diego area, it appears only prudent to keep the entire natural gas supply system within our national borders.

4. The traffic burden and other inconvenience due to complex construction work may be painful to many but it should be realized that the most suitable pathway has been chosen after very careful analysis of the possible

routing.



From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: Proposed route for natural gas pipeline (Line 3602)
Date: Friday, June 2, 2017 9:40:34 AM

Robert Peterson
California Public Utilities Commission
RE: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

RE: Pipeline Safety and Reliability Project (Application No. A.15-09-013)

As a frequent visitor to Mission Trails Regional Park and an East County resident, I oppose both alternative routes of the proposed gas pipeline (Line 3602). Alternative routes through Mission Trails Regional Park and surrounding park expansion areas are not acceptable.

The first proposed alternative would disrupt the use of and degrade Mission Trails Regional Park's West Sycamore Area including parts of the new Stowe Trail, as well as the Goodan Ranch, and Fanita Ranch. These preserved areas and parklands are used by hundreds of visitors daily. Maintaining the integrity of the preservation of these natural lands is imperative for existing wildlife, flora, and habitat.

The second proposed alternative is equally unacceptable and would degrade Mission Trails's Spring Canyon and East Fortuna Staging Area, and also East Elliott, part of MTRP's larger ecosystem. The park and its surrounding expansion area must be protected. A new gas pipeline does not belong in these natural habitats which are used recreationally by park visitors.

Please drop or oppose these alternative routes. Thank you.

Sincerely,
[REDACTED]

*Life is not about waiting for the storms to pass,
It's about learning how to dance in the rain*



Pipeline Safety and Reliability Project – New Natural Gas Line 3602 and De-rating Line 1600 (PSRP) CPUC Public Scoping Comment Form

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Date: 25 May 2017

Many segments of alignment alternatives appear to extend beyond the closest connection points to existing lines. This duplication of pipeline sections should be removed or clearly explained. Two examples are: 1) southern segment of the Kearney Villa Rd alignment alternative that turns east and parallels an existing pipeline for a long way before connecting to it; and 2) the southern segment of the "Non-Moran" alternative alignment that turns west along a line nearly parallel to an existing pipeline before connecting to it. There are likely other segments where this occurs.

Some other pipeline line segments seem to go to no connection without explanation (pipeline extending westward from Powerado Rd that ends at I-15). These situations should be better explained.

Name: _____

Organization/Affiliation (if applicable): _____

Mailing Address: _____

City, State, Zip: _____

Email Address: _____

Please place this completed form in a comment box at a CPUC PSRP public scoping meeting, or mail by **June 12, 2017**, to:

Robert Peterson

California Public Utilities Commission

RE: Pipeline Safety and Reliability Project

c/o Ecology and Environment, Inc.

505 Sansome St., Suite 300

San Francisco, CA 94111

You may also submit comments online at <http://sandiegopipeline-psrp.com>

or email comments to SDgaspipeline@ene.com



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Date: 5/25/17

There should be ~~one~~ several meetings with public Q&A sessions so that everyone can get the answers to questions, all during the process.

Meetings should be at various times and days to accomodate as many interested people as possible.

Name: _____

Organization/Affiliation (if applicable): _____

Mailing Address: _____

City, State, Zip: _____

Email Address: _____

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Date: _____

5/23/2017

Why can't we have a public forum? Why are you afraid of public questions?

Name: _____

Organization/Affiliation (if applicable): _____

Mailing Address: _____

City, State, Zip: _____

Email Address: _____

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Date: 5/25/17

I am ~~pro~~ against the proposal to have this gas line go through Pomarado Road. (#3602). for several reasons.

(1) Safety - we are a community, which has been impacted by wild fires - It is dangerous to have a 36" gas line go through our community.

(2) The existing line should be the primary site. It will cause less impact to our community.

(3) Traffic - we are already getting the 500kv elect line thru Pomarado.

Please do not do this!

Name: Scrapps Ranch resident

Organization/Affiliation (if applicable): Living off Pomarado Road

Mailing Address: _____

City, State, Zip: _____

Email Address: _____

*Alternative - Repair existing line
Not through our community.*

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Date: 4/25/2017

GENERAL COMMENTS

– ANY REVIEW OF AN ENERGY PROJECT MUST CONSIDER 3 THINGS:

- 1.) WHAT ARE THE BENEFITS & TO WHOM DO THEY ACCRUE
- 2.) WHAT ARE THE RISKS & TO WHOM DO THEY APPLY
- 3.) WHAT ARE THE COSTS & WHO BEARS THEM.

- 1.) THE ^{PROJECT} ~~UTILITY~~ BENEFITS THE UTILITY BY INCREASING CAPACITY AND PROVIDING ACCESS TO THE MEXICAN MARKET
- 2.) THE RATEPAYERS BEAR THE PHYSICAL & FINANCIAL RISKS;
- 3.) THE COSTS – BOTH CAPITAL & POTENTIAL REMEDIAL COSTS – ACCRUE TO RATEPAYERS (COVER)

Name: [REDACTED]

Organization/Affiliation (if applicable): _____

Mailing Address: [REDACTED]

City, State, Zip: [REDACTED]

Email Address: _____

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- FINALLY, THERE IS THE LARGER PROBLEM OF CLIMATE CHANGE.

- WE HAVE TO REDUCE GHG EMISSIONS BY 80% BY 2030

- THAT MEANS CUTTING THE USE OF ALL FOSSIL FUELS, INCLUDING NATURAL GAS -- SO WHY & HOW DOES THIS SQUARE WITH INCREASING CAPACITY?

- THIS IS DANGEROUS - & IT IMPOSES HUGE SOCIAL, ECONOMIC, AND ENVIRONMENTAL RISKS ON RATEPAYERS.



Pipeline Safety and Reliability Project – New Natural Gas Line 3602 and De-rating Line 1600 (PSRP) CPUC Public Scoping Comment Form

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Date: 5/25/2017 RATE PAYER ADVOCACY

- HAS THE CPUC & THE UTILITY CONSIDERED THE ~~LESS~~ LESS COSTLY ALTERNATIVE OF REPAIRING THE PIPE USING CURED-IN-PLACE LINER MATERIAL
- WHAT ROLE DOES THE ISSUE OF THE UTILITY COMPENSATION FOR NEW PIPE COSTS HAVE IN THEIR CHOICE.
- ~~HAS THE~~ PS&E SAVED \$10 MILLION ON 40,000 FT OF PIPELINE, COMPARED TO CONVENTIONAL CONSTRUCTION.
- ONE OF THE STATED REASONS FOR THE NEW PIPELINE WAS TO INCREASE CAPACITY - WE ARE IN AN ERA WHEN DEMAND FOR NGAS IS DECREASING - MUST CONTINUE TO (COVER)

Name: [REDACTED]

Organization/Affiliation (if applicable): _____

Mailing Address: [REDACTED]

City, State, Zip: [REDACTED]

Email Address: _____

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DECREASE TO MEET GHG TARGETS UNDER
THE GLOBAL WARMING SOLUTIONS ACT OF 2005
(AB 32) ARE RATEPAYERS BEING ASKED
TO FIT THE BILL FOR BENEFITS THAT WILL
ACCUE TO THE UTILITY?

IF SO, THIS IS A CLEAR VIOLATION OF
THE SPIRIT & PURPOSE OF THE CPUC'S
MANDATE TO ^{ASSURE} ~~APPORTION~~ COSTS ~~TO~~ ARE
CONSUMMATE WITH THE BENEFITS
TO CONSUMERS.



Pipeline Safety and Reliability Project – New Natural Gas Line 3602 and De-rating Line 1600 (PSRP)

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Date: 05/23/2017

I am a Santee resident I suggest the pipe line remains in the same place as it has been. I drive in traffic everyday and any disruption in the road would be really bad for the community.

The fire season is approaching and if the line goes through the city it would be very dangerous. In addition there are two schools right next to the Hwy. 52 or Mast Blvd. "Let's protect our kids" Thank you (with smiley face)

Name: [Redacted]

Organization/Affiliation (if applicable): N/A

Mailing Address: _____

City, State, Zip: Santee CA

Email Address: [Redacted]

Please place this completed form in a comment box at a CPUC PSRP public scoping meeting, or mail by **June 12, 2017**, to:
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Date: 05/25/17

Can you make some blow-up sheet in the handouts of the main San Diego/santee region alternatives. It is so small in the handout corner map, we want to show these to our neighbors and other community members. If this line will last for 70+ years like the old 1600 line then things might be much different than now, like if Mira Mar ever becomes privatized or into Regional/State Park public space(s). One double sided full size sheet with alternatives for city areas would really help.

Also you might consider a black+white (lower cost) Alternatives map that we could draw on to submit our own suggestions. Some people more left minded +/or ACD/need to physically do

Name: [Redacted]
 Organization/Affiliation (if applicable): [Redacted]
 Mailing Address: [Redacted]
 City, State, Zip: [Redacted]
 Email Address: [Redacted]

P.S. Avoid Hiker/Walker

Something "see feel" how it works.

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Date: _____

I'm concerned about value of public lands versus private lands. Private lands cost more, but public lands are less frequent + easily manipulated. WE VALUE our public places. There needs to be capital value for public lands, & specially in consideration of permitting conuence.

Name: _____

Organization/Affiliation (if applicable): _____

Mailing Address: _____

City, State, Zip: _____

Email Address: _____

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Date: 5-25-17

1. Is this needed? It's my understanding that no test has been done on the old pipe to show that it's leaking. This could be done at a relatively low cost. If there are no leaks, then a new pipeline would be made.
2. Why now? It's suspicious, given that the people who came up with this idea will not be paying for it. It brings up the appearance and suspicion that cronyism or favorable contracts might come into play.
3. The demand for natural gas will be going down. The state has mandated that San Diego County reduce its greenhouse emissions by 2020. Whether local politicians like it or not, we will be required to move away from fossil fuels and toward renewable, non-polluting sources such as solar and wind. Solar power companies are already the largest growing field of new employment. San Diego is growing its technical industries and it is widely agreed the new and better batteries will better store solar and wind energy. Community Choice Energy will also reduce our dependence on SDG&E.

Name: [REDACTED]

Organization/Affiliation (if applicable): [REDACTED]

Mailing Address: [REDACTED]

City, State, Zip: [REDACTED]

Email Address: [REDACTED]

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Date: 5/24/2017

Issue with sewer access in the center of Pomadero rd at the Klaus Lane cross street, which also has septic upgrade from the street. - want to keep option to tie septic to sewer. If the line stays northbound as shown in the kmz that is preferable but not without issues (compared to it running southbound).

Name: [Redacted]
 Organization/Affiliation (if applicable): [Redacted]
 Mailing Address: [Redacted]
 City, State, Zip: [Redacted]
 Email Address: [Redacted]

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Date: 5/24/2017

THE POTENTIAL FUTURE

① RECOMMEND CONSIDERING ^{A LOSS IN GAS USAGE DUE TO} REPLACEMENT OF NATURAL GAS BY ELECTRIC LOADS. THE REASON FOR SUCH REPLACEMENT IS THE LOW COST OF SOLAR PV, WHICH MAKES ELECTRIC POWER LESS EXPENSIVE THAN GAS. AS AN EXAMPLE, IN OUR HOME WE ARE 100% SOLAR AND HAVE REPLACED ALL OUR GAS APPLIANCES (EXCEPT A BBQ) WITH ELECTRIC EQUIVALENTS. IN THE FUTURE, I SEE THE ELIMINATION OF GAS TO RESIDENTIAL HOMES -- IT MADE SENSE WHEN GAS WAS CHEAP AND ELECTRICITY WAS NOT, BUT NOW IT IS JUST A DANGER THAT IS UNNECESSARY (E.G., AFTER AN EARTHQUAKE).

② CONSIDERATION OF ① SHOULD ELIMINATE THE NEED FOR MORE GAS SUPPLY. ALSO, IF THE EXISTING PIPELINE GOES DOWN GAS COULD BE SUPPLIED VIA STAY FROM THE SOUTH.

Name: [REDACTED] (OVER)

Organization/Affiliation (if applicable): _____

Mailing Address: [REDACTED]

City, State, Zip: [REDACTED]

Email Address: [REDACTED]

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③ GAS, LIKE COAL, IS A RESOURCE WE NEED TO REDUCE, NOT FACILITATE, THE USE OF, TO LIMIT CLIMATE CHANGE AND ASSOCIATED PROBLEMS. CONSIDER USING THE MONEY TO ENCOURAGE ROOFTOP AND COMMERCIAL SOLAR INSTEAD.



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Date: 5/23/17

I object to the Alternate "West hike road"
 (Figure 5-2, Inset Map 1 of 3)

1. This Alternative route is next to many current homes
2. This Alternative route is thru ~~the~~ ^{an} approved subdivision maps where many home lots have been approved. (28 home sites)
3. This Alternative route is next an approved lot split for eight home sites

Name: [REDACTED]

Organization/Affiliation (if applicable): [REDACTED]

Mailing Address: [REDACTED]

City, State, Zip: [REDACTED]

Email Address: _____

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Date: 5-24-17

ON behalf of the California Restaurant Association (CRA) we are in SUPPORT of the proposed New Natural GAS LINE 3602 and De-rating Line 1600. Ensuring the availability of natural gas is a top priority of the CRA and all our members. By replacing an aging pipeline with a modern line, we can greatly reduce the risk of being without natural gas. Again, the CRA is in strong support of this project to provide affordable and reliable energy to successfully run their restaurants

Name: [REDACTED]
 Organization/Affiliation (if applicable): [REDACTED]
 Mailing Address: [REDACTED]
 City, State, Zip: [REDACTED]
 Email Address: [REDACTED]

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Date: 5/24/2017

Because Pomerado Rd. is a heavily trafficked street, I am concerned about the impact detoured traffic will have on surrounding neighborhoods. I am also concerned that pipeline construction + future maintenance projects will impede access to Palomar/Pomerado Medical Center. This medical center is the main hospital serving many Poway + Rancho Bernardo neighborhoods. I would also like to know if the hospital would be in the blast zone of the pipeline should there be an accident -- my home is

Name: [REDACTED]

Organization/Affiliation (if applicable): [REDACTED]

Mailing Address: [REDACTED]

City, State, Zip: [REDACTED]

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Please Print Clearly – Use the Other Side of This Form if Additional Space for Comment is Needed

Date: 5/25/17

I appreciate that the carbon footprint of natural gas is less than coal but that is not our only alternative here and as much as it is an improvement, it is still a step further in the wrong direction. We should not be throwing good money after bad.

If we throw more millions in this direction, we reduce the money available to taking productive steps toward truly clean energy. We also reduce the sense of urgency to transition away from fossil fuels. No one wants to see an accident of course. But infrastructure for EV vehicles, smart grid to better integrate rapidly expanding clean energy options, and public transportation expansion is a far better use of ~~available~~^{public} funds.

My father retired from Phillips Petroleum. It is a sign of the criticality of these decisions that I find myself here tonight advocating against a ^{new} pipeline.

Name: [REDACTED]

Organization/Affiliation (if applicable): [REDACTED]

Mailing Address: [REDACTED]

City, State, Zip: [REDACTED]

Email Address: [REDACTED]

Please place this completed form in a comment box at a CPUC PSRP public scoping meeting, or mail by **June 12, 2017**, to:

Robert Peterson
 California Public Utilities Commission
 RE: Pipeline Safety and Reliability Project
 c/o Ecology and Environment, Inc.
 505 Sansome St., Suite 300
 San Francisco, CA 94111

You may also submit comments online at <http://sandiegopipeline-psrp.com>
 or email comments to SDgaspipeline@ene.com



Pipeline Safety and Reliability Project – New Natural Gas Line 3602 and De-rating Line 1600 (PSRP)

CPUC Public Scoping Comment Form

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Date: May 25, 2017

TRAFFIC -

Pomerado Rd - Rancho Bernardo, Poway, Scripps Ranch

Impacted areas during construction include

- Palomar Pomerado Hospital
- Medical Clinics
- Multiple schools
- Day Care Centers
- Churches / Synagogues
- Stores
- Fire Stations
- Convalescent ~~Homes~~ Facilities

Name: _____

Organization/Affiliation (if applicable): _____

Mailing Address: _____

City, State, Zip: _____

Email Address: _____

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Date: May 25, 2017

PUBLIC SAFETY

The "Pipeline Safety and Reliability Project" is a misnomer.

Expanding the pipeline from 16" to 36" is a risk to public safety for these reasons:

1. Increased traffic near vulnerable locations (hospitals, schools, etc....) during construction.

2. Potential "BLAST ZONE" near vulnerable locations (hospitals, schools, etc....) once pipe is in place.

Name: [REDACTED]

Organization/Affiliation (if applicable): [REDACTED]

Mailing Address: [REDACTED]

City, State, Zip: [REDACTED]

Email Address: [REDACTED]

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Date: May 25, 2017

Rate Payer Advocacy / Financial Review

With natural gas use DECREASING in San Diego, the biggest question is WHY SDG&E is proposing more than 2X the size of the natural gas pipeline.

Ratepayers in San Diego should NOT be required to pay the cost of increasing the capacity of the gas lines for SDG&E's profits.

The RISK and the COST will come to ratepayers. The BENEFIT will go to the utility, its shareholders, and the contractors.

Name: _____

Organization/Affiliation (if applicable): _____

Mailing Address: _____

City, State, Zip: _____

Email Address: _____

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Date: May 25, 2017

Rate Payer Advocacy

Utility will charge rate-payers for the cost of construction.

The **NO PROJECT ALTERNATIVE** is recommended.

Cured-in-place lining systems are completely adequate to repair existing systems. Much less expensive.

NO INCREASE in natural gas use projected for San Diego. Continue to use existing smaller gas lines.

Name: _____

Organization/Affiliation (if applicable): _____

Mailing Address: _____

City, State, Zip: _____

Email Address: _____

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Date: May 25, 2017

Greenhouse Gas Emissions (GHG)

City of San Diego has a legal requirement through their approved Climate Action Plan to reduce GHG emissions by 30% by 2035.

Increasing the capacity of this pipeline may cause nearly 400,000 metric tons of GHG, thereby adding an equivalency of 90,000 cars to our region (as per EPA calculator)

City of San Diego is advancing a Community Choice Energy Program, thereby increasing renewables. Why is a LARGER

pipeline being proposed when the use of natural gas is going down?

Name: _____
 Organization/Affiliation (if applicable): _____
 Mailing Address: _____
 City, State, Zip: _____
 Email Address: _____

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Date: 5/25/17
TRAFFIC

Its obvious the traffic nightmare that this project would provide. But think about all of the cars idling while waiting to get through road blocks - San Diego has a Climate Action Plan that requires the city to reduce greenhouse gasses by 30% by 2035. I don't think the traffic mess this would create would in any way help achieve this goal - rather I think it would be a setback

I don't care if SDGE wants a pipeline to Mexico for profit I just don't think it should be at the expense of the residents and institutions it would endanger

Name: [Redacted]

Organization/Affiliation (if applicable): A person who doesn't want to be a crispy critter

Mailing Address: [Redacted]

City, State, Zip: San Diego, CA 92128

Email Address: [Redacted]

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Date: 5/25/17
NEED

Why is such a huge gas line that goes to Mexico needed now - when people are becoming more aware of the environment. There is so much solar being installed - it seems the need - at least in San Diego - is going down.

If there was an explosion who would pay for the damages - SDGE & its shareholders? Or would the general population pay through higher rates?

IT seems unnecessary for this huge pipeline for San Diego. If the point is to supply Mexico than SDGE must find another way

Name: [Redacted]
Organization/Affiliation (if applicable): Person who lives in the "blast zone"
Mailing Address: [Redacted]
City, State, Zip: San Diego, CA 92128
Email Address: [Redacted]

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Date: 5/25/17

Safety

There is a technology available now that allows repairing existing pipeline – much less expensive and disruptive than adding a new pipeline

This new pipeline would go by hospitals, schools, daycare centers, senior centers, churches, etc. It is said that the pipeline is safe and that they constantly check the safety – but I believe if they constantly check the safety, San Bruno would not have happened. In 1993 they were trying to put a 30" gasline on Pomodoro Rd until there was a "San Bruno" like explosion in N.J. These pipelines should not be put in extremely highly populated locations

Name: [Redacted]

Organization/Affiliation (if applicable): _____

Mailing Address: [Redacted] } 150 feet from
 City, State, Zip: San Diego, CA 92128 } The "blast zone"

Email Address: [Redacted]

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Date: MAY 25, 2017

SAN SAFETY CONCERN

THE PROPOSED ROUTE ALONG POMERADO PASSES OUR HOME, SCHOOLS, DAY CARE & CHILD CARE FACILITIES, POMERADO HOSPITAL WITH ASSOCIATED SENIOR CARE, OF MEDICAL OFFICE BUILDINGS CONVALESCENT CARE, CHURCHES AND ~~SEVERAL~~ WORK OFFICES

THE PIPELINES ARE NOT MAINTAINED [E.G. SAN BROWN] WHEN THEY DO BLOW UP, IN ADDITION TO THE LOSS OF LIFE AND PROPERTY, RATE PAYERS AND TAX PAYERS END UP PAYING THE FINANCIAL COST. I DO NOT EXPECT ANY MEANINGFUL COVENANTS

THAT WOULD ACTUALLY BE ENFORCED TO ENSURE SAFETY OR HOLD SHAREHOLDERS AND CORP. OFFICERS ACCOUNTABLE, ACCOUNTABLE

SINCE I HAVE NO CONFIDENCE IN THE UTILITY TO OPERATE THE PIPELINE SAFELY, I PREFER TO MOVE THE BLAST ZONE TO LESS POPULATED AREA THAT WILL NOT THREATEN PUBLIC SAFETY ASSETS.

Name: [REDACTED]

Organization/Affiliation (if applicable): _____

Mailing Address: [REDACTED] [NEAR ESCALA & POMERADO]

City, State, Zip: SAN DIEGO, CA 92129

Email Address: _____

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Date: 5/23/2017

Please oppose both alternative routes that lead through Mission Trails Regional Park, the Goodan Ranch, and/or the city of Santee. Mission Trails Regional Park should be preserved for future generation to enjoy in its current most pristine condition. The Goodan Ranch is also a beautiful jewel of San Diego and must be preserved.

The pipeline should not be routed through the city of Santee. Traffic is already gridlocked and this pipeline would stagger traffic further. Carlton Oaks Blvd, Mast Blvd, and West Hills Parkway already have some of the worse traffic in San Diego County.

Name: [REDACTED]

Organization/Affiliation (if applicable):

Santee City [REDACTED]

Mailing Address: [REDACTED]

City, State, Zip:

Santee CA 92077

Email Address: [REDACTED]

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California Public Utilities Commission

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Date: May 24, 2017

Opposed to this project on economic grounds. In environment of declining NG use, cannot justify cost of huge infrastructure project that will be unnecessary long before it is paid off.

Name: [REDACTED]

Organization/Affiliation (if applicable): [REDACTED]

Mailing Address: [REDACTED]

City, State, Zip: Encinitas, CA 92024

Email Address: [REDACTED]

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Santee School District Public Comment for SDG&E Proposed Alternate Gas Pipeline

My name is Kristin Baranski and I am the Superintendent for the Santee School District serving 6,800 PreK through 8th grade students in Santee. The reason I am here today is to voice the school district's opposition to one of the alternate routes for the SDG&E gas pipeline that is being considered. This route would take the pipeline through Santee in very close proximity to 2 of our schools; Carlton Oaks Elementary School located on Wethersfield Road just off of Carlton Oaks Blvd, and Sycamore Canyon School on Settle Road near Fanita Parkway.

We believe this alternate route is extremely disruptive to a densely populated area. Carlton Oaks and Sycamore Canyon schools are accessed by school buses and parents using the 2 major thoroughfares through Santee that would be impacted by this alternate route; Carlton Oaks Blvd and Fanita Parkway. The management of traffic flow is already a significant challenge for school dropoff and pickup and we anticipate that road construction on Carlton Oaks and Fanita Parkway for a gas pipeline will delay school busses into and out of these schools and will impact parents traversing these roads to dropoff and pickup their kids at Carlton Oaks and Sycamore Canyon schools.

Initial conversations with SDG&E have indicated that, if the route through Santee were adopted by the PUC, much of their work can be done during the summer, ostensibly avoiding impact to schools. However, Santee schools do not completely shut down for the short 8 to 10 week summer break period. Summer programs are in operation at our schools throughout July and August, so disruption to bus routes and school dropoff and pickup can still be experienced during summer.

Frankly, we are perplexed as to why a route through major thoroughfares of a residential community already challenged with traffic congestion would even be considered. We understand the route proposed by SDG&E through Miramar avoids, or at least minimizes, impacts to residential neighborhoods and communities. We fail to see how a route through Santee neighborhoods exacerbating traffic congestion and creating significant nuisances with construction noise and disturbance is a better alternative.

We ask that the Public Utilities Commission consider these significant impacts to the residents of Santee and opt to select the Miramar route proposed by SDG&E.

Thank you.

Kristin Baranski, Superintendent
Santee School District

9625 Cuyamaca St

Santee, CA 92071

619-258-2321

kristin.baranski@santeesd.net



Pipeline Safety and Reliability Project – New Natural Gas Line 3602 and De-rating Line 1600 (PSRP)

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Date: 5-24-17

MY WIFE + I WANT ALL PARTIES INVOLVED IN THIS PROJECT TO USE COMMON SENSE AND REASONABLENESS TO BUILD/OK A PROJECT THAT WILL BE "GOOD" FOR PEOPLE, NATURE, AND THE ENERGY NEEDS OF THE AREA.

Name: [Redacted]

Organization/Affiliation (if applicable): SELF THANK YOU

Mailing Address: [Redacted]

City, State, Zip: S.D., CA. 92128

Email Address: [Redacted]

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Date: 5/23/17

After reviewing the "Protest of Sierra Club to Amended Application", it became clear to me that this project should not go forward. It is not needed and it appears that SDG&E is not being fully forthcoming in its rationale for justification for approval.

Name: [Redacted]
 Organization/Affiliation (if applicable): [Redacted]
 Mailing Address: [Redacted]
 City, State, Zip: [Redacted]
 Email Address: [Redacted]

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Date: May 23, 2017

This project has a goal to bring gas from Mexico to the US. This is going to profit Mexico + Sempra but not Americans.

Please add me to the mailing list.

Name: [Redacted]

Organization/Affiliation (if applicable): none

Mailing Address: [Redacted]

City, State, Zip: Fallbrook, CA 92028

Email Address: _____

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Date: May 23, 2017

Your people are not forthcoming when you had questions about relationship to properties & where the pipeline will go. Sempra keeps using our bills but they do not invest in CA they take our money & invest in Mexico, Cuba etc. We are being ripped off. This pipe line isn't needed because of other projects, etc.

Name: [Redacted]

Organization/Affiliation (if applicable): none

Mailing Address: [Redacted]

City, State, Zip: Fallbrook, CA 92028

Email Address: _____

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Date: 5/24 May 17

① There has been ~~no~~ effort to provide, the cost of projects currently L-1600 has been in operation for years, what's the actual \$ available for replacement & repair, will these funds be used to reduce or cost of the new 36" pipeline (3602) and start a new turn.

② There is no clear message about 1600 pipeline de-rating, does the line will continue to operate as a 60 yr old pipeline at reduce pressure, or discontinued =.

③ Disappointed that pipeline route thru San Francisco will

Name: [REDACTED]

Organization/Affiliation (if applicable): _____

Mailing Address: [REDACTED]

City, State, Zip: ESL CA 92029

Email Address: [REDACTED]

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USE RESIDENTIAL STREET, RAYLOR HIGHWAY
RIGHT AWAY & PARK LAND -



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Date: 5/24/17

(Population, Traffic, Land Use, Safety-hazardous material)
 - Pomerado is a busy road. within the block between Ted Williams + Poway Road there are numerous schools: Abravans, Meadowbrook Middle School, Pomerado Elementary, Montessori School. Just ~~at the~~ ^{North} is the Hospital. Pomerado is very busy + an alternative route for I 15. Thus, this is not a good street to put a pipeline on. It would be better to put it elsewhere.

- Do we really need more pipeline? What about alternative energy sources (solar: we have solar panels). There are new ways to save energy + more are moving forward that have less environmental impact than building a new pipeline.

Name: [Redacted]

Organization/Affiliation (if applicable):

Mailing Address: [Redacted]

(a few blocks off of Pomerado)

City, State, Zip:

Poway, CA 92064

Email Address: [Redacted]

Please place this completed form in a comment box at a CPUC PSRP public scoping meeting, or mail by **June 12, 2017** to:

Robert Peterson
 California Public Utilities Commission
 RE: Pipeline Safety and Reliability Project
 c/o Ecology and Environment, Inc.
 505 Sansome St., Suite 300
 San Francisco, CA 94111

You may also submit comments online at <http://sandiegopipeline-psrp.com> or email comments to SDgaspipeline@ene.com

- Alternative site due to safety issues w/ schools + hospitals on/close to Pomerado Road

- Alternative Energy - what is the need for the pipeline?
What would happen if there was no pipeline at all (Line 1600 shut down),

→ why not use the same route as Line 1600?
replace +/or repair

May 24, 2017

Carlsbad resident

Re: New proposed Sempra Pipeline

This comment is directed to Alternative Analysis.

Please insure battery storage

Survival skills are a remarkable thing to witness aren't they? I think that's what we have going on here. Once again Sempra is bringing out the big guns, aiming huge and high with a totally unnecessary new pipeline that's twice the size of an existing one designed to serve in case of emergencies that was called upon once since 1985? And cost over \$600 million, billed to rate payers until 2063? YOU'RE kidding right.

is compromise only 89

How is it that you think we are dumb enough or scared enough to go along with this proposal? Are you banking on the fact that you don't think we are paying attention. We ARE PAYING ATTENTION and have remarkable survival skills too and so do some of our leaders who say they are dedicated to getting completely off natural gas and completely on clean fuel way before that bill you proposed is due.

We care about climate change, our kid's future and quality of life on this planet!! That's why the City of San Diego listened to us and committed to clean energy, that's why we are putting solar everywhere the sun shines in our neighborhoods, schools and community. That's why we are buying volts and bolts and Teslas and Fiats and BMR's, it's why we want better more connected mass transit options, less parking structures and more bike paths. That's the road we are going down.

Here's the deal, YOU want to survive, GIVE US ENERGY STORAGE to hold the solar that's being produced during the daytime in sunny beautiful amazing San Diego so we can use it at night. Invest in transmission so you can manage this clean and responsible shift in power production. You can make a profit for your investors and pay your mortgage on that huge building downtown and you will still be around if you start behaving responsibly and LISTEN! Community Choice energy is knocking on the door and looks like you've tried to answer by offering customers a totally clean energy option. **Right answer!** Now just do it bigger and better. Cut the unnecessary gas lines we do not and will not need. It's not far off that we will choose to heat our homes and water with electric too, gas use will go down, it will actually go away and your archaic and dangerous attempts to force this old school survival skill junk on us is a terrible waste of time.

Please hear us for the sake of YOUR survival and OURS, move away from the gas line now, move toward clean energy storage and better transmission and we will all greet a safer better tomorrow. Thank YOU!!



Pipeline Safety and Reliability Project – New Natural Gas Line 3602 and De-rating Line 1600 (PSRP) CPUC Public Scoping Comment Form

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Please Print Clearly – Use the Other Side of This Form if Additional Space for Comment is Needed

Date: 5/23/2017

As an Engineer at Rainbow MWD, I want to make sure our staff is included in design of the pipe where it crosses our facilities. For the safety of our staff we want to make sure there is consideration of protecting the gas main in areas our staff may need to dig in order to fix our existing infrastructure. Feel free to contact me directly to coordinate any intersections with our facilities.

Name: Michael Powers

Organization/Affiliation (if applicable): Rainbow MWD

Mailing Address: 3707 Old Highway 395, Fallbrook, CA 92028

City, State, Zip: _____

Email Address: mpowers@rainbowmwd.com

Please place this completed form in a comment box at a CPUC PSRP public scoping meeting, or mail by **June 12, 2017**, to:

Robert Peterson

California Public Utilities Commission

RE: Pipeline Safety and Reliability Project

c/o Ecology and Environment, Inc.

505 Sansome St., Suite 300

San Francisco, CA 94111

You may also submit comments online at <http://sandiegopipeline-psrp.com>

or email comments to SDgaspipeline@ene.com



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Date: 5/25/2017
Economics & Cost-renewable energy is gaining strength & strength. Does the cost of this pipeline make any sense as we shift away from non-renewable energies?

The risks posed to residents is unacceptable. Just through Scripps Ranch this pipeline passes dangerously close to many schools. Not to mention our large new retirement community being built on Pomerado Road. Add this to all existing residences within 200-300 feet of Pomerado.

Name: [Redacted]
Organization/Affiliation (if applicable): [Redacted]
Mailing Address: [Redacted]
City, State, Zip: San Diego, CA 92131
Email Address: _____

Please place this completed form in a comment box at a CPUC PSRP public scoping meeting, or mail by June 12, 2017, to:
Robert Peterson
California Public Utilities Commission
RE: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome St., Suite 300
San Francisco, CA 94111
You may also submit comments online at <http://sandiegopipeline-psrp.com>
or email comments to 5Dgaspipeline@ene.com



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Date: 5/25/2017

Our community is being put at extreme risk to transport natural gas to other parts of the country. A 36" pipeline does not belong in a residential neighborhood. My home is less than 200' from Pomarado Road. I am terrified of this pipeline. This isn't even for natural gas that we consume. Our lives are being disrupted this year for underground placement of an electric transmission line. Now you are proposing digging up Homestead Road again within 2 years once again.
I say 2 words to you
San Bruno

Name: [REDACTED]

Organization/Affiliation (if applicable): _____

Mailing Address: [REDACTED]

City, State, Zip: San Diego CA 92131

Email Address: [REDACTED]

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Date: 5/25/17

- 1) On the part of Pomerado Road with walls on both sides, what will be the impact to the walls and the properties behind them?
- 2) What will be done with the trees that are adjacent to the sidewalk that will be demolished during construction?
- 3) How long of a section will be under construction at a time and how long will each section take to complete?
- 4) How much impact will there be on traffic flow during construction on Pomerado Road? Will traffic be rerouted?
- 5) What are the considerations when running the pipe within 1000 feet of a school?
- 6) What's wrong with running the new one along the same path as the old one?
- 7) What earthquake strength is the pipeline expected to withstand?

Name: [REDACTED]

Organization/Affiliation (if applicable): _____

Mailing Address: _____

City, State, Zip: _____

Email Address: [REDACTED]

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Date: 5/25/17

- When work would be done on Pomerado, where will traffic be diverted? Who will be responsible for roads repair? What about the safety of all of our children that play in the neighborhoods + streets being diverted through? Our neighborhood roads already have huge potholes and cant take the 100s of extra cars. Also, cars have been diverted from the 15 to Pomerado, what will happen during construction?
- We received a very vaugh flyer RE pipeline but none of our neighbors were aware of the project. ~~It~~ It would be a shock to the community if they arent better notified.
- What about safe access to hospitals + offices along Pomerado + other areas during construction?
- Safety next to hospitals, preschools, houses

Name: [REDACTED]

Organization/Affiliation (if applicable): _____

Mailing Address: [REDACTED]

City, State, Zip: San Diego, CA 92128

Email Address: [REDACTED]

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Robert Peterson
California Public Utilities Commission
RE: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome St., Suite 300
San Francisco, CA 94111

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Pipeline Safety and Reliability Project – New Natural Gas Line 3602 and De-rating Line 1600 (PSRP)

CPUC Public Scoping Comment Form

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Date: May 25, 2015

- The EIR should consider the overall need for the pipeline expansion ~~and~~ given the cumulative impacts the natural gas will produce in greenhouse gas emissions (GHG). Since the state goals (by law) is to reduce GHG's into 2050 the need to have the line and/or expansion should be the primary environmental question.
- The other issue is the economic impacts of the proposed line compared to alternatives. The proposed line will cost rate payer \$600 million. What alternatives would provide communities with the energy they will need in the future which may cost less and help us meet our GHG reduction goals.

Name: Jack Shu

Organization/Affiliation (if applicable): Cleveland National Forest Foundation

Mailing Address: 8040 Wetherly St.

City, State, Zip: La Mesa CA 91941

Email Address: jkshu52@gmail.com

Please place this completed form in a comment box at a CPUC PSRP public scoping meeting, or mail by June 12, 2017, to:

Robert Peterson

California Public Utilities Commission

RE: Pipeline Safety and Reliability Project

c/o Ecology and Environment, Inc.

505 Sansome St., Suite 300

San Francisco, CA 94111

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Third -

allowing the existing line to become a distribution line may enable more development in the ~~area~~ area where it passed.

This will cause more developed outside existing cities which will increase CTHG, ~~the~~ transportation problem + other costs for government to fund. The EIR should show how the growth inducing elements of the project.



Pipeline Safety and Reliability Project – New Natural Gas Line 3602 and De-rating Line 1600 (PSRP)

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Date: 5-25-17

I support this project. 70 yr old pipe needs to be replaced and made safe with 21st century technology. Thanks for the public meetings

Name: [REDACTED]

Organization/Affiliation (if applicable): [REDACTED]

Mailing Address: [REDACTED]

City, State, Zip: SD 92126

Email Address: [REDACTED]

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 California Public Utilities Commission
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 c/o Ecology and Environment, Inc.
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Pipeline Safety and Reliability Project – New Natural Gas Line 3602 and De-rating Line 1600 (PSRP)

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Date: May 23, 2017

I would like to see an analysis (including a pie chart) that describes the sectors of the economy using this natural gas, for example household, commercial, industrial, and power generation — today, 10 and 20 years from completion. Thank you,

Name: _____

Organization/Affiliation (if applicable): _____

Mailing Address: _____

City, State, Zip: San Diego, CA 92110

Email Address: _____

(over)

Please place this completed form in a comment box at a CPUC PSRP public scoping meeting, or mail by **June 12, 2017**, to:

Robert Peterson
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 San Francisco, CA 94111

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I would also like to see an estimate of overall natural gas use now, ten years and 20 years ~~and~~ from now.

It would be helpful (in fact, essential) to describe conclusions ~~from~~ based on more than one economic model, e.g. (i) business under current law; ~~and~~ (ii) in response to aggressive investment in non-fossil alternatives; and (iii) ^{considering} a tax or fee ~~on~~ CO₂ release of \$100 per ton of CO₂ by 2030 and \$200 per ton by 2040.



Pipeline Safety and Reliability Project – New Natural Gas Line 3602 and De-rating Line 1600 (PSRP) CPUC Public Scoping Comment Form

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Date: 5/23/17

THE PROPOSED ROUTE OF THE PROJECT, BEGINNING IN RAINBOW,
PASSES 5 FIRE STATIONS WITHIN THE FIRST 10 MILES.
BASED ON PROVIDED MAPS, PROXIMITY OF THE PROJECT
TO THE AFOREMENTIONED FIRE STATIONS RANGES FROM
A FEW HUNDRED FEET TO LESS THAN 1 MILE.

UNDER: PUBLIC SERVICES AND UTILITIES AND
TRAFFIC AND TRANSPORTATION PLEASE ADDRESS
1) ACCESS AND EGRESS TO FIRE STATIONS FOR
EMERGENCY RESPONDERS AND PUBLIC
2) ANY MODIFICATIONS OR ADJUSTMENTS TO
EXISTING EMERGENCY RESPONSE ROUTES
USED BY FIRST RESPONDERS

Name: GREG WILSON

Organization/Affiliation (if applicable): NORTH COUNTY FIRE PROTECTION DISTRICT

Mailing Address: 330 S. MAIN AVE

City, State, Zip: FALLBROOK, CA 92028

Email Address: GWILSON@NCFIRE.ORG

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Robert Peterson
California Public Utilities Commission
RE: Pipeline Safety and Reliability Project
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Pipeline Safety and Reliability Project – New Natural Gas Line 3602 and De-rating Line 1600 (PSRP)

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Date: 5/23/17

Concerns:
 Cost of fiber optic encasement system. Is this necessary given the proximity of the line to a busy road?

Traffic Delays. The 15 is very busy & only getting busier. The old 395 route is helpful to reduce 15 traffic if there are accidents. Will construction stop overflow traffic from 15?

Costs - Are the increases to rates permanent after the project ends? Shouldn't this save \$ eventually?

Name: [Redacted]

Organization/Affiliation (if applicable):

Mailing Address: [Redacted]

City, State, Zip: Temecula, CA

Email Address: [Redacted]

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 Robert Peterson
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 c/o Ecology and Environment, Inc.
 505 Sansome St., Suite 300
 San Francisco, CA 94111
 You may also submit comments online at <http://sandiegopipeline-psrp.com>
 or email comments to SDgaspipeline@ene.com

[REDACTED]
[REDACTED]
San Diego , CA 92124

RE: Pipeline Safety and Reliability Project (Application No. A.15-09-013) I oppose both alternative routes of the proposed gas pipeline (Line 3602). Alternative routes through Mission Trails Regional Park and surrounding park expansion areas are not acceptable. The first proposed alternative would disrupt the use of and degrade Mission Trails Regional Park's West Sycamore Area including parts of the new Stowe Trail, as well as the Goodan Ranch, and Fanita Ranch. These preserved areas and parklands are used by hundreds of visitors daily. Maintaining the integrity of the preservation of these natural lands is imperative for existing wildlife, flora, and habitat. The second proposed alternative is equally unacceptable and would degrade Mission Trails's Spring Canyon and East Fortuna Staging Area, and also East Elliott, part of MTRP's larger ecosystem. The park and its surrounding expansion area must be protected. A new gas pipeline does not belong in these natural habitats which are used recreationally by park visitors. Please drop or oppose these alternative routes. Thank you



San Diego, CA 92106

Robert Peterson California Public Utilities Commission RE: Pipeline Safety and Reliability Project c/o Ecology and Environment, Inc. 505 Sansome Street, Suite 300 San Francisco, CA 94111 RE: Pipeline Safety and Reliability Project (Application No. A.15-09-013) I oppose both alternative routes of the proposed gas pipeline (Line 3602). Alternative routes through Mission Trails Regional Park and surrounding park expansion areas are not acceptable. The first proposed alternative would disrupt the use of and degrade Mission Trails Regional Park's West Sycamore Area including parts of the new Stowe Trail, as well as the Goodan Ranch, and Fanita Ranch. These preserved areas and parklands are used by hundreds of visitors daily. Maintaining the integrity of the preservation of these natural lands is imperative for existing wildlife, flora, and habitat. The second proposed alternative is equally unacceptable and would degrade Mission Trails's Spring Canyon and East Fortuna Staging Area, and also East Elliott, part of MTRP's larger ecosystem. The park and its surrounding expansion area must be protected. A new gas pipeline does not belong in these natural habitats which are used recreationally by park visitors. Please drop or oppose these alternative routes. Thank you. ###



ESCONDIDO, CA 92027

In sunny San Diego County, solar is the obvious choice, with resources more appropriately directed toward solar energy storage. SDG&E reports the current line 1600 will be serviceable for 20 years without significant overhaul, but wants San Diego rate payers to pay \$600,000,000 to promote expanded use of fossil fuel. California is continuing to lead in renewable energy, incentivising manufacturer and consumer selection of greener options. Rooftop solar panels are becoming ubiquitous, including in commercial properties and blue collar neighborhoods. Natural gas use has decreased, and will likely decrease more rapidly with appliance manufacturing conversion of traditionally gas-dependent products to electric. I urge the CPUC and SDG&E to upgrade existing line 1600, and recognize the value of investing rate payer money in renewable energy storage, rather than expanding natural gas transmission, which may soon prove most useful to SDG&E/Sempra as an expensive upgrade to its transmission line to Mexico, financed by San Diego ratepayers.

[REDACTED]
TaxPayer
[REDACTED]

valley center, CA 92082

CONCERNS: concern for public safety with old pipeline still being used and removing regulator stations. 50 miles with only 10 stations is a concern. That seems to be a long distance between stations if there are issues that require shutoffs. Construction temporarily blocking access roads in case of fire (i.e. Rice fire) or medical emergency. Figure 1 is out of date for rural communities - each of the north county communities were larger than the 2012/2017 representation back in 1992. Concern that decisions are based on out of date data. Concern that the local tribes are not actively engaged and that construction will adversely affect archaeological sites. In the rural areas some homes are on wells. What are the guarantees that water safety will be maintained? Do the lines cross earthquake faults? There's a private airstrip on old castle road. When it rains water pools in some low lying locations along hwy 15 area. this is frequented by migrating birds and butterflies/moths. Sycamore Canyon Preserve - I don't live close to it but it's a jewel. Any construction on that site will cause damage. If SDG&E screws up on this construction (i.e. the power plant) - who will get stuck with the bill? Rate Payers or Shareholders? What is being done to ensure quality materials and construction? What are the affects of long term low level exposures to natural gas? Are all the interfaces welded or glass sealed? (to avoid leaks) Is there potential issues for any materials that aren't welded? will the new line have in-line sensors for monitoring any mix of oxygen? (i.e. a few years ago a neighborhood had a leak and several houses blew up) Is the line pre-tested before it's installed? Before it goes online? Construction workers - will these be locally hired? If not, why not? What is being done to mitigate any issues for new residents that want to build a home or move off of septic - i.e. to access sewer or water. Are they able to cross above the gas line? What is being done to improve the safety of the old lines other than just dropping the pressure? Is there a plan for replacements for these? If there's a construction mishap will SDG&E be transparent and advise the public?

[REDACTED]

[REDACTED]

RE: Natural Gas Line 3602 (Application No. A.15-09-013) Dear CPUC, SDG&E's fracked gas pipeline project should be abandoned. The pipeline expansion is not needed. Natural Gas use is declining in the region. The likely conversion of ratepayer-financed infrastructure to export LNG would be contrary to California's climate goals and contrary to the public interest. Our parks are not intended to be sacrificed for utility profits.

Sincerely, [REDACTED]

[REDACTED]

[REDACTED]

RE: Natural Gas Line 3602 (Application No. A.15-09-013) Dear CPUC, SDG&E's fracked gas pipeline project should be abandoned. The pipeline expansion is not needed. Natural Gas use is declining in the region. The likely conversion of ratepayer-financed infrastructure to export LNG would be contrary to California's climate goals and contrary to the public interest. Our parks are not intended to be sacrificed for utility profits. Save the environment and our quality of life. It is not for sale. Sincerely, [REDACTED]

[REDACTED]

[REDACTED]

Natural Gas Line 3602 (Application No. A.15-09-013) SDG&E's fracked gas pipeline project should be abandoned. The pipeline expansion is not needed. Natural Gas use is declining in the region. The likely conversion of ratepayer-financed infrastructure to export LNG would be contrary to California's climate goals and contrary to the public interest. Our parks are not intended to be sacrificed for utility profits. Sincerely, [REDACTED]



SDG&E's fracked gas pipeline project should be abandoned. The pipeline expansion is not needed. Natural Gas use is declining in the region. The likely conversion of ratepayer-financed infrastructure to export LNG would be contrary to California's climate goals and contrary to the public interest. Our parks are not intended to be sacrificed for utility profits.

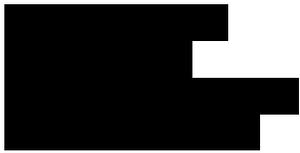


Dear Mr. Peterson, The gas pipeline proposed by SDG&E should be rejected for the following reasons: There is an immediate need to decrease our reliance on fossil fuels and transition to renewable energy. The proposed pipeline is unnecessary and would saddle ratepayers with costs through 2063 totalling over \$600 million. Natural gas usage is in a steep decline in California and SDG&E has determined that the existing pipeline can operate reliably for twenty more years. Ratepayers must NOT be asked to subsidize SDG&E plans which are not necessary and are counterproductive to California climate goals. I urge you to reject this proposal for a new gas pipeline. Thank you for your consideration

[REDACTED]

[REDACTED]

There was an error submitting this comment, so I am resubmitting** Is there information available as to why the Lake Hodges and Black Mountain options were not selected as the primary route? I concur that a new pipeline is necessary, however, as a homeowner in the impacted area of Pomerado Rd, it seems that there are better options than this heavily traveled route. Both Lake Hodges and Black Mountain options appear to take the pipeline into less populated areas.



I agree that a new gas pipeline is needed, but it really does not need to go through a high population area down a main north south corridor creating great inconvenience to the local drivers and a safety problem if a wild fire were to come again to Poway reducing the evacuation route out of Poway. The freeway route would be a far safer direction for the pipeline away from the population.

[REDACTED]

[REDACTED]

My home as well as several in my neighborhood all abut Pomerado Road. Installing a large, high pressure gas line within 50 feet of homes seems to be both potentially dangerous as well as a significant potential financial loss to the property owners.



Dear CPUC, I am strongly opposed to this. I am outraged that we, the ratepayers, are expected to finance this. The fracked gas pipeline is a boondoggle - none of the alternatives are acceptable and our parks are not intended to be the profit corridors for big utilities. SDG&E's fracked gas pipeline project should be abandoned. The pipeline expansion is not needed. Natural Gas use is declining in the region. The likely conversion of ratepayer-financed infrastructure to export LNG would be contrary to California's climate goals and contrary to the public interest. Our parks are not intended to be sacrificed for utility profits. We have already seen the unfortunate environmental impact of fracking across America. There is no valid reason to bring this to our county. Thank you for considering my comments on this important issue. Sincerely,

[REDACTED]

Dear CPU Commissioners, Lack of full justification for the proposed SDG&E fracked gas pipeline project should provide all the necessary reason to reject it unanimously. As a ratepayer, I strongly oppose the continued attempts by SDG&E to "steal" generous public subsidization for unnecessary, ambitious, and open-space destroying projects that then go on to guarantee a profit for them as a ball/chain on the public. There is neither need or benefit for ratepayers in this project. It is contrary to California's climate goals and contrary to the public interest. Please allow the facts, as they weigh-in for the public interest and the planet, to temper private corporations' interests and ambitions. Your policies and decisions are more imperative now than ever. Thank you for your service and your consideration of my comments. Sincerely, [REDACTED]

[REDACTED]
private citizen/member of 350.org
[REDACTED]

#A1509013. I submitted written comments at the meeting on May 25th. I didn't include my disappointment in the way the meeting was designed to isolate community members from one another, and to insulate utility representatives from the opposition to their project. What was the point of holding a meeting where community members are not allowed to hear one another's concerns voiced and addressed? If the concerns were to be received in isolation, in print or by court reporter only, most of us could have gone to the website in the first place and not come out of our way after a long day at work. It would appear the intention might have been to neutralize dissent. I am disturbed that this project is being proposed at all, especially with a higher capacity pipeline. If we have money for this, when we are making pretenses that we are transitioning to renewable sources, it looks like lip service. It looks like we want to export to China. China is surprising itself with its momentum toward renewables. Now that the Trump administration has surrendered leadership in green energy technologies, they will be even more stimulated to wean themselves and the rest of the world. It would be ironic if the extra capacity in your proposed pipe carried a product with declining demand. I truly hope it is not built and that we use the urgency of our aging small pipe to push ourselves to move more quickly to renewables, and to keep the carbon in the ground. If we have expand our infrastructure, it will be a disincentive. President Trump has withdrawn from the Paris Agreement. It is more important than ever that California leads. The Aliso Canyon gas leak is just another reason to me that we should be shifting the composition of our energy mix. The cost trajectory on renewables will only improve over time. The hidden costs associated with fossil fuels will only reveal itself more and more over time. Be part of the solution. Thank you for your consideration. [REDACTED]

[REDACTED]
Tax Payer
[REDACTED]

I, as a ratepayer to discourage the spending of over \$600 million for an unneeded gas pipeline. I especially object to the optional route that would encroach on Open Space Preserves in Goodan Ranch, Sycamore Canyon Creek, the Stowe Trail through Fanita Ranch, Santee Lakes and Mission Trails Park. That option should never have been considered as it would destroy scenic wildlife habitat and endanger plants, animals and the public. Demand for Natural Gas is falling in the region. The real purpose seems to be to set up exportation of LNG to Asia - at our expense! This new SDG&E's gas pipeline project should be abandoned. The pipeline expansion is not needed. Natural Gas use is declining in the region. The likely conversion of ratepayer-financed infrastructure to export LNG would be contrary to California's climate goals and contrary to the public interest. Our parks and open space are not governmentally protected only to be sacrificed for utility profits.




Robert Peterson California Public Utilities Commission RE: Pipeline Safety and Reliability Project c/o Ecology and Environment, Inc. 505 Sansome Street, Suite 300 San Francisco, CA 94111 RE: Pipeline Safety and Reliability Project (Application No. A.15-09-013) I oppose both alternative routes of the proposed gas pipeline (Line 3602). Alternative routes through Mission Trails Regional Park and surrounding park expansion areas are not acceptable. The first proposed alternative would disrupt the use of and degrade Mission Trails Regional Park's West Sycamore Area including parts of the new Stowe Trail, as well as the Goodan Ranch, and Fanita Ranch. These preserved areas and parklands are used by hundreds of visitors daily. Maintaining the integrity of the preservation of these natural lands is imperative for existing wildlife, flora, and habitat. The second proposed alternative is equally unacceptable and would degrade Mission Trails's Spring Canyon and East Fortuna Staging Area, and also East Elliott, part of MTRP's larger ecosystem. The park and its surrounding expansion area must be protected. A new gas pipeline does not belong in these natural habitats which are used recreationally by park visitors. Please drop or oppose these alternative routes. Thank you.

[REDACTED]
Concerned citizen
[REDACTED]

As s daily user of the Eastern area of MTRP, I'd like to object to any new pipeline being routed through our public parkland. Please don't allow one of the few relatively undeveloped public use areas in the city to be degraded by this project , especially when the route through the closed area at Miramar is superior.

[REDACTED]

[REDACTED]

Dear CPUC, SDG&E's fracked gas pipeline project should be abandoned. The pipeline expansion is not needed. Natural Gas use is declining in the region. The likely conversion of ratepayer-financed infrastructure to export LNG would be contrary to California's climate goals and contrary to the public interest. Our parks are not intended to be sacrificed for utility profits. We cannot continue to destroy parks and public lands to satisfy the never ending reach for higher profits by corporations. Sincerely, [REDACTED]

[REDACTED]
local Poway resident

[REDACTED]
Poway, CA 92064

Please do not build Pipeline Safety and Reliability Project – New Natural Gas Line 3602 and De-rating Line 1600 (PSRP) along Pomerado Road. It is a highly populated residential and medical area with schools, kids, hospital, etc. along this route. This pipeline would introduce a huge safety and environmental risk to this area. Please consider either building alongside the existing transmission line, along the I-15, or use the Black Mountain option to keep this risk further away from highly populated areas of Poway. Thank you, [REDACTED]

[REDACTED]
[REDACTED]
San Diego, CA 92120

RE: Pipeline Safety and Reliability Project (Application No. A.15-09-013) I oppose both alternative routes of the proposed gas pipeline (Line 3602). Alternative routes through Mission Trails Regional Park and surrounding park expansion areas are not acceptable. The first proposed alternative would disrupt the use of and degrade Mission Trails Regional Park's West Sycamore Area including parts of the new Stowe Trail, as well as the Goodan Ranch, and Fanita Ranch. These preserved areas and parklands are used by hundreds of visitors daily. Maintaining the integrity of the preservation of these natural lands is imperative for existing wildlife, flora, and habitat. The second proposed alternative is equally unacceptable and would degrade Mission Trails's Spring Canyon and East Fortuna Staging Area, and also East Elliott, part of MTRP's larger ecosystem. The park and its surrounding expansion area must be protected. A new gas pipeline does not belong in these natural habitats which are used recreationally by park visitors. Please drop or oppose these alternative routes. Thank you.

[REDACTED]
Resident, Engineer
[REDACTED]
Santee, CA 92071

I do not want this gas pipeline through Santee and/or Mission Trails Park. It wasn't safe for the power plant proposal and it isn't safe now. [REDACTED] Santee resident and San Diego worker

[REDACTED]
[REDACTED]
Poway, CA 92064

Closing sections of Pomerado Road will inconvenience schools, businesses, and our local doctors offices and hospital. But the proposed pipeline is much more than inconvenient. It is dangerous for residents. Pomerado Road is our only north-south egress in case of emergency. With the propensity for fires in this area, closing off our major thoroughfare makes no sense at all. As an aside, I was stuck at a local business for 2 hours waiting for SDGE to show up when a local contractor hit a gas line. Not really confident in their reaction time to any emergency.

[REDACTED]
[REDACTED]
Poway, CA 92064

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[REDACTED]
[REDACTED]
Poway, CA 92064

Closing sections of Pomerado Road will inconvenience schools, businesses, and our local doctors offices and hospital. But the proposed pipeline is much more than inconvenient. It is dangerous for residents. Pomerado Road is our only north-south egress in case of emergency. With the propensity for fires in this area, closing off our major thoroughfare makes no sense at all.

[REDACTED]

[REDACTED]

San Diego, CA 95051

I'm an against this project. Efforts/Expenses should be placed in restoring/upgrading the existing Pipeline to meet current needs/safety requirements. Thank you

[REDACTED]
retired

[REDACTED]
SAN DIEGO, CA 92119

I strongly object to the proposed pipeline thru Mission trails park. Sycamore canyon is a jewel in our county. It is bad enough that a housing development is planned for the canyon. It makes a lot more sense to put the pipeline in areas already developed. I have seen bobcats and a mountain lion in Sycamore canyon. We need to preserve what is left of the wild heritage of San Diego. Regards [REDACTED]

[REDACTED]
Resident

[REDACTED]
escondido, CA 92025

i have become very disturbed and concerned after reviewing the Fact sheet i was given by one of my neighbors. this pipeline would be VERY detrimental if it were to pass down Our street as the map indicates. besides the disturbances to the many schools, churches and business in our area it would affect Hundreds of Homes and Residents. our street encino dr is very narrow and peaceful street , any amount of digging or construction would make it impossible for us to move in and out or our driveways. The safety concern of a large gas line going down the street in front of our homes is unthinkable. Besides that the environmental concern is great especially in an area with so much wildlife, a stream and old trees on our street. myself and my family would encourage this pipeline to an alternative route.

[REDACTED]
Home owner

[REDACTED]
escondido , CA 92025

The Proposed pipeline direction down Encino dr is not acceptable. it would be very bad for our community and environment. the disruption to the residents, schools and churches would be too great to even consider. our street is very quite and has a stream with a lot of wildlife on it. any construction of this size would be terrible. i can't not imagine such a large pipe of gas going down on street, sounds scary. please consider another option.

[REDACTED]
[REDACTED]
Poway, CA 92064

This project is vast. It will be VERY disruptive to the community and especially traffic. This project will consume vast amounts of resources. At the time of completion, the County will be virtually 100% alternative energy. All of this for naught. The bottom line means this capital project will dictate the calculations to increase rates. The rate payers will pay, eventually. PLEASE RECONSIDER THIS ENTIRE PROJECT.

[REDACTED]

[REDACTED]

San Diego, CA 92128

I do not believe that the Pipeline is needed. I think it would be a danger to residents along Pomerado Road, Rancho Bernardo and Poway.

[REDACTED]

[REDACTED]

SAN DEIGO, CA 92126

No to Option R and S

[REDACTED]
[REDACTED]
Santee, CA 92071

I request that SDGE not be permitted to create a new gas pipeline through Mission Trails Regional Park and the surrounding East Elliott properties. The area is noted for its scenic beauty, is utilized by hundreds daily seeking quiet natural beauty and wildlife. If the pipeline must be built, keep it along I-15 and through Miramar as originally proposed. Further, is it necessary to spend this kind of money and upgrade for natural gas pipeline? Consider the no alternative and invest in rooftop solar on parking lots and energy storage instead. This is our future. Thank you. [REDACTED] Santee, California

[REDACTED]
[REDACTED]
Santa Ana, CA 92705

I am against the construction of this new \$600million pipeline because I do not believe it is right to make ratepayers pay for expensive new natural gas infrastructure we don't need, especially at a time when we need to be investing in infrastructure for renewable energy. As a mother of two girls under 10, I am all too aware that the energy decisions you make now will determine what their lives will be like, and continuing to invest in natural gas is not the right way to go.

[REDACTED]
Santa Ana, CA 92705

I am against the construction of this new \$600million pipeline because I do not believe it is right to make ratepayers pay for expensive new natural gas infrastructure we don't need at a time we need to be investing in infrastructure for renewable energy. As a mom of a daughter under the age of 10, I am all too aware that the energy decisions you make today will determine what her life is like. Investing in this natural gas pipeline is not the right thing to do. Best, [REDACTED]

[REDACTED]
[REDACTED]
Escondido, CA 92025

I am very concerned about the proposed pipeline's route in Escondido where it veers off Centre City Pkwy onto Felicita Ave and then onto Encino Dr. ([REDACTED]) and then onto Bear Valley Pkwy. My concern is with safety issues both during construction and afterwards. This route has: *five schools *four houses of worship (One of these is the largest church in inland north San Diego County and has thousands of attendees on Saturdays, Sundays and Wednesday evenings.) *a fire station *many businesses *hundreds of homes Felicita is a very narrow two-lane, busy street. Encino is a narrow two-lane street (How are we supposed to get in and out of our homes while the extensive construction is going on?) (Surveyors for this pipeline said they couldn't believe that SDG&E was actually thinking of running it this route.) Bear Valley is a very, very, VERY busy two-lane (at the point where Encino joins it) thorough-fare which brings traffic from Valley Center and east Escondido to get on I15. Three of the schools on this route are basically across the street from each other and the high school is about a block away. You can imagine the cars that descend on this area several times a day in addition to the traffic going to and from the freeway. Has a traffic study been done to ascertain the volume of traffic in these areas? Another concern of mine is environmental. Across the street from us, running from El Dorado down Encino to Bear Valley, is a protected riparian habitat that is overseen by CA Fish and Wildlife. This habitat also goes along the east side of Bear Valley where it is two-lanes south of the Encino junction. I do not understand the jog off Centre City on Felicita, Encino, and Bear Valley, which I might point out, adds about an additional mile of construction, and therefore an additional mile of expense. Why not continue down Centre City which is four-lanes all the way and avoid the safety issues I have mentioned???? Why do we even need this natural gas pipeline in the first place???? With more solar and alternative energy sources being used, seems as though it is unnecessary.

[REDACTED]
[REDACTED]
Escondido, CA 92029

Installing a new pipeline is wrong in Sycamore Canyon, repairing the old pipeline will leave the nature preserve with the least amount of damage. Cutting a trench for a new pipeline will do too much harm.

Courtney Mael
Padre Dam Municipal Water District
P.O. Box 719003
Santee, CA 92072

Padre Dam Municipal Water District (Padre Dam) has concerns over the proposed alternate alignment through Santee via Fanita Parkway. 1) CEQA must examine the impact to the existing projects along the proposed alternate alignment Rainbow to Santee including the proposed Fanita Ranch Development and Padre Dam's Advanced Water Purification Project. Both of these projects will be impacting the Fanita Parkway corridor. 2) Padre Dam's Advanced Water Purification Project is designed to bring 30% of the water supply for the region and is currently scheduled to be in construction at the same time frame as the proposed SDG&E project which would cause delays or additional impact to Santee Residents. 3) The utility corridors of Fanita Parkway and Carlton Hills are already congested with many utilities including SDG&E gas and electric lines, Padre Dam Water, sewer and recycled water lines, City of Santee storm drains, cable and phone lines. Meeting the required separation may not be feasible. 4) Padre Dam owns and operates the Santee Lakes Recreation Preserve. The campground and recreation businesses would be significantly impacted by the construction along Fanita Parkway. 5) Padre Dam recommends that the Rainbow to Santee alignment is not used. Thank you for the opportunity to comment on the proposed project. You may contact me with any questions (619) 258-4640



La jolla, CA 92037

6/12/17 Dear CA PUC Members, Please do not permit the proposed new SDG&E gas pipeline to be routed through Goddan ranch in San Diego County. There are precious few nearly undisturbed acres remaining, near populated areas, for people to enjoy. The Goodan Ranch area contains endangered/threatened plants and animals. Thank you



[REDACTED]
[REDACTED]
Irvine, CA 92617

I oppose the installation of this gas line. Gas lines are notorious for leaking methane. These leaks are a fire hazard. Methane is also a greenhouse gas. Please invest instead in renewable energy like solar, wind, and geothermal.



COHN RESTAURANT GROUP

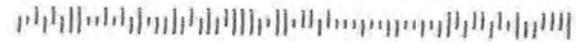
SAN DIEGO CA 9210

02 JUN 2017 919 1



Robert Peterson
California Public Utilities Commission
RE: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

94111-015575





2225 hancock street • san diego, ca 92110 • p: 619.236.1299 • f: 619.236.1300 • dinecrg.com

May 25, 2017

Robert Peterson
California Public Utilities Commission
RE: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

To Whom It May Concern,

I am writing to urge the California Public Utilities Commission to approve San Diego Gas & Electric's proposed natural gas pipeline along the I-15 corridor. Doing so will ensure that local businesses have access to reliable energy at the lowest possible cost.

My family owns and operates more than 20 restaurants in the San Diego region. Our customers regularly return because we prepare every meal with quality and consistency, a feat that is only possible with reliable natural gas keeping our grills hot and our operations running. We also rely on natural gas because it is the most economical energy source available, and that is critically important as work each month to meet the bottom line.

The proposed new natural gas pipeline is needed to keep natural gas readily available throughout the San Diego region. I ask you to approve this project so that San Diego residents and businesses can have the peace of mind that natural gas will be available to them when they need it.

Sincerely,

Jeremy Cohn
Cohn Restaurant Group

the prado wine bar 333pacific bo-beau blue point
ob warehouse sea180° tea pavilion the plantain house
melting pot gaslamp coasterra gaslamp strip club analog
draft republic car jama & o-eva corvette diner casa1915 vintana

Evans Hotels

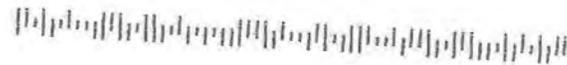
SAN DIEGO CA 920

02 JUN 2017 PM 3 L



Robert Peterson
California Public Utilities Commission
RE: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

94111-015575





998 WEST MISSION BAY DRIVE SAN DIEGO, CALIFORNIA 92109 PHONE: (858) 488-0551

May 29, 2017

Robert Peterson
California Public Utilities Commission
RE: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

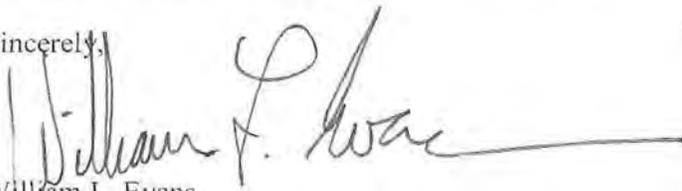
Dear Commissioners,

This letter is in regard to SDG&E's proposed natural gas pipeline project in San Diego, which, if approved, will secure access to clean and affordable energy for businesses and residents throughout our region.

I am an executive board member for Evans Hotels, which owns and operates two hotels on Mission Bay: The Bahia Resort Hotel and the Catamaran Resort and Spa, as well as The Lodge at Torrey Pines in La Jolla. Our resorts offer some of the finest lodging experiences in San Diego because of our commitment to excellence in every aspect of what we do. When it comes to satisfying our guests, natural gas is an important tool for our business. We use natural gas for space heating and food preparation, not only because it is affordable and safe, but also because it is one of the cleanest sources of energy available to our region.

San Diego's natural gas system is aging and in need of repair. A new pipeline is needed to ensure our region is capable of accommodating future energy needs. SDG&E's proposed project would make significant strides toward realizing this necessity, which is why I urge the CPUC to approve this project without delay.

Sincerely,



William L. Evans

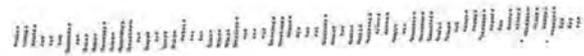
Executive Board Member, Evans Hotels

[REDACTED]
[REDACTED]
San Diego, CA 92119-1008



Robert Peterson
California Public Utilities Commission
RE: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

94111#3155 0017



May 31, 2017

Robert Peterson
California Public Utilities Commission
RE: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

Dear Mr. Peterson:

I have been involved in the planning and development of Mission Trails Regional Park since 1974 when the County and City of San Diego purchased Cowles Mountain. I have been a member of the Mission Trails Regional Park Citizens' Advisory Committee since it was established in 1978, and a member of the Mission Trails Regional Park Foundation Board of Directors since it was established as a 501(c)(3) nonprofit organization in 1988. As a long established supporter of the park, I am writing to express concerns over the two proposed alternate routes for the SDG&E Pipeline Safety and Reliability Project.

I have met with representatives from SDG&E to review the proposal and the alternate routes. I have also reviewed the information on the project web site. While I do not oppose a new natural gas pipeline as proposed by SDG&E, I do not support the proposed alternate routes known as Rainbow to Santee Non-Miramar and Spring Canyon Firebreak and would like to provide information to be considered as you move forward with project analysis.

1. The map on the website showing the two alternative routes is incorrect. The area labeled Sycamore Canyon Preserve is the West Sycamore area of Mission Trails Regional Park managed by the City of San Diego Park and Recreation Department.
2. The City of San Diego is completing a Mission Trails Regional Park Master Plan Update along with a Natural Resource Management Plan and Programmatic EIR. It is anticipated that the documents will be approved by the San Diego City Council and San Diego County Board of Supervisors this summer or early Fall. Information regarding the updates is available on the Mission Trails Regional Park web site at mtrp.org. The proposed pipeline alternatives, as they go through Mission Trails Regional Park, are all within the City of San Diego Multiple Habitat Planning Area. Both of the alternatives as proposed would go through sensitive habit in the West Sycamore and future East Elliott areas of Mission Trails Regional Park.

3. The area north of SR52 (Spring Canyon Firebreak) is part of the U.S. Army Corps of Engineers Formerly Used Defense Site (FUDS) Program for removal of unexploded ordnance. Current information about the program is available on their website at <http://www.spl.usace.army.mil/Missions/Formerly-Used-Defense-Sites/Camp-Elliott/East-Elliott/>

As chair of the Mission Trails Regional Park Citizens' Advisory Committee I anticipate including the proposed project on a future meeting agenda for review by this group of community representatives.

Sincerely,

[Redacted Signature]

[Redacted Title]

- C: Casey Smith, Deputy Director, Open Space Division, City of San Diego P&R Dept.
Estela de Llanos, Director, Major Project Development, SDG&E
Kevin O'Beirne, Major Projects Development Manager, SDG&E

Donovan's Steak & Chop House
1250 Prospect Street, C10-12
La Jolla, CA 92037

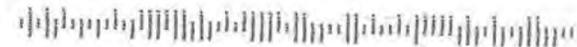
SAN DIEGO CA 920

01 JUN 2017 PM 10 1



Robert Peterson
California Public Utilities Commission
RE: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

94111-315575



Americana Blend
DONOVAN'S
STEAK & CHOP HOUSE

1250 Prospect St., C10-12

La Jolla, CA 92037

Phone: (858) 450-6666

Fax: (858) 450-6664

www.donovanssteakhouse.com

May 26, 2017

Robert Peterson
California Public Utilities Commission
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

Re: Pipeline Safety and Reliability Project

Dear Commissioners:

I am writing in regard to the Pipeline Safety & Reliability Project proposed by SDG&E.

I am the co-owner of Donovan's Steakhouse in La Jolla, which is widely known as one of the premier dining destinations in the region. Our customers have come to associate our restaurant as one of the finest dining experiences in San Diego, and a large part of that comes from our attention to quality. Diners come to Donovan's because they know that we deliver a consistently great dining experience. And, since we're a steakhouse, the quality of that dining experience starts with the perfect steak. When it comes to cooking steaks, our chefs rely on the precise use of heat on the grill to ensure the customer's order is cooked to their satisfaction. Without natural gas, it would be difficult to maintain the exceptional quality of our food.

Using natural gas is beneficial to my business because it provides a steady, reliable source of energy at a low cost. As the California Public Utilities Commission continues to study this project, I hope it takes into consideration the natural gas needs of San Diego customers and how those needs could be jeopardized if our natural gas infrastructure is not enhanced.

Sincerely,

Dan Shea



June 4, 2017

Mr. Robert Peterson

California Public Utilities Commission

RE: Pipeline Safety and Reliability Project

c/o Ecology and Environment, Inc.

505 Sansome Street, Suite 300

San Francisco, CA 94111

RE: Pipeline Safety and Reliability Project – New Natural Gas Line 3602 (Application No. A. 15-09-013)

I oppose both alternative routes of the proposed gas pipeline (Line 3602). Alternative routes through Mission Trails Regional Park and surrounding park expansion areas are not acceptable.

The first proposed alternative would disrupt the use of and degrade Mission Trails Regional Park's West Sycamore Area including parts of the new Stowe Trail, as well as the Goodan Ranch, and Fanita Ranch. These preserved areas and parklands are used by hundreds of visitors daily. Maintaining the integrity of the preservation of these natural lands is imperative for existing wildlife, flora, and habitat.

The second proposed alternative is equally unacceptable and would degrade Mission Trail's Spring Canyon and East Fortuna Staging Area, and also East Elliott, part of MTRP's larger ecosystem. The park and its surrounding expansion area must be protected. A new gas pipeline does not belong in these natural habitats which are used recreationally by park visitors.

Keep SDG&E proposed route along I-15.

Please drop or oppose these alternative routes. Thank you.

Sincerely,

[Redacted signature]

[Redacted name]

[Redacted address]

San Diego, CA

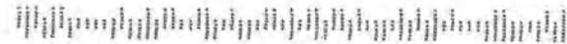
SAN DIEGO CA 920

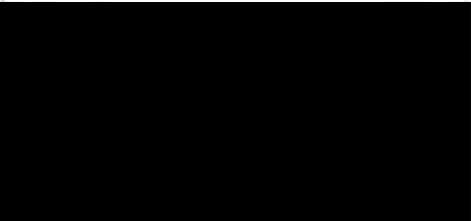
05 JUN 2017 PM 9 L



CA Public Utilities Commission
Pipeline Safety - Reliability Project
90 Ecology and Environment, Inc.
505 Sansome St. Suite 300
San Francisco CA 94111

94111-315575





Director

CPUC Pipeline Project

Dear Director:

I am a San Diego resident , living along Pomerado Road in a senior development called Oaks North in the suburb of Rancho Bernardo. The proposed pipeline is of great concern to people in our zone. WE HAVE NO ESCAPE FROM OUR NEIGHBORHOODS IN THIS ENTIRE REGION OTHER THAN USING POMERADO ROAD. In other words, we are locked into our neighborhood, as are thousands of other residents in neighborhoods adjacent to ours. All neighborhoods EAST of Pomerado Road in our zone have no outlet other than Pomerado Road.

It would be a potential disaster to have a pipeline constructed along Pomerado Road.

Please consider my concerns,



Stephen Wheeler
Stephen L. Wheeler, D.D.S., Inc
PO Box 5000-218
Rancho Santa Fe, California 92067
USA

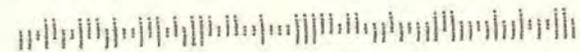
SAN DIEGO CA 920

06 JUN 2017 PM 2 L



California Public Utilities Commission
RE: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansom St., Suite 300
San Francisco, CA 94111

94111-315575





STEPHEN L. WHEELER, D.D.S.
JOHN SEUL, D.M.D., M.D.

June 2, 2017

ORAL & MAXILLOFACIAL
SURGERY

DENTAL IMPLANT
RECONSTRUCTION

INSTITUTE FOR DENTAL
IMPLANT AWARENESS

SCRIPPS MEDICAL
OFFICE BLDG.
320 SANTA FE DR.
SUITE 304
ENCINITAS
CA 92024

T: (760) 942-1333
F: (760) 942-0331

EMAIL:

steve@wheelerandseul.com
john@wheelerandseul.com

WEB:

www.wheelerandseul.com

California Public Utilities Commission
RE: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansom St., Suite 300
San Francisco, CA 94111

To whom it may concern:

I am writing this letter out of concern for the new SDG&E Natural Gas Pipeline from the Rainbow Metering Station to the Marine Corp Air Station Miramar. I understand this is proposed to replace another, almost 70-year old pipeline. My first concern is that this pipeline is safe. I have read reports of a recent explosion of one. Since the proposed pipeline will be near The Welk Resort, lives could be in danger.

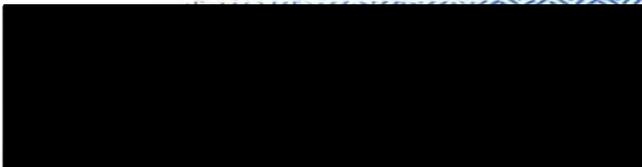
A more pressing personal concern is that our family owns the land adjacent to the Welk Resort which the new pipeline will go through, as well as where the MLV4 is to be placed. My father purchased this land 60 years ago to build a ranch until much of it was taken by eminent domain for I-15. We now have plans for a restaurant and gas station, which makes a gas line even more dangerous. The MLV4 will at least have to be moved ½ mile north or south.

We ask that you please reconsider building this new gas line altogether. Apparently the Sierra Club is already asking that SDG&E to put the hundreds of millions of dollars necessary for the new pipeline into renewable energy sources. At least, if the pipeline is constructed, consider keeping it well away from areas where existing and proposed developments will be located and move the MLV4 to a different location.

Sincerely,

Lynne Dunahoo Wheeler
P.O. Box 5000-218
Rancho Santa Fe, CA 92067

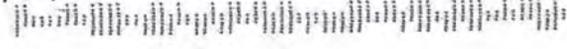
Stephen L. Wheeler, D.D.S.



SAN DIEGO
CA 920
06 JUN '17
PM 9 L



Robert Peterson
California Public Utilities Commission
Re: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansone St., Suite 300
San Francisco, CA 94111

94111-315575 

6/7/2017

Public Safety and Reliability Project – New Natural Gas Line 3602 and De-rating Line 1600 (PSRP)

CPUC Public Scoping Comments

Dear Mr. Peterson,

Please consider an alternate route for the New Natural Gas Line 3602, other than the Sycamore Canyon Goodan Ranch Open Space and the Stowe Trail.

Allow me a brief and emotional accounting of the pristine beauty of this area:

While only 25 miles from my home near San Diego State University, this open space is a world away. In the early 1900s it was the site of the small village of Stowe. Archeological evidence of this settlement still exists within the park.

Later the area was occupied by the [REDACTED] a ranching family. Some structures from this ranching era survived the 2003 wildfires.

The park today exists much as it appeared in the 1800s. This is rare for an area so near a large, densely populated urban area. The historic Stowe trail, which allows permitted access for hikers, bikers, and equestrians from Poway to Santee, runs through the heart of the park.

The animals within the park feel safe and unmolested. Deer, bobcat, Jack rabbits, cottontails, snakes, tarantulas, quail, hawks, fox, coyotes, and the occasional mountain lion represent the some of the animals that call this environment their natural home.

Near the ranger station there is an old growth stand of oak trees that actually survived the 2003 fires. Old coastal and Engleman oaks are in other areas of the park as well.

I am a senior and have derived countless hours of pleasure hiking with my dog [REDACTED] and riding my horse [REDACTED] on all of the park trails. The valleys are cool and wooded on a hot day. The high ridges provide breathtaking views. I would like to see this unique area preserved for my children and grandchildren. There are fewer opportunities for our youth to see the world as it can be.

Please don't disturb this unique area. Please use an alternative route for the pipeline.

Thank you for your time. Best regards,



San Diego, CA



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\$4.54⁰
US POSTA
FIRST-CLAS

071V0068082
92131

ROBERT PETERSON
CALIFORNIA PUBLIC UTILITIES COMMISSION
Re: PIPELINE SAFETY AND RELIABILITY PROJECT
c/o ECOLOGY & ENVIRONMENT, INC.
505 SANSOME ST. SUITE 300
SAN FRANCISCO, CA 94111

Comments in Response to CPUC Public Scoping Meeting

**San Diego Gas & Electric Company
Southern California Gas Company**

Pipeline Safety and Reliability Project (A1509013)

Prepared by: Wallace H. Wulfeck, Chair, Scripps Ranch Planning Group
Sandra K. Wetzel-Smith, Vice-Chair, Scripps Ranch Planning Group

Submitted: June 05, 2017

Introduction: The Scripps Ranch Planning Group (SRPG) is one of 42 Community Planning Groups chartered by the City of San Diego. The SRPG provides consultation and recommendations to the City, County, State, and other agencies regarding planning, land use, transportation and traffic, public safety and other issues for the city planning areas of Scripps Miramar Ranch and Rancho Encantada.

We respectfully submit the following comments regarding scoping and other issues that will affect preparation of the Draft Environmental Impact Report (DEIR).

These comments are specifically concerned with the section of the proposed Gas Transmission Pipeline along Pomerado Road within the 92131 zip code. This is the southern-most portion of the proposed pipeline. We will refer to this section of the proposed pipeline as within "Scripps Ranch".

At this time, the SRPG has taken no position on the Gas Transmission Line itself or on any alternative routes.

Issue 1: Public Notice and Coordination with the Community

In the past on other CPUC proposals, there has been no real public involvement in the identification or evaluation of alternatives. We thank the CPUC for soliciting public comment on this proposal. However, we caution that we will strongly oppose any substitution of alternatives without public hearings in advance of release of the DEIR. If all alternatives are not public before release of the DEIR, then the 45-day comment period provided for review of the DEIR is grossly insufficient to allow careful analysis and consideration of new alternatives. In that case we would ask that the scoping process be re-opened to allow sufficient public awareness and input regarding alternatives which were not included in the original scoping process.

We respectfully request that all alternatives under consideration be released to the public and discussed at public meetings so that input can be provided to inform preparation of the DEIR.

Issue 2: Potential Impacts on Biological Resources:

Carroll Creek is a federally designated wetland, which runs close to and immediately downhill from the south side of Pomerado Road in Scripps Ranch. Construction would undoubtedly result in disturbance of this area and contamination with dust and construction debris. The installation of the underground gas line will also change hydrology of the creek over time, and therefore affect its biology.

Coordination with and feedback from all of the Federal agencies with jurisdiction over this area, such as the Army Corps of Engineers, the U.S. Fish and Wildlife Service and/or the Environmental Protection Agency is essential regarding specific conditions along Pomerado Road. This coordination must be described in the DEIR.

Issue 3: Analyses of Aesthetics:

In previous projects (specifically the Sycamore-Penasquitos Electrical Transmission line, CPUC proceeding A-14-04-011), the DEIR omitted any analysis concerning the installation of over 30 manhole covers along Pomerado Road and Stonebridge Parkway. The EIR then improperly concluded that “there is no lasting aesthetic impact from the underground transmission line.” Pomerado Road is a designated historic roadway – old US-395. Manholes and other pavement anomalies are unsightly and over time lead to discontinuities in the roadway which are both visually unappealing and a hazard to traffic. It is essential that the DEIR address both the visual and traffic-safety impacts of roadway anomalies.

Issue 4: Analyses of Geology, Soils, and Mineral Resources:

A geotechnical investigation must be performed. The route is located near surface water resources (Carroll Canyon Creek) where shallow groundwater would be expected; therefore, it is assumed that these areas could be subject to lateral spreading or liquefaction. Natural groundwater saturation due to the position of Pomerado Road near the bottom of Carroll Creek is inevitable. The effect on the longer-term maintenance and safety of the gas line must be analyzed in the DEIR.

Issue 5: Analyses of Hydrology and Water Resources:

Carroll Creek is a 100-year floodplain. One impact of the proposed gas line will be possible scour of the line, which must be analyzed in terms of its effect on life-cycle maintainability. In addition, however, the line’s placement would impact water flow in and around Carroll Creek, a federally designated wetland, especially during heavy storm water periods (which incidentally occur much more frequently -- at least every 10

years). This means that analyses must be conducted concerning the pipeline's effects during installation and over the long term on the wetland.

Second, as discussed below, we believe there is insufficient roadway width safely to construct the line within the existing Pomerado Road alignment because other utilities, including a 230 kV electrical transmission line (CPUC proceeding A-14-04-011) are already installed. If the proposed gas line is located south of the roadway, then installation will not be impervious in the existing alignment, but instead the pipeline will directly affect the Carroll Creek area, a federally designated wetland, and a FEMA flood zone. This must be analyzed in the DEIR.

Issue 6: Analyses of Transportation and Traffic, including Emergencies:

Pomerado Road is a two-lane arterial travel route for residents of Scripps Ranch and Rancho Encantada, as well as residents of Poway, Ramona, and other areas to the east. It is a designated historical route (US-395) and is a designated emergency evacuation route. It is currently at LOS F in both directions at peak. The traffic volume is approximately 36,000 vehicles per day. Substantial congestion occurs during morning and evening rush hours and at school drop-off and pickup hours at Marshall Middle School. The DEIR must include analyses of the traffic impacts of the proposed construction, and of the long-term operation of the proposed pipeline. There must be detailed analysis of the effect of construction on Pomerado Rd at the I-15 interchange and the daily backups that occur, and analysis of the traffic impact on Marshall Middle School. Freeway on-ramp traffic is heavily affected in the morning by MMS, and off-ramp traffic and traffic along Pomerado Road is almost at a standstill during afternoon dismissal and into business rush hours.

Emergency use of Pomerado Road in Scripps Ranch is critical to safety of the community. Scripps Ranch was affected by the 2003 Cedar Fire, to date the largest wildfire in California history, and was also evacuated in 2007 during the second largest California wildfire. Pomerado Road is a critical part of the evacuation plan approved by the San Diego Fire Safe Council, the City of San Diego Fire / Rescue Department and Homeland Security Department, and the San Diego City Council. It is the only exit for many residents on the south side of Scripps Ranch, and a main escape route for residents of Rancho Encantada, Poway, Ramona, and eastern parts of San Diego County. The approved evacuation plan requires three lanes of travel on Pomerado during an emergency. Pomerado Road has only two marked lanes, and the pavement is barely wide enough for three traffic lanes, even including the bicycle lanes, in many areas. The DEIR must extensively analyze the possibility of evacuation. The DEIR must indicate that construction-caused disturbance of the traffic along this route, including the bicycle lanes, for a year or more will have an extremely negative impact on critical and life-saving evacuation. Interference with a major evacuation route is absolutely unacceptable. Therefore, the DEIR must identify mitigation strategies that preserve the ability to evacuate Scripps Ranch and points east if any evacuation occurs during construction or during subsequent operation.

The electrical transmission line (CPUC A-14-04-011) is routed mostly along the south portion of Pomerado Road. There are several issues: First, a main wastewater line also runs along much of Pomerado Road. Impacts on both these lines, including future maintenance and expansion, must be addressed. Second, in many places along the route, there is a significant downslope. Accordingly, some of the electrical splice vaults, because of their size, will apparently be located nearer to the center of the roadbed, leaving insufficient safe width for gas pipeline construction. In some areas, installation of the gas line will require shoring and major road reconstruction, which the DEIR must describe and analyze. Third, the analysis must consider the main San Diego County Water Authority aqueduct/pipeline which crosses Pomerado Road east of Scripps Ranch Blvd, as well as the pending construction of a new water pipeline at the western end of Pomerado Rd as part of the PURE Water project.

Operation of the Gas Pipeline will lead to continuing unacceptable disturbance of traffic on a designated emergency escape route. Pomerado Road will have new access holes for maintenance of the pipeline, in addition to the 12 large splice vaults, and 24 new 36" manholes constructed as part of the electrical transmission line (CPUC A-14-04-011). Even if installed perfectly, new manholes will distract drivers and lead to swerving or slowing. Missing or misplaced manhole covers will cause accidents and disrupt traffic. But typically and especially over time, the holes and trenches from construction will result in uneven pavement, more visual disturbance, and potholes, particularly in light of the City of San Diego's abysmal record on deferred street maintenance. This will result in additional disturbance to traffic, which, because the road is at LOS F already, is a significant and immitigable environmental impact.

Pomerado Road has a class 2 bicycle lane in each direction not separated from traffic. This is the first bicycle route that provides east-west connectivity north of SR-52, and it is a main segment from San Diego to the only north-south bicycle route to Poway, Escondido and other points north along the old US-395 corridor. There is no other continuous north-south bikeway near I-15. Construction of the gas line will close this route for at least a year during construction, because there is not sufficient roadway width for traffic lanes.

Operation of the proposed gas line will lead to continuing disturbance of traffic as described above, and this will lead to unacceptable bicycle safety issues along the Pomerado corridor. This could be mitigated by installation of a Class 1 bicycle lane adjacent to Pomerado Road along with the proposed transmission line. This should be a required mitigation.

Issue 7: Analysis of Fires and Fuels Management.

The environmental analysis must examine in detail the fire danger along Pomerado Rd, which at present is one of the most fire-prone areas in San Diego County. Large amounts of dry or dead, overgrown, unmaintained brush and trees are within 10 to 20

feet of Pomerado Road immediately adjacent to the proposed gas line route. The fire danger is already under study by the Fire Safe Council, the San Diego City Council, our County Supervisor, our State Assembly Member, and our Member of Congress.

The construction Fire Plan must analyze how to accommodate a major fire, or a mandatory evacuation, such as those that have been ordered twice in the last 13 years. Pomerado Road is a designated evacuation route, not only for Scripps Ranch, but for Rancho Encantada, Poway, Ramona and other northeast county residents.

Issue 8: Analysis of Health and Public Safety.

There should be a separate health and public safety analysis for the Pomerado Road evacuation route resulting from anything that would impact the free flow of traffic. This would be especially true at night when there may be construction crews and trucks in place (Construction might be done at night to avoid impact on the day and school traffic). Combine construction crews, changed traffic work-arounds, and darkness in an emergency to aggravate the evacuation issue. The heavy traffic (already observed during previous evacuations) would be made substantially worse by any construction during fire / smoke conditions which would result in high impact effects on breathing / pulmonary / heart conditions as well as asthma, allergies, and any stress related illness. Worse, any construction that would force a re-directed evacuation would add confusion and anxiety and increase possibilities of death or injury.

An analysis should be conducted concerning the proximity of homes along the north side of Pomerado Road. Since these homes are uphill from the proposed route, any leakage which results in fire or explosion will immediately and severely affect the safety of residents. The DEIR must identify the "blast radius" from any potential gas-line problem, and identify mitigations which prevent any health and safety effects.

An additional separate analysis should be conducted with respect to the proximity of the proposed gas line to Marshall Middle School, Chabad Educational Complex, and the Glen at Scripps Ranch senior living facility, all of which are sensitive receptors. Mitigations must be identified which absolutely preclude any impact, especially in the event of emergencies such as wildfires, aircraft mishaps due to the proximity of Miramar MCAS, or earthquake.

Issue 9: Analysis of Greenhouse Gases.

The analysis must include the additional vehicle emissions from waiting during construction due to lane restriction.

Issue 10: Analysis of Utilities and Public Service Systems.

Analysis in the DEIR of the main San Diego County Water Authority aqueduct which crosses under Pomerado Road just east of Scripps Ranch Blvd. is necessary. Avoidance of this pipeline will require much more extensive excavation.

Pomerado Road is a main travel route for emergency service vehicles in Scripps Ranch and Stonebridge estates, as well as for Poway, Ramona, and other areas to the east. The analysis must consider the traffic disturbance due to construction and include the fact that lane restrictions due to the narrow width of Pomerado Road and pavement anomalies would continue to impede emergency vehicles during life cycle operation.

Issue 11: Analysis of Cumulative Impacts.

The following Impacts in the Scripps Ranch area are associated with the proposed route along Pomerado Road.

- Continuing alteration of biology in the Carroll Creek watershed due to alteration of stormwater flow.
- Continuing degradation of visual appearance due to many manhole covers installed in a historic highway, together with pavement anomalies as a result of repeated construction along Pomerado Road for the electrical and gas transmission lines..
- Continuing effects due to alteration of hydrology in the Carroll Creek area.
- Continuing significant and unavoidable impediments to traffic flow due to pavement anomalies from splice vaults and manholes.
- Continuing interference with a critical fire / emergency evacuation route.
- Continuing increased danger to cyclists due to traffic interference with current class 2 bicycle lanes.
- Continuing long term increase in Greenhouse Gases due to traffic restriction.

After multiple major excavations and patching of Pomerado Rd due to installation of a variety of transmission lines, we expect that complete resurfacing of the entire Pomerado Road surface will be required. There will be several trenches more or less in line with the road. Unlike trenches perpendicular to the directions of travel, these will lead to pavement anomalies that tend to cause vehicles to wander or veer when tires are "caught" by the trench edges that become exposed over time. This effect is worse for motorcycles and bicycles and can be extremely unsafe. The only acceptable mitigation is complete resurfacing after construction is complete, and separation of the bicycle lanes from traffic.

A very important cumulative impact is on future Utility and Service systems. This impact must be completely analyzed in the DEIR, and we expect it will be cumulatively considerable. The analysis must include any induced-current effects from existing utilities. Further, the new gas transmission line will preclude or greatly increase the difficulty of construction of new or upgraded sewer, storm water, potable water, recycled and reclaimed water, residential natural gas, residential-electricity, telephone, and data communications facilities along Pomerado Road in the future. Physically, the large

volume of the gas line (and the adjacent electrical transmission line installed under CPUC A-14-04-011) will have to be avoided in any future repair of existing facilities or construction of new facilities. Induced current and magnetic effects may preclude installation of any future systems involving metal piping or conductors. These impacts might be partially mitigated by coordinating with other utilities and installing new systems at the same time as, and as a condition of approval of, the proposed gas transmission line. For example, a reclaimed water line ("purple pipe") extending from the present terminus on Pomerado Road at Avenue of Nations east on Pomerado Road to Stonebridge Parkway has been proposed for several years, and should be a required mitigation as a condition of approval of the proposed pipeline. If this is not done, future installation will likely be permanently precluded by short-sighted design and installation decisions. Extensive planning and coordination with the City and community will be necessary, to produce a complete and accurate environmental analysis.

Issue 12: Identification and Analysis of Alternatives

An extensive analysis of other project alternatives is critical. In other CPUC projects, many alternatives are taken from outdated prior analyses, and prematurely dismissed. However, if even a little consultation could occur with local community planning groups, other alternatives with much less negative impact might be identified.

OVERALL CONCLUSION:

Given the missed alternatives, omissions, and errors in the CPUC proceeding A-14-04-011 environmental review process, it is clear that insufficient public notice, analysis, and consultation with the community occurred. For this project, the DEIR will need to completely and competently analyze the proposed route as well as viable alternatives. This should be done in consultation with affected communities, not in secret by unaccountable non-local CPUC contractors. Further, public consideration of alternatives should be held during preparation of the DEIR. If this is not done, then the DEIR may be substantively deficient. To avoid this, the DEIR preparation process should publicly identify alternatives, and perhaps be re-scoped with the new alternatives including new public scoping meetings and consultation with Community Planning Groups, rewritten with complete analyses, and issued for substantial public comment before it is approved.

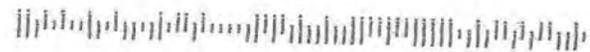
SAN DIEGO CA 920

01 JUN 2017 PM 10:1



ROBERT PETERSON
CALIFORNIA PUBLIC UTILITIES COMMISSION
RE: PIPELINE SAFETY & RELIABILITY PROJECT
C/O ECOLOGY & ENVIRONMENT, INC
505 SAN SOMA ST SUITE 300
SAN FRANCISCO, CA. 94111

9411193155 0017





Pipeline Safety and Reliability Project – New Natural Gas Line 3602 and De-rating Line 1600 (PSRP)

CPUC Public Scoping Comment Form

Comments must be postmarked or received by **Monday, June 12, 2017**, to be considered in the Draft Environmental Impact Report. Comments may be submitted at the public scoping meetings, or mailed to the address below. Please note that comments and corresponding contact information received during the public scoping period will become part of the public record and may be made publicly available. Comments submitted anonymously will be accepted and considered.

Please Print Clearly – Use the Other Side of This Form if Additional Space for Comment is Needed

Date: MAY 31, 2017

- ① KEEP & REPAIR THE EXISTING LINE 1600 & PERFORM ALL NECESSARY SAFETY PRESSURE TESTS
- ② NO OTHER ALTERNATIVES ARE ACCEPTABLE OR NECESSARY ESPECIALLY NO TO THE ALIGNMENT "TURNED TO SLOTTED" PROPOSED THAT COULD INCREASE PRESSURE
- ③ EXISTING LINE OVERSEES 10% OF CURRENT CONSUMPTION - NEW LINE DOES NOT / WILL NOT BENEFIT OUR COMMUNITY
- ④ PROPOSED COSTS FOR A NEW PIPELINE IS \$60 MILLION PAID BY TAXPAYERS WHILE SDG&E GETS 10+ % PROFITS - EXTRAORDINARY
- ⑤ NEW Fossil Fuel LOCAL ALTERNATIVES FOR SDG&E WOULD SET AT 10-20% INCREASES WOULD ANY BE THOSE OCCURRING?
- ⑥ NO TO THE PROPOSED GASLINE 3602 (ANY NEW ALIGNMENTS) EXPLAIN TO THE PUBLIC - REAL UNDERLYING COSTS, PROFITS

Name: ANONYMOUS

Organization/Affiliation (if applicable):

Mailing Address:

City, State, Zip:

Email Address: any

KEEP EXISTING LINE

Please place this completed form in a comment box at a CPUC PSRP public scoping meeting, or mail by **June 12, 2017**, to:
Robert Peterson

California Public Utilities Commission
RE: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome St., Suite 300
San Francisco, CA 94111

You may also submit comments online at <http://sandiegopipeline-psrp.com>
or email comments to SDgaspipeline@ene.com



Pipeline Safety and Reliability Project – New Natural Gas Line 3602 and De-rating Line 1600 (PSRP) CPUC Public Scoping Comment Form

Comments must be postmarked or received by **Monday, June 12, 2017**, to be considered in the Draft Environmental Impact Report. Comments may be submitted at the public scoping meetings, or mailed to the address below. Please note that comments and corresponding contact information received during the public scoping period will become part of the public record and may be made publicly available. Comments submitted anonymously will be accepted and considered.

Please Print Clearly – Use the Other Side of This Form if Additional Space for Comment is Needed

Date: 5/31/2017

Keep existing line!!! DO NOT go into Goodan Ranch
Sycamore Canyon. No need to damage plants and
wild life that call Sycamore canyon home. Sycamore
canyon is one of the few beautiful untouched preserves
in the County of San Diego. Please DO NOT
damage Goodan Ranch Sycamore Canyon.

Keep Existing Line

Name: _____

Organization/Affiliation (if applicable): _____

Mailing Address: _____

City, State, Zip: _____

Email Address: _____

Please place this completed form in a comment box at a CPUC
PSRP public scoping meeting, or mail by June 12, 2017 to:

Robert Peterson
California Public Utilities Commission
RE: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome St., Suite 300
San Francisco, CA 94111

You may also submit comments online at <http://sandiegopipeline-psrp.com>
or email comments to SDgaspipeline@ene.com

██████████
Santa ana, CA 92705

I am against the construction of this new \$600million pipeline because I do not believe it is right to make ratepayers pay for expensive new natural gas infrastructure we don't need at a time we need to be investing in infrastructure for renewable energy. As a mom of two girls under the age of 10, I am all too aware that the energy decisions you make today will determine what their lives are like. Investing in this natural gas pipeline is not the right thing to do. Regards, ██████████

████████████████████
Private Taxpayer
████████████████████

San Diego, CA 92120

No new pipeline. No to alternative line through Goodan Ranch and Mission Trails Preserves. Make upgrades on existing pipeline. The summary objectives to increase capacity is not needed. Not needed to have multiple lines to minimize dependence. Show the facts to the public of the need and costs analysis to upgrade existing line. Construction would cause irreparable habitat, and wildlife damage, to the preserves, also damaging soil compaction, hydrology, 100 year old oak grove trees, native plants, animals, chaparral, riparian trees, crossing three creeks, two canyons, 10 year new visitor center. The environment cannot be restored or repaired back to its original quality from a 100 foot wide footprint of destruction. CDFW have conflicting interests as "Responsible Agency" versus "Trustee Agency" to approve the project while having jurisdiction over resources "Goodan Ranch Preserve" in TRUST of the PEOPLE of CALIFORNIA. NO TO SDGE PROFITS BY DESTROYING PUBLIC PRESERVE LAND.

[REDACTED]
[REDACTED]
San Diego, CA 92131

My family is EXTREMELY upset about the proposed natural gas pipeline proposed to be put in along Pomerado Road. I live in a cul-de-sac that falls directly behind Pomerado Road. I have 2 small children and these pipeline have been proven to be deadly. The San Bruno Natural Gas pipeline killed 8 people and 38 homes.

<http://www.latimes.com/business/la-fi-pge-san-bruno-pipeline-blast-20160809-snap-story.html> You can claim that these will be properly maintained but there are numerous stories out there that prove to us that the Gas and Electric companies are negligent such as the Porter Ranch example as well.

<http://www.latimes.com/local/lanow/la-me-porter-ranch-settlement-20160913-snap-story.html> I feel like your attempt at notifying the public has been completely insufficient. Your public meeting did not allow for resident to ask questions where other residents could be heard and better informed. Your postcard you sent in the mail was likely just dismissed as junk mail as there was nothing on it to alert the residents of Scripps Ranch that this was a 36" natural gas pipeline that is potentially putting hundreds of families at risk. I hope our community does everything we can to protect our residents from this being installed. Regards, [REDACTED]



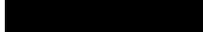
Santee, CA 92071

Robert Peterson California Public Utilities Commission RE: Pipeline Safety and Reliability Project c/o Ecology and Environment, Inc. 505 Sansome Street, Suite 300 San Francisco, CA 94111 RE: Pipeline Safety and Reliability Project – New Natural Gas Line 3602 (Application No. A.15-09-013) I oppose both alternative routes of the proposed gas pipeline (Line 3602). Alternative routes through Mission Trails Regional Park and surrounding park expansion areas are not acceptable. The first proposed alternative would disrupt the use of and degrade Mission Trails Regional Park's West Sycamore Area including parts of the new Stowe Trail, as well as the Goodan Ranch, and Fanita Ranch. These preserved areas and parklands are used by hundreds of visitors daily. Maintaining the integrity of the preservation of these natural lands is imperative for existing wildlife, flora, and habitat. The second proposed alternative is equally unacceptable and would degrade Mission Trail's Spring Canyon and East Fortuna Staging Area, and also East Elliott, part of MTRP's larger ecosystem. The park and its surrounding expansion area must be protected. A new gas pipeline does not belong in these natural habitats which are used recreationally by park visitors. SDG&E's fracked gas pipeline project should be abandoned. The pipeline expansion is not needed. Natural Gas use is declining in the region. The likely conversion of ratepayer-financed infrastructure to export LNG would be contrary to California's climate goals and contrary to the public interest. Our parks are not intended to be sacrificed for utility profits.

Sincerely,  Santee, CA



Santee, CA 92071

CPUC, SDG&E's fracked gas pipeline project should be abandoned. The pipeline expansion is not needed. Natural Gas use is declining in the region. The likely conversion of ratepayer-financed infrastructure to export LNG would be contrary to California's climate goals and contrary to the public interest. Our parks are not intended to be sacrificed for utility profits. Sincerely,  Santee, CA

██████████
concerned property owner

██████████
Poway, CA 92074

Pipeline Safety and Reliability Project- New Natural Gas Line 3602 and De-rating Line 1600 (PSRP) Dear Sir or Madam; My name is ██████████ and I live and own property at ██████████. This runs very near the Rainbow to Santee Non-Miramar project alternative. First of all, I wasn't able to exactly discern the route that goes past my house as your views provide very little or no cross streets and no close up visuals of the project and how it would run. Why are all the views as if seen from space? I think this is a deliberate attempt from the CPUC to be vague as citizens aren't as concerned if the line does not run near them. I live very near Gooden Ranch Park. In fact it wouldn't be much of a stretch that the proposed Rainbow to Santee Non-Miramar project runs through my front yard. Secondly, there are many sensitive species of plants and animals in Sycamore Canyon and the Gooden Ranch area. How will the project affect the stream that runs down the canyon? Also, the road is very narrow and would not withstand a large convoy of trucks and materials running up and down all day. This is a very pristine area and I would not like to see that changed when there are other proposed lines that run through already urbanized areas. My third concern is the possibility of an explosion and fire. We were affected by the 2003 wild fire and are very aware that we live in a tender box. The pipeline would only add to that danger, as we all saw happen this weekend in the Chicago explosion. Maybe that is why you are trying to run it through less populated areas? Finally, it would reduce our property values and ruin the county that we moved here to enjoy. Yes, I'm a NIMFY. Not in my front yard. Thank you for your attention.



Santee, CA 92071

I oppose both alternative routes of the proposed gas pipeline (Line 3602). Alternative routes through Mission Trails Regional Park and surrounding park expansion areas are not acceptable. SDG&E's fracked gas pipeline project should be abandoned. The pipeline expansion is not needed. Natural Gas use is declining in the region. The likely conversion of ratepayer-financed infrastructure to export LNG would be contrary to California's climate goals and contrary to the public interest. Our parks are not intended to be sacrificed for utility profits. Sincerely,  Santee, CA

[REDACTED]
concerned property owner

[REDACTED]
Poway, CA 92074

Dear Sir or Madam, I just spent an hour on a carefully worded objection to the CPUC's Proposed pipeline project that runs through Rainbow to Santee Non-Miramar project alternative. When I submitted it I got an error message and was not able to submit. I tried to print out my letter but that was not successful either. Do you think I have all day to work on this? Is this an deliberate attempt to discourage public comments? I will try another way, but thank you for wasting my time. Sincerely, [REDACTED]

[REDACTED]
[REDACTED]
San Diego, CA 92131

This is a bad idea!!! I live about 30 feet from the proposed site and there are many, many families with kids. Please, please find a less populated area to route this pipeline.

concerned homeowner

Poway, CA 92074

Pipeline Safety and Reliability Project- New Natural Gas Line 3602 and De-rating Line 1600 (PSRP) Dear Sir or Madam: I live at [REDACTED]. The Rainbow to Santee Non-Miramar project alternative looks like it runs very near to my house, if not through my front yard. But who would know with your views from space and no streets or cross streets identified? Is this deliberately vague so people won't know if it runs past their place of business or home? I object on environmental concerns to a pristine area of the county, with sensitive wildlife habitats and rare and endangered plants and animals. There is a stream that runs down the canyon that also may be impacted. Property values will plummet. Who wants to live near a gas line after seeing what happened in Chicago this weekend with an explosion and fire that sent a shock wave through the quiet suburban area? The construction activities would tear up the small ribbon that is Sycamore Canyon Road and add to the already dangerous mix of cars, horses, bicyclers and pedestrians that use Sycamore Canyon Road for recreation. Yes, I'm a NIMFY, Not In My Front Yard. Thank you for your attention.

[REDACTED]
[REDACTED]
POWAY, CA 92064-[REDACTED]

1. The project WILL make Pomerado Rd. nearly unusable, for most normal commuter traffic, months at a time. Ingress and egress for some neighborhoods will be restricted or impossible. Deliveries to commercial and residential locations would be difficult, at best. 2. Emergency traffic into and out of Palomar/Pomerado Hospital may be severely restricted, with the potential traffic back up on Pomerado Rd., and possible rerouting/detour through various neighborhood streets. 3. The impact on the schools along the Pomerado Rd. corridor would be severe (Abraxas, Meadowbrook, etc.). Rancho Bernardo/Espola Rd. and Camino del Norte/Twin Peaks Rd. are major arteries for Poway High School traffic. Their intersections with Pomerado Rd. during the school commute could make these intersections nearly impassable. 4. The concept of one or more large, high-pressure, gas mains only yards away from a hospital is like playing Russian roulette. 5. The inevitable construction "accident" severing one or more underground utility services to the hospital, and other neighborhoods along the corridor, is of real concern. Just cable and/or fiber optic Internet loss for the modern hospital is a significant problem, and can result in the loss of lives. Add to that the loss of electricity, water, sewer, telephone land-lines, or natural gas, and it becomes a recipe for the "perfect storm." 6. A large storm-water drainage system runs down the center of Pomerado Rd. for several miles. There is a potential for drainage system damage and subsequent property damage from water runoff, during construction. 7. The property values of the homes and neighborhoods along Pomerado Rd. will plummet during construction, and probably remain low for years after. The law may require disclosure of the pipeline to prospective homebuyers and commercial leases. 8. Commercial enterprises along Pomerado Rd. will suffer a tremendous loss of customers (and income) during construction. 9. The entire Pomerado Rd. corridor will be subject to blight, with the very real possibility of unsellable abandoned homes and commercial establishments. A better route would be through a lower population density corridor such as Highway 67. Although the geology may be more difficult, there are few East/West arteries to cross. There would still be a tremendous impact on commuter traffic between Lakeside and Ramona, but substantially fewer commercial, educational and residential complications.

[REDACTED]
[REDACTED]
San diego, CA 92131

I would like to express my concern around the gas pipeline planned along pomerado. This is a busy 1 lane road that will significantly impact the community if construction occurs. It is the only access point to the middle school and alliant. Additionally many houses run close to this road so the safety with respect to a natural gas pipeline is very concerning

[REDACTED]
[REDACTED]
Poway, CA 92064

Why are you running this pipeline down Pomerado Road and not down I 15. Why run it pass homes, a hospital and several schools?

[REDACTED]
[REDACTED]
SAN DIEGO, CA 921102360

There is the possibility of ongoing and perhaps increased reliance on natural gas as opposed to renewables as an energy source that would result from implementation of this project. The increased fossil fuel utilization could be local, in the San Diego region, or global, in the case that natural gas is exported from the region through this pipeline. Thus, there will be a direct impact due to increased greenhouse gas release due both (i) to wider usage of natural gas as fuel and (ii) to investment dollars tied up in (or allocated to) the new pipeline that could instead be used to accelerate implementation of renewable energy sources. The impact on greenhouse gas release (primarily CO₂ but also including methane) should be estimated for the pipeline and no pipeline scenarios. And the climate-related impact of these releases on a number of environmental factors among the impact topics (such as Biological Resource Impacts (a) – (f)) should also be considered. But this alone is insufficient. The EIR should model what might happen if global economic development practices follow a plentiful fossil fuel scenario, as envisaged in the SDG&E proposal, or an aggressive renewables-focused economic development strategy, consistent with a decision to cancel the pipeline. Since the statement “aggressive renewables-focused strategy” is subject to interpretation, modeling of multiple scenarios should be carried out, up to and including a strategy to limit global warming to 1.5 degrees C., envisaged as a desirable goal in Paris Climate talks. This is the gold standard of environmental responsibility concerning greenhouse gas release. Last of all, why compare the effects of various alternatives to a gold standard environmental approach if it is not backed up by state or federal laws or binding treaty obligations? The reason is that national commitments are changing over time as the cost of renewables goes down and the short-term (not to mention long-term) hazards of fossil fuel use become apparent. For example, both India and China are taking steps that go beyond their 2015 Paris commitments. I would request that the above considerations be applied to the following sections of the EIR taken from the CEQA Handbook Appendix G.

- Agriculture and Forestry Impacts (d) and (e), considering the impact of climate change.
- Air Quality Impacts (b), considering the effect of increased pollutants, such as ozone, resulting from elevated temperatures in urban environments.
- Biological Resource Impacts (a) – (f), considering the effects of climate change on habitat.
- Greenhouse Gas Emissions (a), considering whether the plan is consistent with an aggressive global effort to implement renewable energy technology.
- Hydrology and Water Impacts (b), considering the possibility of more severe drought conditions and secondary effects on groundwater; and (g)/(h), considering effects on flood hazard due to increased incidence of the Pineapple Express and similar weather events that markedly increase rainfall.
- Public Services (d), considering the effect of massive storms as a result of increased ocean water temperature and other effects of global warming and climate change that can lead to events of very heavy rainfall.



San diego, CA 92131

Do not build this pipeline down Pomerado Road. It's a horrible idea and besides that Pomerado was part of Highway 395 We do so many good things for the city of San Diego to run a gas pipe line down the main vein of our beloved community is a slap in the face



POWAY, CA 92064

In my opinion running the pipeline along Pomerado Rd would be a mistake and i hope the PUC will consider an alternate route #1 you have Pomerado Hospital in the path of this pipeline project. Emergency vehicles may not be able to get through. One death is one death too many. #2 hundred of homes in this location. How safe is this project? #3 for 2 years or more traffic would be a congested mess. PUC PLEASE CONSIDER AN ALTERNATE ROUTE THANK YOU, [REDACTED]



Poway, CA 92074

We live within 50 feet of pomerado rd as so many families in this street. There are also many schools, churches, and daycare centers as well as a hospital. This is simply too dangerous of a route to build a pipeline that could potentially cause great harm to our community. We don't want it!!!! Please find a alternate route.

[REDACTED]
[REDACTED]
Poway, CA 92064

This project should NOT be allowed to proceed along its current route. In Poway, it would follow Pomerado Road past one major hospital, several public and private schools, as well as a very large number of residences. Putting these facilities at risk of a gas leak from such a huge pipeline is an unacceptable risk. On a more personal note, my home borders on Pomerado Road, so this pipeline would pass my home within easy throwing distance of a wet paper towel. Pomerado Road is a major thoroughfare in Poway and my only exit from my neighborhood. I find the proximity of this proposed pipeline to be entirely too close, and the dislocation that would be caused by its installation to be intolerable. I urge you to DISAPPROVE this pipeline project and ask that you compel SDG&E to find a less onerous route. Perhaps the I-15 corridor would be better.

[REDACTED]

[REDACTED]

Escondido, CA 92027

I support the Sierra Club and oppose this pipeline.

[REDACTED]
[REDACTED]
Poway, CA 92064

Our home is within 200 feet of the proposed Line 3602 on Pomerado Road through the City of Poway. I am aware of the San Bruno incident and despite "state of the art" construction and maintenance of the proposed high pressure natural gas line we know that no system is infallible. Egress from our street by vehicle is exclusively via Pomerado Road. We have no escape route and, based upon the information and discussion with SDG&E at their session in Poway a couple years ago, no such alternative will be available. Placing this expanded pipeline in and through a residential neighborhood is the wrong approach. I inquired why Interstate 15 was not the preferred route and was met with excuses regarding the difficulty in periodic inspection and traffic. That excuse could be used regarding our neighborhood and, with the placement along Interstate 15, avoiding the potential danger to thousands of families sleeping in their homes. I request reconsideration of the pipeline route to provide a buffer between the pipeline and homes of at least 1000 feet.

[REDACTED]
[REDACTED]
Poway, CA 92064

1. The proposed alignment is too close to homes, hospitals, medical offices, daycare centers, schools, senior communities, places of worship, etc and places an undue risk on the public. Find a new alignment that is more protective of the public. Why aren't you paralleling your existing pipe? Since you're lowering the operating pressure and using it for distribution you can reduce the size, yes? Don't you already have easements along this alignment? In any case you should also thoroughly investigate paralleling the 15 freeway. 2. The traffic impacts on Pomerado Road will be massive and have been grossly understated. Pomerado Road is the only ingress and egress for many neighborhoods along the alignment and major pipeline construction in this corridor places an unreasonable inconvenience to the public. 3. The proposed depth of burial of the pipeline is insufficient. The new pipeline along Pomerado Road should be constructed via microtunneling or conventional drill and blast tunnel at a depth that minimizes risks and impacts to the public, with portals strategically located to avoid traffic and other public impacts. The tunnel should be lined with a thick wall steel casing pipe and the carrier pipe inserted within. Constructing the pipeline via tunneling will enable alternative alignments as stated in Comment (1) above. 4. The pipeline should be provided with a state of the art cathodic protection system with 24 hour real time monitoring, with an appropriate regime of physical inspection performed and the inspections results documented. 5. Provide proposed operating and surge pressures and detailed steel plate thickness calculations.



Poway, CA 92064

we live in the area of Kaitz and Pomerado. Headed North is the Pomerado Hospital. Starting at the Hospital headed back there are 3 senior living areas--a Doctor and Dentist building, St Michael's church which also has a school, our housing area on the East side of Pomerado and a Montessorri school. IN CASE OF AN EMERGENCY WE CANNOT EGRESS ANY WAY BUT TO POMERADO!!!! There is no street either to the East or West of us. The only out in an emergency is Pomerado. A 36 inch pipe--4 feet down and all of what has to happen to install this pipe is NOT safe. On down Pomerado are 3 more schools which are in the same situation as well as the houses in the area. I agree with our Mayor, you need to install the pipeline along Rt. 15. No houses or hospitals or schools in the way Much safer. Cost does not compare to the cost of a life. Thank you.

[REDACTED]
Homeowner at address for 36 years

[REDACTED]
Escondido, CA 92025

I have so many concerns about this project's routing through south Escondido that is difficult for me to keep my concerns concise and limited in number. Before I start, let me say all the staff I met at the PUC Scoping event on May 24, 2017 demonstrated an impressive wealth of information and a genuine interest of my concerns regarding this project and it's proposed routing. I was, and still am extremely grateful. I have lived at my current residence on Encino Drive for 36 years while commuting to work, my wife and I raising our four children during that same time period. I am very familiar with the neighborhoods, traffic volumes and flow patterns of the proposed and alternate routes. Let me say hands down and with strong conviction that routing off of Centre City Parkway and onto Felicita Avenue is the wrong decision and a highly dangerous one at that. There is a high volume of vehicles at all times of the day, including pedestrians. Additionally, school children from five schools and the overburdened surface streets around those schools trying to drop off and pick up those students is in sharp contrast to not routing off Centre City Parkway and continuing south down to El Ku Avenue. There is a gate at the end of El Ku road that can be unlocked to allow access to a dirt road of one-quarter to one-half mile in length that joins with Beethoven Drive. No residents in the few homes on the short one-quarter mile road of El Ku would be shut out of their homes. The El Ku route is an entire mile shorter than the Felicita route, and void of traffic in comparison. Perhaps most important of all, it avoids the chokepoint section of Bear Valley Parkway that is a narrow two lane road with minimal to no shoulders in contrast to the entire remainder which is four lanes with shoulders through the entire length of Escondido. Please conduct a traffic study contrasting the traffic volume of the Felicita to Bear Valley route verses the El Ku route. It would speak for itself. The significantly increased of risk of vehicle passenger's and pedestrian's injuries and deaths, including the additional one mile of increased pipeline length cannot justify the convenience of avoiding the El Ku or any other alternate route. I have one other concern that I must share with you that perhaps other's may not. The eastern section of Encino Drive south from El Dorado down to Bear Valley is a Riparian Habitat, and as such protected. Please ensure the protection of this habitat. I recall seeing an SDGE map for this proposed route that showed parts of that area identified as a staging area for equipment. Only a small part of that land is not considered Riparian. In considering the routing of this pipeline, SDGE should be made aware that area is much smaller than they may think for purposes of staging. Additionally, for much of that section of road, the habitat also abuts the Encino. In contrast, the shoulders along Escondido Blvd off Centre City down to El Ku are wide and abundant. Another reason to choose the El Ku alternate route. Lastly, let me say, I fully support and share the position of the letter dated June 3, 2017 sent to Mr Robert Peterson of the Public Utilities Commission from Van K. Collinsworth of the Preserve Wild Santee organization. I feel their points are factual and valid, and far better stated than I could do. Thank you for both reading and considering my concerns regarding this project. Best Regards, [REDACTED]



**Southern California Pipe Trades
District Council No. 16**

501 Shatto Place, Suite 400
Los Angeles, California 90020



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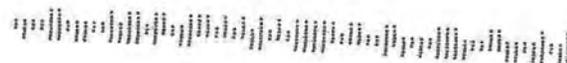


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California Public Utilities Commission
c/o Ecology & Environment, Inc.
505 Sansome St., #300
San Francisco, CA 94111



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*Southern California Pipe Trades
District Council 16*

MIKE LAYTON
Business Manager
Financial Secretary/Treasurer

June 1, 2017

VIA US MAIL AND EMAIL

California Public Utilities Commission
c/o Ecology and Environment, Inc.
505 Sansome Street., Suite 300
San Francisco, CA 94111
SDgaspipeline@ene.com

Re: Support for Pipeline Safety and Reliability Project

To Whom It May Concern:

On behalf of the Southern California Pipe Trades and its affiliated Local Unions, we are writing to express our support for the Pipeline Safety & Reliability Project proposed by San Diego Gas & Electric Company. We believe this is a critical project for the San Diego region, and that the California Public Utilities Commission should move expeditiously to approve it.

First and foremost, this project is about public safety. SDG&E proposes to build a new 36-inch natural gas transmission pipeline so that an existing 16-inch pipeline constructed in 1949 can be taken out of transmission service and brought into compliance with safety standards and requirements that were enacted following the fatal 2010 pipeline rupture in San Bruno, California.

When it comes to safety, we stand shoulder-to-shoulder with SDG&E. San Diego's natural gas system should be brought into compliance with safety standards as soon as possible.

Besides public safety, a new pipeline will bring other critical benefits to the region. The project will improve the reliability and resilience of the natural gas system, supply the region with domestically produced energy, create quality jobs, and be built to best-in-class standards that protect the environment and local communities.

Just as it has on past projects, SDG&E has committed to using Union labor to build this pipeline. Projects that rely on Union labor are built by trained, skilled workers to high standards. Union labor projects also bring economic benefits to working families. This pipeline project alone will support hundreds of construction workers and their families.

We are concerned that the CPUC may be considering alternatives that include “not constructing a new pipeline”. We understand that one of those alternative is to pressure-test the existing 16-inch line so that it can remain part of the transmission system. Another alternative is to lower the pressure of the existing 16-inch line and rely on natural gas that is imported into the SDG&E system from Mexico to meet San Diego’s energy needs.

Both alternatives should be eliminated from further consideration. The San Diego region – with its significant population, economy, and military presence – should not be dependent on a non-state-of-the-art 1949 pipeline or foreign infrastructure to meet its energy needs. These alternatives are not reasonable or feasible and should be rejected.

It is time to invest in the safety and reliability of San Diego’s natural gas system with a new pipeline for the region. We urge you to SDG&E’s efforts to construct the Pipeline Safety & Reliability Project without any further delay.

Sincerely,



Mike Layton
Business Manager-Financial Secretary
So. CA Pipe Trade District Council 16

ML:cl
Opeiu #537/afl-cio

cc: Senator Ben Hueso
Assemblymember Lorena Gonzalez Fletcher

SAN DIEGO CA 920

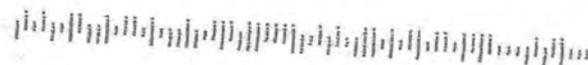
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MR. ROBERT PETERSON
CALIFORNIA PUBLIC UTILITIES COMMISSION
505 SANSOME ST., SUITE 300
SAN FRANCISCO, CA 94111

RE: PIPELINE SAFETY AND RELIABILITY PROJECT
C/O ECOLOGY AND ENVIRONMENT, INC.

94111#3106 0017





Pipeline Safety and Reliability Project – New Natural Gas Line 3602 and De-rating Line 1600 (PSRP) CPUC Public Scoping Comment Form

Comments must be postmarked or received by **Monday, June 12, 2017**, to be considered in the Draft Environmental Impact Report. Comments may be submitted at the public scoping meetings, or mailed to the address below. Please note that comments and corresponding contact information received during the public scoping period will become part of the public record and may be made publicly available. Comments submitted anonymously will be accepted and considered.

Please Print Clearly – Use the Other Side of This Form if Additional Space for Comment is Needed

Date: 6/12/17

DEAR MR PETERSON,

MY CHIEF CONCERN WITH THIS PROJECT IS THAT PART OF IT ON ENCLINO DRIVE, THE NUMEROUS HOMES ON ENCLINO DRIVE SIT APPROXIMATELY 50' FROM THE CENTER LINE OF SAME, CROSSING THIS SHORT, NARROW AND CONGESTED STREET FOR A 36" NATURAL GAS LINE BORDERS ON INSANITY! IT REFLECTS A CALLOUS DISREGARD FOR THE SAFETY OF THE FAMILIES LIVING HERE, INCLUDING MINE, NOT TO MENTION THE DISRUPTION OF OUR LIVES DURING THE CONSTRUCTION PROCESS. EXASPERATING THIS UNCONSCIONABLE PROPOSAL IS THE PROXIMITY OF CENTER CITY PARKWAY – A MUCH WIDER ROADWAY/OUTSIDE OF ANY RESIDENTIAL AREAS, AND A CONTINUATION OF A STRAIGHT LINE FROM THE NORTHERN PORTION OF THIS PROJECT. PLEASE STOP THIS PROJECT NOW AND RELOCATE IT TO AN AREA WITH FAR LESS POTENTIAL FOR THE LOSS OF LIFE AND HABITAT.
THANK YOU



Please place this completed form in a comment box at a CPUC PSRP public scoping meeting, or mail by **June 12, 2017**, to:

Robert Peterson
California Public Utilities Commission
RE: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome St., Suite 300
San Francisco, CA 94111

You may also submit comments online at <http://sandiegopipeline-psrp.com>
or email comments to SDgaspipeline@ene.com



THE CITY OF SAN DIEGO

COUNCILMEMBER SCOTT SHERMAN

SEVENTH DISTRICT
202 C STREET • MS 10A
SAN DIEGO, CALIFORNIA 92101

RETURN SERVICE REQUESTED

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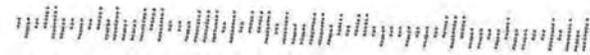
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ZIP 93102
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Robert Peterson
California Public Utilities Commission
505 Sansome Street, Suite 300
San Francisco, CA 94111

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THE CITY OF SAN DIEGO

COUNCILMEMBER SCOTT SHERMAN

SEVENTH DISTRICT

June 9, 2017

Mr. Robert Peterson
California Public Utilities Commission
c/o Ecology and Environment Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

RE: Pipeline Safety and Reliability Project – New Natural Gas Line and De-rating line 1600

Dear Mr. Peterson:

On behalf of District 7 of the City of San Diego, please accept this letter of support for SDG&E's Pipeline Safety and Reliability Project – New Natural Gas Line 3602 and De-rating Line 1600 as proposed. The California Public Utility Commission must act now and cease discussion of costly alternatives that do not involve the construction of new pipeline such as: pressure-testing the existing pipeline, relying on natural gas supplies from Mexico or relying on alternative energy sources to displace natural gas.

I support SDG&E's proposed route as it would minimize costs and is the environmentally superior alternative as the route would avoid sensitive habitats within Mission Trail Regional Park and Goodan Ranch. Although a portion of the route is located in Marine Corps Air Station Miramar, I am confident both sides can work together to find compatibility with military operations.

Governor Brown places a high priority on our roads and water lines, thus we need to continue this modernization and invest in our infrastructure now to help meet San Diego's energy needs for decades to come. I urge you to approve SDG&E's proposal to replace the existing pipeline with a modern, state-of-the-art line as this construction is vital to the health and safety of the community and further delays are unacceptable.

Best regards,

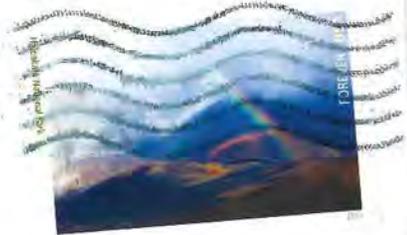
A handwritten signature in black ink, appearing to read "Scott Sherman".

Scott Sherman
San Diego City Council, District 7



SAN DIEGO CA 92103

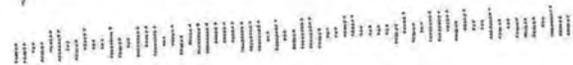
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Esccondido, CA 92025

California Public Utilities Commission
RE: Pipeline Safety & Reliability Project
To: Ecology & Environment, Inc.
505 Sansome St. Suite 300
San Francisco, CA 94111

94111-315575



California Public Utilities Commission

RE: Pipeline Safety & Reliability Project
C/O: Ecology & Environment, Inc
505 Sansome St., Suite 300
San Francisco, CA 94111

[REDACTED]
[REDACTED]
Escondido, CA 92025
[REDACTED]

Dear Robert Peterson,

It is understandable that a New Natural Gas Line is necessary in light of the existing one having been constructed in 1949.

I am okay with Natural Gas still being a viable source of energy, and thus the need to run pipelines underground.

What I am not keen on is the proposed New natural gas line 3602 causing chaos and high volume stresses in our normally peaceful neighborhood.

In particular, I am referring to Line 1601 between Mainline Valve (MLV) 6 and MLV 7 or the cross tie near MP23 and MP29.

As another neighbor has written in more detail (Ernie & Gail Higgins) there are numerous schools, houses of worship, businesses and residential homes along this route, along with a number of private drives and cul de sacs. Felicita and Encino are both narrow roads.

Felicita and Bear Valley already share the burden of heavier traffic than they were built for.

The question of why the left turn onto Felicita may have already been addressed, I suppose I am late to the party. Can you tell me the reason why this route is being proposed?

Is there a good reason why this pipeline should not continue on straight down going south from MLV 6 to MLV 7? Thus, avoiding a right angle left turn onto Felicita, a push on up the hill and then on the downhill side of the hill another sharp turn right onto Encino, finally a tight merge onto Bear Valley!

I am not in favor of the above mentioned route for the expressed reason of it causing chaos and high volume stresses.

Sincerely, [REDACTED]

[REDACTED]
Homeowner

[REDACTED]
[REDACTED]
Poway, CA 92074

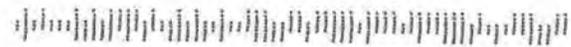
SAN DIEGO CA 920

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California Public Utilities Commission
RE: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome St., Suite 300
San Francisco, CA 94111

94111-315575



June 12, 2017

California Public Utilities Commission
c/o Ecology and Environment, Inc.
505 Sansome St., Suite 300
San Francisco, CA 94111

RE: Pipeline Safety and Reliability Project

Dear Sir or Madam,

My name is [REDACTED]. I oppose the Valley Center to Santee line (although I only saw it in one graphic) and the Rainbow to Santee non-Miramar project alternatives for the following reasons.

I wasn't able to quite discern the routes that run near my home, as the views CPUC provided show very few streets or cross streets. Is this a deliberate attempt to confuse the public and keep them guessing? Citizens aren't as alarmed if they're not sure where the pipelines may run.

I live near the Sycamore Canyon Preserve and the Gooden Ranch Preserve. The area is pristine and has many sensitive habitats, rare and endangered flora and fauna, and is a major water shed.

Sycamore Canyon Road is a thin ribbon that won't be able to sustain the impact of multiple trucks running back and forth with materials and personnel. There isn't a shoulder over most of the three miles as it winds towards the Preserves. Hikers, runners, bicycle and horseback riders use this road every day to recreate on. The increased activity will put them in more peril than they are now -- not to mention the destruction of wildlife as cars go speeding by to get to a job site.

Property values will fall if a pipeline comes this way as there will be an increased risk of explosion and fire. Will our homeowners and fire insurance go up? As victims of the 2003 fires, my husband and I are very pro-active in fire prevention. Also, what are the effects of earthquakes on a pipeline?

Finally, this is the fourth letter I have written today. I made three attempts on the CPUC web site, was not able to submit and an error message displayed. How many people ran into this problem as I did? Wouldn't that cut way down on public comments? I did not give up and will send this snail mail.

Yes, I am a NIMFY, Not In My Front Yard. Thank you for your attention.

Sincerely,

[REDACTED]

[REDACTED]

Poway, CA 92074

[Redacted]
[Redacted]
Poway, CA 92064-2175

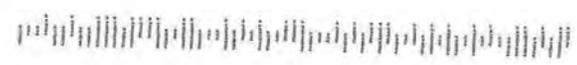
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California Public Utilities Commission
Re: Pipeline Safety & Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome St, Suite 300
San Francisco, CA 94111

94111-315575



[REDACTED]
[REDACTED]
Poway, CA 92064

June 10, 2017

California Public Utilities Commission
Re: Pipeline Safety & Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome St, Suite 300
San Francisco, CA 94111

Dear Honorable, CPUC:

I am a resident of Poway and live less than a mile from the proposed 36" gas pipeline.

Please move the pipeline from Pomerado Rd. to alongside Interstate 15 or along another route. Your choice of laying the pipeline under Pomerado Rd is too dangerous and the risk to life from an explosion would be catastrophic. Even though the latest in technology is being used to make the pipe as safe as possible, it does not negate the fact that if there was a failure, the main escape route from the explosion would be blocked.

Additionally, along Pomerado Rd, there is a hospital, fire station and there are thousands of homes within a few hundred feet of Pomerado Rd. If there was a disaster the fire department may not be able to function, access to the hospital may be blocked and residents would not be able to escape safely.

I appreciate the opportunity to formally object to the construction of the pipeline along Pomerado Rd.

Sincerely,
[REDACTED]



June 12, 2017

Mr. Robert Peterson
California Public Utilities Commission
RE: Pipeline Safety and Reliability Project
c/o Ecology and Environment
505 Sansome Street, Suite 200
San Francisco, CA 94111

SENT VIA US MAIL AND EMAIL

RE: Pipeline Safety and Reliability Project

Dear Mr. Peterson,

On behalf of the Port of San Diego, I write in support of the application for the Pipeline Safety & Reliability Project submitted by San Diego Gas & Electric (SDG&E) and Southern California Gas Company (SoCalGas). We support the California Public Utilities Commission (CPUC) moving forward in its review of the application and a thorough analysis of all pipeline options enclosed.

As you know, SDG&E and SoCalGas intend to construct a new natural gas pipeline from the Rainbow Station to Southern San Diego County. The San Diego region currently relies on one natural gas pipeline for 90 percent of its supply, with the other ten percent transported through a 70-year-old pipeline that has reached the end of its useful life. In partnership with other stakeholders in the San Diego region, the Port of San Diego supports development of a new pipeline because it will help ensure reliable energy, systems redundancy, and increased safety. Any new projects in San Diego must comply with current safety standards, as prescribed by state law and the CPUC. This is of particular importance in light of the 2010 fatalities in San Bruno, CA.

San Diego is the eight largest city in the United States, second largest in California, and San Diego County is the fifth most populous county in the nation. The Port of San Diego serves the people of California as a special district, balancing multiple uses on 34 miles along San Diego Bay spanning five cities. Collecting no tax dollars, the Port of San Diego manages a diverse portfolio, including Maritime, Waterfront Development, Public Safety, Experiences and Environment, all focused on enriching the relationship people and businesses have with our dynamic waterfront. The Port of San Diego is one of seventeen strategic ports in the U.S. as designated by the Department of Transportation and the Maritime Administration. We also work closely with the seven military bases around San Diego Bay and with countless federal partners to ensure seamless safety for the critical freight infrastructure and ports of entry.

The San Diego region needs a complete and reliable energy infrastructure in order to properly serve residents, businesses, and critical national defense operations, which are expected to increase dramatically in the next ten years. As the Port looks to continue to grow and protect business for the regional and national economies, dependable energy is a basic necessity to moving forward. As this project moves forward, we will be monitoring the progress closely. If you have any additional questions, please feel free to contact my office.

Sincerely,

A handwritten signature in black ink that reads "Randa J. Coniglio". The signature is written in a cursive, flowing style.

Randa J. Coniglio
President/CEO

[REDACTED]

[REDACTED]

San Diego, Ca 92128

Director

CPUC Pipeline Project

Dear Director:

I am a San Diego resident , living along Pomerado Road in a senior development called Oaks North in the suburb of Rancho Bernardo. The proposed pipeline is of great concern to people in our zone. WE HAVE NO ESCAPE FROM OUR NEIGHBORHOODS IN THIS ENTIRE REGION OTHER THAN USING POMERADO ROAD. In other words, we are locked into our neighborhood, as are thousands of other residents in neighborhoods adjacent to ours. All neighborhoods EAST of Pomerado Road in our zone have no outlet other than Pomerado Road.

It would be a potential disaster to have a pipeline constructed along Pomerado Road.

Please consider my concerns,

[REDACTED]

[REDACTED]

San Diego CA 92128

[REDACTED]

[REDACTED]

[REDACTED]

San Diego CA 92128

[REDACTED]

[REDACTED]

[REDACTED] San Diego, CA 92128

[REDACTED]

[REDACTED]

San Diego, CA 92128

[REDACTED]

[REDACTED]

San Diego 92128

Robert Peterson
California Public Utilities Commission
RE: Pipeline Safety + Reliability Project
c/o Ecology + Environment, Inc.
505 Sansone St. Suite 300
San Francisco, CA 94111

Poway, CA 92064

Dear Mr. Peterson

I am appalled at the idea of the proposed high volume, high pressure gas line slated to run through Rancho Bernardo and Poway under Pomerado Rd. I am concerned with the safety of our community and in particular, the safety of all those who will be affected along Pomerado Road by the installation of a 800 PSI, 36 inch diameter gas line which is proposed to run to Marine Corps Air Station Miramar. I believe that alternate routing can be accomplished that will not impose unwarranted risk to our homes, Pomerado Hospital, four schools, several churches, two temples, clinics, nursing homes, preschools and a fire station. All of these are located on cul-de-sacs off Pomerado Road with no other way in or out. I am concerned about the construction process and how we would get our children safely to school. I am concerned in event of an earthquake or a leak in a pipe that could cause an explosion, how will you evacuate all these people. What is the evacuation plan?

I am requesting your help and support to find an alternate route through a less populated area of eastern San Diego County or along Interstate 15 that will substantially lower the unwarranted risks to our community that the current proposal would impose.

I look forward to your thoughts regarding this issue.
Sincerely,

Congress of the United States
Washington, DC 20515

June 7, 2017

Robert Peterson
California Public Utilities Commission
505 Sansome St., Suite 300
San Francisco, CA 94111

RE: Pipeline Safety and Reliability Project c/o Ecology and Environment, Inc.

Dear Mr. Peterson:

We write in regard to the application for the Pipeline Safety & Reliability Project submitted by San Diego Gas & Electric (SDG&E) and Southern California Gas Company (SoCalGas). As San Diego's congressional delegation, we have an acute interest in this project, what it provides for the region and what impacts it may have on our communities, industry, and military. At this time, we support the California Public Utilities Commission (CPUC) moving forward in its review of the application and a thorough analysis of all pipeline options enclosed.

As you know, SDG&E and SoCalGas intend to construct a new natural gas pipeline that ensures delivery of gas from Rainbow Station to Southern San Diego County. Today, the San Diego region relies on one natural gas pipeline for 90 percent of its capacity, with the other ten percent transported through a 70-year-old pipeline that has reached the end of its viable life. We support development of a new pipeline because it will help ensure energy reliability, redundancy and most importantly, increased safety for the region.

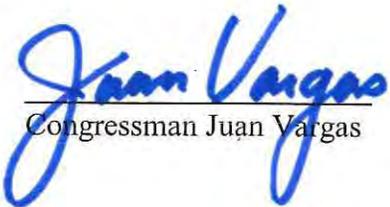
Any new natural gas pipeline in San Diego must attain modern standards for safety – in line with state law and CPUC mandates, particularly considering the fatal events following the 2010 pipeline explosion in San Bruno, CA. Additionally, we expect to have a full understanding of potential impacts, not only during construction of any pipeline, but also for the life of the line and for operations and maintenance measures.

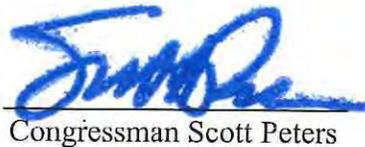
San Diego is the eighth largest city in the United States and second largest in California, and San Diego County is the fifth most populous county in the nation. San Diego's thriving economy includes one of the most important life sciences and biotechnology regions in the country and is home to the largest concentration of military in the world, with more than 60% of the ships in the U.S. Pacific Fleet and more than one-third of the combat power of the U.S. Marine Corps homeported here. There are more than 100,000 active duty Navy and Marine Corps personnel assigned to ships and bases in the San Diego region and an estimated \$25 billion in direct spending related to defense was directed to San Diego County in 2015.

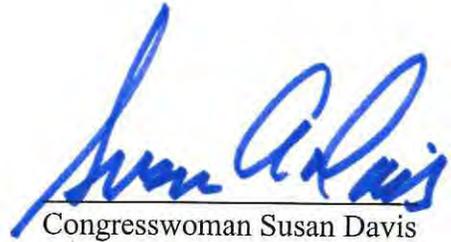
Mr. Robert Peterson
June 7, 2017
Page 2

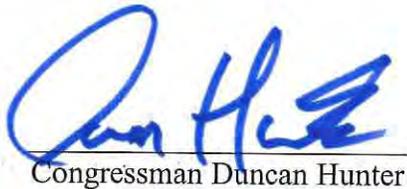
The San Diego region deserves and needs a complete and reliable energy infrastructure in order to properly serve residents, businesses, and critical national defense operations, which are expected to increase dramatically between now and 2025. These new needs will require dynamic and reliable energy generation. As you analyze future investments in the future of San Diego's energy infrastructure, please keep these considerations in mind. We appreciate a transparent and thorough process moving forward.

Sincerely,


Congressman Juan Vargas


Congressman Scott Peters


Congresswoman Susan Davis


Congressman Duncan Hunter

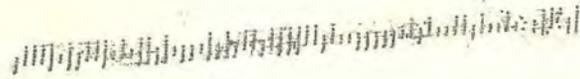

Congressman Darrell Issa

Community Council
12463 Rancho Bernardo Rd #523
San Diego, CA 92128



Mr. Robert Peterson
California Public Utilities Commission
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

941119315017





12463 Rancho Bernardo Road, #523; San Diego, CA, 92128

June 2, 2017

Mr. Robert Peterson
California Public Utilities Commission
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

RE: Notice of Preparation of a Draft Environmental Impact Report for the Pipeline Safety and Reliability Project (New Natural Gas Line 3602 and De-Rating Line 1600)

Dear Mr. Peterson:

The Rancho Bernardo Community Council appreciates the opportunity to review the Notice of Preparation (NOP) for the draft Environmental Impact Report (EIR) that will be prepared to address the impacts to the environment of implementing the proposed Pipeline Safety and Reliability Project (Application No. A.15-09-013). This proposal involves the construction of a new 36-inch-diameter high pressure natural gas transmission line which will be associated above and below ground facilities. The pipeline (Line 3602) will extend from SDG&E's existing Rainbow Metering Station in Rainbow, CA to a tie-in within MCAS Miramar, and will be installed within Pomerado Road through Rancho Bernardo. The proposal also involves the de-rating, or lowering of pressure within an existing transmission line (Line 1600), built in 1949, that extends through existing residential neighborhoods in Rancho Bernardo.

The proposed project and the impacts associated with its implementation are of considerable interest to the community of Rancho Bernardo because the proposed Line 3602 will be constructed within Pomerado Road, a major transportation facility within the community that runs north/south through or along the eastern edge of the community. In addition, the existing Line 1600 extends through various neighborhoods within the community, in many cases immediately adjacent to existing residences, churches, and shopping centers. The Rancho Bernardo Community Council also has an interest in the potential effects of the project on natural and cultural resources and trail access within the vicinity of the Lake Hodges segment of the San Dieguito River Park, an area frequented by residents of Rancho Bernardo. Pomerado Road also runs in front of Palomar-Pomerado Hospital and medical center. These are vulnerable facilities that are of significant importance to Rancho Bernardo residents.

Presented below are the comments approved (9-1-1) for submittal to the California Public Utilities Commission in response to the NOP at the Rancho Bernardo Community Council's June, 1, 2017 full board meeting:

1. Project Description

Section 15124 of the California Environmental Quality Act (CEQA) Guidelines states that a “clearly written statement of objectives” should be presented in the project description, along with the “underlying purpose of the project.” It is unclear from the information presented in the NOP what the ultimate intentions of SDG&E and SoCalGas are with respect to the proposed pipeline. The first objective is to implement pipeline safety requirements for Line 1600. That can and should be accomplished whether the remainder of the project is implemented or not. The second objective addresses minimizing dependence on a single pipeline, yet the two pipelines would serve different purposes, one a high-pressure natural gas transmission line and the other a low-pressure distribution line (a line that has been in place as a high pressure natural gas transmission line since 1949 with no apparent need for a major distribution line until now). The third objective is to enhance operational flexibility by increasing system capacity. In light of a statement made by Patrick Lee at Sempra Energy on May 25, 2017 (KPBS.org) that the technology exists today for a total reliance on renewable energy, the need to increase the transmission of natural gas into San Diego County seems limited. In fact, the use of natural gas in the area is projected to decrease, not increase. If there are other objectives associated with this project that SDG&E and SoCalGas have not disclosed, they should be addressed in the draft EIR. Based on the current objectives, it appears that there would be a range of alternatives that could achieve the stated project goals, eliminating the long-term impacts associated with the generation of greenhouse gases, as well as avoiding the project’s short-term impacts (e.g., traffic congestion, dust [particulate] emissions, tailpipe emissions, greenhouse gases, temporary loss of trail access, impacts to sensitive habitat).

To ensure comprehensive evaluation of the impacts associated with the proposed project, the draft EIR should include a complete description of the intended purpose and need for the new transmission line and the need for the continued use of Line 1600 as a distribution line. All of this information is essential in understanding the environmental implications of the proposal as it related to growth inducement, greenhouse gas emissions, and the ability to achieve the goals of the California Climate Strategy. It will also allow for analysis of the degree to which California’s energy resources could be depleted as a result of the sale of natural gas to outside parties, including other countries, should that be determined to be a component of the overall project objectives.

The CEQA guidelines also require that the description of the project contain all of the information needed for evaluation and review of environmental impacts. As a result, we request that the Project Description provide detailed information about construction phasing and implementation. At a minimum, the following information should be provided:

Line 3602 - Project phasing; the length of roadway (or trail) that will be impacted at any given time and for how long; the width of roadway to be affected; construction hours; staging of equipment; handling or stockpiling of excavated soil; locations and construction activities for all other project components, along with design and screening proposals for all above-ground facilities; traffic control plans; any proposal for a construction information hot-line; need for full closures (and for how long) of roadway segments or at intersections (e.g., Pomerado Road and Caminito De La Gallarda and Pomerado Road and the south entrance to the Albertson’s shopping center) where considerable work appears to be necessary in the intersection; schedule for implementing roadway repairs; any construction needs within existing center medians and/or landscaped sidewalk strips; assurances that the roadway will be returned to a condition equal to or better than its preconstruction condition. The locations of major laydown and equipment staging areas along the alignment should also be identified.

Line 1600 – Describe when in the process, safety testing on this line would be conducted. Will it occur before the new line is proposed to cross the existing line the vicinity of Pomerado Road and

Bernardo Trails? This would avoid the need to tear up the road again to implement repairs on Line 1600 at this location should they be deemed necessary. If repair of the existing pipeline (1600) is to be covered by the current EIR, then the document must also describe what those repairs might be and how they would be implemented, particularly in areas where the pipeline extends through existing neighborhoods.

2. Environmental Effects

Traffic and Transportation: In reviewing the information provided on the CPUC website for this project, a significant portion of the roadway will be affected during construction, likely causing four lane Pomerado Road to be reduced to two lanes. The traffic analysis should disclose the time delays that will result on the various segments of Pomerado Road and the associated impacts to both residential streets and other community circulation roadways that will be used by motorists as alternative access routes during construction. Traffic congestion as a result of construction should also be analyzed for surface streets and I-15 in the vicinity of the Pomerado Road/Highland Valley Road interchange.

The effects on access to schools, hospitals and other medical facilities, community centers, churches, and commercial areas should also be addressed, and mitigation measures should be incorporated into the project design to minimize delays in access to these facilities. Installation of water lines associated with the Poseidon desalinization project resulted in significant traffic delays (more than 30 minutes in some locations). The draft EIR for that project stated that no significant impacts to traffic would occur. We believe that delays of that magnitude within Rancho Bernardo and elsewhere along Pomerado Road would represent a significant impact and should be addressed accordingly.

Mitigation measures should be proposed to ensure safe access out of all neighborhoods and clear routes for emergency vehicles exiting Rancho Bernardo for Pomerado Hospital. Construction start and stop times should take into consideration access to schools and traffic volumes during commute hours in order to minimize the extent of disruption to communities.

Similar information and analysis should be provided for any construction activity that could be associated with repairs to Line 1600.

Traffic Congestion in Case of Emergency Evacuation: Residents of Rancho Bernardo live under the constant threat of wild fires extending from areas to the East. Pomerado Road is the only way for residents of several communities east of Pomerado Road to leave their subdivision in case of an emergency order to evacuate such as that which was ordered in advance of the disastrous fire of 2007 which devastated large parts of Rancho Bernardo.

These communities were ordered to evacuate at 5:00AM. Under then existing Pomerado Road conditions, Oaks North community residents reflect that it took more 45 minutes to go the 1/2 mile to reach Pomerado because of traffic congestion. Any additional thwarting of traffic flow on Pomerado Road due to pipeline construction could further disrupt traffic flow making it more difficult for residents of these Rancho Bernardo neighborhoods to evacuate and escape the threat of fire to life and property.

Noise and Vibration: Construction activity occurring in proximity to residential development and other sensitive noise receptors will result increases in the ambient noise levels during construction. Anticipated noise levels should be disclosed, and, if necessary, appropriate mitigation measures should be incorporated into the project. If night work is proposed, additional measures should be incorporated as appropriate. This section should also address the potential for impacts related to vibration during construction, particularly in association with work necessary to properly compact the

soil around the pipeline. Potential noise impacts from activity occurring in association with laydown and equipment staging areas should also be addressed.

Similar information and analysis should be provided for any construction activity that could be associated with repairs to Line 1600.

Public Utilities and Other Community Facilities: A discussion of potential impacts to existing underground utilities should also be addressed, as well as any potential need to temporarily suspend service from one or more utilities. In addition, in 2012, the community identified the need for the installation of storm drains in the vicinity of the intersection of Pomerado Road and Pomerado Court and Pomerado Road and Mirasol Drive, where water currently collects on Pomerado Road during measurable rainfall events. The draft EIR should address how the current proposal could impact the City's ability to install new storm drain facilities at this location in the future. Finally, Green Valley Creek (now channelized and undergrounded in some areas of the community extends under Pomerado Road in the vicinity of its intersection with Rancho Bernardo Road. If construction could result in temporary interruptions of flow within this storm drain, how will properties and the public right-of-way upstream of this area be protected during its closure?

Aesthetics: The document should describe changes to existing community character as a result of installing significant above ground components such as mainline valves or regulator stations. Mitigation measures such as decorative walls and landscaping screening should be included, as necessary, to minimize impacts to community character and aesthetics. Temporary impacts to aesthetics associated with laydown and equipment staging areas should also be addressed.

Recreation: Information on the CPUC website for this project indicates that the primary access to the Mule Hill Trail (a portion of the San Dieguito River Park Coast to Crest Trail) will be closed for several months during construction. This represents a significant adverse effect that impacts trail users' ability to access the eastern portion of the Lake Hodges area from Escondido and Rancho Bernardo. The draft EIR needs to address this issue and identify potential options for temporarily facilitating alternative trail access in this area. The document should also address the need to protect existing interpretive areas along the affected trail segment. The project should be required to restore the existing trail to its current firm and stable condition.

Biological Resources: The potential for temporary and permanent impacts to sensitive habitats, including coastal sage scrub and riparian wetlands, from construction within the Lake Hodges watershed between Bear Valley Parkway and Highland Valley Road should be fully evaluated. Most, if not all, of this area is located within the City of San Diego's Multiple Species Conservation Program cornerstone lands, therefore, appropriate mitigation measures must be implemented to avoid impacts to sensitive habitats. If impacts cannot be avoided, the draft EIR should identify mitigation measures that would adequately address the anticipated impacts. The draft EIR should also state how the implementation of the required mitigation would be assured.

Cultural Resources/Paleontological Resources: Although the majority of the construction will occur in the public right-of-way, because of the depth of construction, there is still the potential to encounter previously unrecorded cultural resources and/or paleontological resources. Rancho Bernardo includes a number of significant cultural resources, many of which occur in proximity to the construction site. In addition, the area between Bear Valley Parkway and Highland Valley Road was once the location of the town of Bernardo, is located in proximity to historical Mule Hill, and was home to Native Americans. The draft EIR should discuss the need for a qualified archaeological monitor and appropriate Native American cultural resource monitor during the excavation of all previously undisturbed areas.

Greenhouse Gas Emissions: As discussed above, the project involves both short- and long-term impacts related to the generation of greenhouse gas emissions. A simple calculation of greenhouse gas emission during construction would not be considered an adequate assessment of the project's overall contribution of greenhouse gases. We request that the analysis of greenhouse gas emissions also consider the added emissions, if any, that would result from the use of natural gas transmitted through Line 3602 and distributed in Line 1600 versus the amount of natural gas that would be distributed under existing conditions. The way in which the natural gas is to be transmitted through this new pipeline is produced may also have implications on the project's overall contribution to greenhouse gases. For instance, production of natural gas through the use of hydraulic fracturing techniques increases the greenhouse gas footprint of natural gas production and requires the use of significant volumes of water. These topics should be analyzed in the draft EIR.

The analysis of greenhouse gas emissions should also consider the consistency of this proposal with California's Climate Strategy and the City of San Diego's Climate Action Plan. The City will also be considering establishing a Community Choice Energy program, which will transition residents and businesses to 100 percent renewable energy by or shortly after construction on the pipeline begins. This will amplify the reduction of natural gas usage.

Public Safety: Line 1600 has been in place since 1949 and is in serious need of testing. This is particularly important because this line occurs immediately adjacent to residential units in various locations throughout Rancho Bernardo. The draft EIR should identify the potential for safety impacts, as well as propose mitigation measures that would ensure that line testing occurs during the initial phase of the project under any of the alternatives.

Describe the testing procedures for a 36-inch high pressure gas line following initial installation, during the first few years of use, and address the safety of the line over time.

The draft EIR should also address the safety issues associated with installing and maintaining a high-pressure natural gas line within an existing roadway.

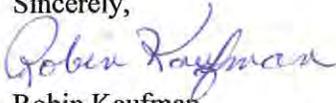
3. Alternatives

The following alternatives should be evaluated in the draft EIR:

- A detailed discussion of the No Project Alternative;
- At least one alternative that addresses how the energy requirements of the region can be met with renewable resources, adequate energy storage capacity, and a more efficient and flexible transmission and distribution network;
- No construction of Line 3602, instead upgrade and continue to use Line 1600 using best in class technology (i.e. cured-in-place lining systems for existing lines) to meet the future demands for natural gas in the region;
- Examination of the potential for SDG&E and SoCalGas to utilize natural gas supplied from excess capacity in the North Baja Pipeline, a TransCanada pipeline, as an alternative to the current proposal;
- Alternative alignments that avoid or minimize the use of major transportation corridors; and
- Decommissioning Line 1600 rather than de-rating it.

Thank you again for the opportunity to provide our comments. The Rancho Bernardo Community Council requests that it be notified when the draft EIR is made available for public review and comment. We also request that the CPUC consider a 60-day public review period to accommodate organizations such as ours that only meet once a month.

Sincerely,



Robin Kaufman
President, Rancho Bernardo Community Council

cc: Mayor Kevin Faulconer
Councilmember Mark Kersey, District 5
State Senator Toni Atkins
Assemblyman Brian Maienschein
San Diego County Supervisor Kristin Gaspar
Congressman Scott Peters

R&P Planning Board
P.O. Box 240831
San Diego, CA 92198

SAN DIEGO CA 920

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Mr. Robert Peterson
California Public Utilities Commission
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111
94111-315575

Rancho Bernardo Community Planning Board

P.O. Box 270831, San Diego, CA 92198

www.rbplanningboard.com

June 1, 2017

Mr. Robert Peterson
California Public Utilities Commission
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

RE: Notice of Preparation of a Draft Environmental Impact Report for the Pipeline Safety and Reliability Project (New Natural Gas Line 3602 and De-Rating Line 1600)

Dear Mr. Peterson:

The Rancho Bernardo Community Planning Board (Planning Board) appreciates the opportunity to review the Notice of Preparation (NOP) for the draft Environmental Impact Report (EIR) that will be prepared to address the impacts to the environment of implementing the proposed Pipeline Safety and Reliability Project (Application No. A.15-09-013). This proposal involves the construction a new 36-inch-diameter high pressure natural gas transmission line and associated above and below ground facilities. The pipeline (Line 3602) will extend from SDG&E's existing Rainbow Metering Station in Rainbow, CA to a tie-in within MCAS Miramar, and will be installed within Pomerado Road through Rancho Bernardo. The proposal also involves the de-rating, or lowering of pressure within an existing transmission line (Line 1600), built in 1949, that extends through existing residential neighborhoods in Rancho Bernardo.

The proposed project and the impacts associated with its implementation are of considerable interest to the community of Rancho Bernardo because the proposed Line 3602 will be constructed within Pomerado Road, a major transportation facility within the community that runs north/south through or along the eastern edge of the community. In addition, the existing Line 1600 extends through various neighborhoods within the community, in many cases immediately adjacent to existing residences, churches, and shopping centers. The Planning Board also has an interest in the potential effects of the project on natural and cultural resources and trail access within the vicinity of the Lake Hodges segment of the San Dieguito River Park, an area frequented by residents of Rancho Bernardo. Pomerado Road also runs in front of Palomar-Pomerado Hospital and medical center. These are vulnerable facilities that are of significant importance to Rancho Bernardo residents.

Presented below are the comments approved (by a vote of 11-0-0) for submittal to the California Public Utilities Commission in response to the NOP at the Planning Board's meeting of May 31, 2017.

1. Project Description

Section 15124 of the California Environmental Quality Act (CEQA) Guidelines states that a “clearly written statement of objectives” should be presented in the project description, along with the “underlying purpose of the project.” It is unclear from the information presented in the NOP what the ultimate intentions of SDG&E and SoCalGas are with respect to the proposed pipeline. The first objective is to implement pipeline safety requirements for Line 1600. That can and should be accomplished whether the remainder of the project is implemented or not. The second objective addresses minimizing dependence on a single pipeline, yet the two pipelines would serve different purposes, one a high-pressure natural gas transmission line and the other a low-pressure distribution line (a line that has been in place as a high pressure natural gas transmission line since 1949 with no apparent need for a major distribution line until now). The third objective is to enhance operational flexibility by increasing system capacity. In light of a statement made by Patrick Lee at Sempra Energy on May 25, 2017 (KPBS.org) that the technology exists today for a total reliance on renewable energy, the need to increase the transmission of natural gas into San Diego County seems limited. In fact, the use of natural gas in the area is projected to decrease, not increase. If there are other objectives associated with this project that SDG&E and SoCalGas have not disclosed, they should be addressed in the draft EIR. Based on the current objectives, it appears that there would be a range of alternatives that could achieve the stated project goals, eliminating the long-term impacts associated with the generation of greenhouse gases, as well as avoiding the project’s short-term impacts (e.g., traffic congestion, dust [particulate] emissions, tailpipe emissions, greenhouse gases, temporary loss of trail access, impacts to sensitive habitat).

To ensure comprehensive evaluation of the impacts associated with the proposed project, the draft EIR should include a complete description of the intended purpose and need for the new transmission line and the need for the continued use of Line 1600 as a distribution line. All of this information is essential in understanding the environmental implications of the proposal as it related to growth inducement, greenhouse gas emissions, and the ability to achieve the goals of the California Climate Strategy. It will also allow for analysis of the degree to which California’s energy resources could be depleted as a result of the sale of natural gas to outside parties, including other countries, should that be determined to be a component of the overall project objectives.

The CEQA guidelines also require that the description of the project contain all of the information needed for evaluation and review of environmental impacts. As a result, we request that the Project Description provide detailed information about construction phasing and implementation. At a minimum, the following information should be provided:

Line 3602 - Project phasing; the length of roadway (or trail) that will be impacted at any given time and for how long; the width of roadway to be affected; construction hours; staging of equipment; handling or stockpiling of excavated soil; locations and construction activities for all other project components, along with design and screening proposals for all above-ground facilities; traffic control plans; any proposal for a construction information hot-line; need for full closures (and for how long) of roadway segments or at intersections (e.g., Pomerado Road and Caminito De La Gallarda and Pomerado Road and the south entrance to the Albertson’s shopping center) where considerable work appears to be necessary in the intersection; schedule for implementing roadway repairs; any construction needs within existing center medians and/or landscaped sidewalk strips; assurances that the roadway will be returned to a condition equal to

or better than its preconstruction condition. The locations of major laydown and equipment staging areas along the alignment should also be identified.

Line 1600 – Describe when in the process, safety testing on this line would be conducted. Will it occur before the new line is proposed to cross the existing line the vicinity of Pomerado Road and Bernardo Trails? This would avoid the need to tear up the road again to implement repairs on Line 1600 at this location should they be deemed necessary. If repair of the existing pipeline (1600) is to be covered by the current EIR, then the document must also describe what those repairs might be and how they would be implemented, particularly in areas where the pipeline extends through existing neighborhoods.

2. Environmental Effects

Traffic and Transportation: In reviewing the information provided on the CPUC website for this project, a significant portion of the roadway will be affected during construction, likely causing four-lane Pomerado Road to be reduced to two-lanes. The traffic analysis should disclose the time delays that will result on the various segments of Pomerado Road and the associated impacts to both residential streets and other community circulation roadways that will be used by motorists as alternative access routes during construction. Traffic congestion as a result of construction should also be analyzed for surface streets and I-15 in the vicinity of the Pomerado Road/Highland Valley Road interchange.

The effects on access to schools, hospitals and other medical facilities, community centers, churches, and commercial areas should also be addressed, and mitigation measures should be incorporated into the project design to minimize delays in access to these facilities. Installation of water lines associated with the Poseidon desalinization project resulted in significant traffic delays (more than 30 minutes in some locations). The draft EIR for that project stated that no significant impacts to traffic would occur. We believe that delays of that magnitude within Rancho Bernardo and elsewhere along Pomerado Road would represent a significant impact and should be addressed accordingly.

Mitigation measures should be proposed to ensure safe access out of all neighborhoods and clear routes for emergency vehicles exiting Rancho Bernardo for Pomerado Hospital. Construction start and stop times should take into consideration access to schools and traffic volumes during commute hours in order to minimize the extent of disruption to communities.

Similar information and analysis should be provided for any construction activity that could be associated with repairs to Line 1600.

Traffic Congestion in Case of Emergency Evacuation: Residents of Rancho Bernardo live under the constant threat of wild fires extending from areas to the East. Pomerado Road is the only way for residents of several communities east of Pomerado Road to leave their subdivision in case of an emergency order to evacuate such as that which was ordered in advance of the disastrous fire of 2007 which devastated large parts of Rancho Bernardo.

These communities were ordered to evacuate at 5:00AM. Under then existing Pomerado Road conditions, Oaks North community residents reflect that it took more 45 minutes to go the 1/2 mile to reach Pomerado because of traffic congestion. Any additional thwarting of traffic flow on Pomerado Road due to pipeline construction could further disrupt traffic flow making it more difficult for residents of these Rancho Bernardo neighborhoods to evacuate and escape the threat of fire to life and property.

Noise and Vibration: Construction activity occurring in proximity to residential development and other sensitive noise receptors will result increases in the ambient noise levels during construction. Anticipated noise levels should be disclosed, and, if necessary, appropriate mitigation measures should be incorporated into the project. If night work is proposed, additional measures should be incorporated as appropriate. This section should also address the potential for impacts related to vibration during construction, particularly in association with work necessary to properly compact the soil around the pipeline. Potential noise impacts from activity occurring in association with laydown and equipment staging areas should also be addressed.

Similar information and analysis should be provided for any construction activity that could be associated with repairs to Line 1600.

Public Utilities and Other Community Facilities: A discussion of potential impacts to existing underground utilities should also be addressed, as well as any potential need to temporarily suspend service from one or more utilities. In addition, in 2012, the community identified the need for the installation of storm drains in the vicinity of the intersection of Pomerado Road and Pomerado Court and Pomerado Road and Mirasol Drive, where water currently collects on Pomerado Road during measurable rainfall events. The draft EIR should address how the current proposal could impact the City's ability to install new storm drain facilities at this location in the future. Finally, Green Valley Creek (now channelized and undergrounded in some areas of the community extends under Pomerado Road in the vicinity of its intersection with Rancho Bernardo Road. If construction could result in temporary interruptions of flow within this storm drain, how will properties and the public right-of-way upstream of this area be protected during its closure?

Aesthetics: The document should describe changes to existing community character as a result of installing significant above ground components such as mainline valves or regulator stations. Mitigation measures such as decorative walls and landscaping screening should be included, as necessary, to minimize impacts to community character and aesthetics. Temporary impacts to aesthetics associated with laydown and equipment staging areas should also be addressed.

Recreation: Information on the CPUC website for this project indicates that the primary access to the Mule Hill Trail (a portion of the San Dieguito River Park Coast to Crest Trail) will be closed for several months during construction. This represents a significant adverse effect that impacts trail users' ability to access the eastern portion of the Lake Hodges area from Escondido and Rancho Bernardo. The draft EIR needs to address this issue and identify potential options for temporarily facilitating alternative trail access in this area. The document should also address the need to protect existing interpretive areas along the affected trail segment. The project should be required to restore the existing trail to its current firm and stable condition.

Biological Resources: The potential for temporary and permanent impacts to sensitive habitats, including coastal sage scrub and riparian wetlands, from construction within the Lake Hodges watershed between Bear Valley Parkway and Highland Valley Road should be fully evaluated. Most, if not all, of this area is located within the City of San Diego's Multiple Species Conservation Program cornerstone lands, therefore, appropriate mitigation measures must be implemented to avoid impacts to sensitive habitats. If impacts cannot be avoided, the draft EIR should identify mitigation measures that would adequately address the anticipated impacts. The draft EIR should also state how the implementation of the required mitigation would be assured.

Cultural Resources/Paleontological Resources: Although the majority of the construction will occur in the public right-of-way, because of the depth of construction, there is still the potential to encounter previously unrecorded cultural resources and/or paleontological resources. Rancho Bernardo includes a number of significant cultural resources, many of which occur in proximity to the construction site. In addition, the area between Bear Valley Parkway and Highland Valley Road was once the location of the town of Bernardo, is located in proximity to historical Mule Hill, and was home to Native Americans. The draft EIR should discuss the need for a qualified archaeological monitor and appropriate Native American cultural resource monitor during the excavation of all previously undisturbed areas.

Greenhouse Gas Emissions: As discussed above, the project involves both short- and long-term impacts related to the generation of greenhouse gas emissions. A simple calculation of greenhouse gas emission during construction would not be considered an adequate assessment of the project's overall contribution of greenhouse gases. We request that the analysis of greenhouse gas emissions also consider the added emissions, if any, that would result from the use of natural gas transmitted through Line 3602 and distributed in Line 1600 versus the amount of natural gas that would be distributed under existing conditions. The way in which the natural gas to be transmitted through this new pipeline is produced may also have implications on the project's overall contribution to greenhouse gases. For instance, production of natural gas through the use of hydraulic fracturing techniques increases the greenhouse gas footprint of natural gas production and requires the use of significant volumes of water. These topics should be analyzed in the draft EIR.

The analysis of greenhouse gas emissions should also consider the consistency of this proposal with California's Climate Strategy and the City of San Diego's Climate Action Plan. The City will also be considering establishing a Community Choice Energy program, which will transition residents and businesses to 100 percent renewable energy by or shortly after construction on the pipeline begins. This will amplify the reduction of natural gas usage.

Public Safety: Line 1600 has been in place since 1949 and is in serious need of testing. This is particularly important because this line occurs immediately adjacent to residential units in various locations throughout Rancho Bernardo. The draft EIR should identify the potential for safety impacts, as well as propose mitigation measures that would ensure that line testing occurs during the initial phase of the project under any of the alternatives.

Describe the testing procedures for a 36-inch high pressure gas line following initial installation, during the first few years of use, and address the safety of the line overtime.

The draft EIR should also address the safety issues associated with installing and maintaining a high-pressure natural gas line within an existing roadway.

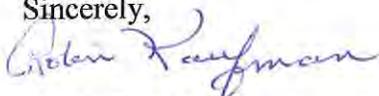
3. Alternatives

The following alternatives should be evaluated in the draft EIR:

- A detailed discussion of the No Project Alternative;
- At least one alternative that addresses how the energy requirements of the region can be met with renewable resources, adequate energy storage capacity, and a more efficient and flexible transmission and distribution network;
- No construction of Line 3602, instead upgrade and continue to use Line 1600 using best in class technology (i.e. cured-in-place lining systems for existing lines) to meet the future demands for natural gas in the region;
- Examination of the potential for SDG&E and SoCalGas to utilize natural gas supplied from excess capacity in the North Baja Pipeline, a TransCanada pipeline, as an alternative to the current proposal;
- Alternative alignments that avoid or minimize the use of major transportation corridors; and
- Decommissioning Line 1600 rather than de-rating it.

Thank you again for the opportunity to provide our comments. The Planning Board requests that it be notified when the draft EIR is made available for public review and comment. We also request that the CPUC consider a 60-day public review period to accommodate organizations such as ours that only meet once a month.

Sincerely,



Robin Kaufman
Chair, Rancho Bernardo Community Planning Board

cc: Councilmember Mark Kersey, District 5
State Senator Toni Atkins
Assemblyman Brian Maienschein



901 National City Boulevard
National City, CA 91950-3203

SAN DIEGO

CA 920

09 JUN '17

PM 3 1



Robert Peterson
California Public Utilities Commission
Re: Pipeline Safety and Reliability Project
c/c Ecology and Environment Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

94111-315575





901 National City Boulevard
National City, CA 91950-3203
Business: 619 477-9339
Fax: 619 477-5018
Web site: www.nationalcitychamber.org

June 5, 2017

**Robert Peterson
California Public Utilities Commission
Re: Pipeline Safety and Reliability Project
c/c Ecology and Environment, Inc.
505 Sansome Sts. Suite 300
San Francisco, CA 94111**

To Whom It May Concern:

The National City Chamber of Commerce board of directors supports SDG&E's Pipeline Safety and Reliability Project as part of their proactive pipeline safety plan. The National City Chamber of Commerce is a local business association representing nearly 600 business members from throughout the San Diego region. Our mission is to represent members in matters related to business, government, and community relations.

We support SDG&E's goal of enhancing and maintaining the safety of our region's natural gas infrastructure, and making it a top priority for San Diego. Constructing the Pipeline Safety & Reliability Project will build upon SDG&E's long history of safely delivering natural gas to its customers throughout San Diego County.

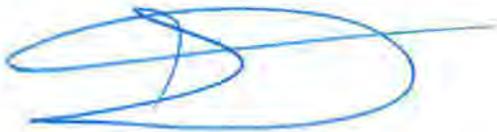
The Pipeline Safety & Reliability Project is a proposed new, state-of-the-art pipeline that would replace the existing Line 1600, which runs along the Interstate 15 corridor in northern San Diego County. We commend SDG&E for taking proactive steps to protect the safety of families that live and work in the area.

The Pipeline Safety & Reliability Project is the long-term solution to complying with state regulations by permanently lowering the pressure of Line 1600 to distribution service. The new pipeline will be constructed with the latest materials and technologies to make our region's energy system even safer.

We understand that SDG&E will make every effort to minimize the impact of construction and project execution on the businesses in the vicinity, and will work closely with impacted businesses to minimize down-time. Once completed, this project will ensure that safety continues to be a top priority for SDG&E and its customers.

Please accept our letter of support for this important and necessary project. We are available to answer any questions you may have. I can be reached at (619) 890-6614 or via email at Reynoso@nationalcitychamber.org.

Sincerely,

A handwritten signature in blue ink, appearing to read 'J. Reynoso', with a large, sweeping flourish extending to the right.

Jacqueline L. Reynoso
President/ CEO



Santee School District

9625 Cuyamaca Street
Santee, California 92071-2674



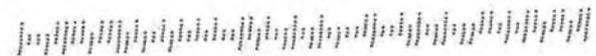
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0001393526 JUN 07 2017

California Public Utilities Commission
Re: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome St., Suite 300
San Francisco, California 94111

94111 93155 CO 17





Santee School District

SCHOOLS:

Cajon Park
Carlton Hills
Carlton Oaks
Chet F. Harritt STEAM
Hill Creek
Pepper Drive
PRIDE Academy
at Prospect Avenue
Rio Seco
Sycamore Canyon
Alternative
Success Program

June 7, 2017

California Public Utilities Commission
Re: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome St., Suite 300
San Francisco, California 94111

California Public Utilities Commission:

Santee School District in East County San Diego serves 6,800 preschool through 8th grade students within the Santee and El Cajon city limits. The school district is opposed to one of the alternate routes for the San Diego Gas Electric (SDGE) gas pipeline being considered. This route would take the pipeline through Santee in very close proximity to two of our schools: Carlton Oaks Elementary School located on Wethersfield Road just off of Carlton Oaks Blvd; and Sycamore Canyon School on Settle Road near Fanita Parkway.

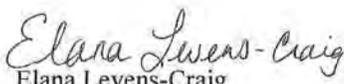
We believe this alternate route is extremely disruptive to a densely populated area. Carlton Oaks and Sycamore Canyon schools are accessed by school buses and parents using the two major thoroughfares through Santee that would be impacted by this alternate route: Carlton Oaks Blvd and Fanita Parkway. The management of traffic flow is already a significant challenge for school drop-off and pickup and we anticipate that road construction on Carlton Oaks and Fanita Parkway for a gas pipeline will delay school busses into and out of these schools and will impact parents traversing these roads to drop-off and pickup their kids at Carlton Oaks and Sycamore Canyon schools.

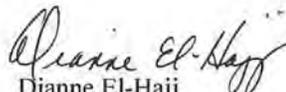
Initial conversations with SDGE have indicated that, if the route through Santee were adopted by the Public Utilities Commission (PUC), much of their work can be done during the summer, ostensibly avoiding impact to schools. However, Santee schools do not completely shut down for the short eight- to ten-week summer break period. Summer programs are in operation at our schools throughout July and August; disruption to bus routes and school drop-off and pickup can still be experienced during summer.

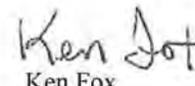
Frankly, we are perplexed as to why a route through major thoroughfares of a residential community already challenged with traffic congestion would even be considered. We understand the route proposed by SDGE through Miramar avoids, or at least minimizes, impacts to residential neighborhoods and communities. We fail to see how a route through Santee neighborhoods exacerbating traffic congestion and creating significant nuisances with construction noise and disturbance is a better alternative.

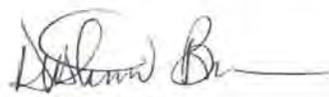
We ask that the Public Utilities Commission consider these significant impacts to the residents of Santee and opt to select the Miramar route proposed by SDGE.

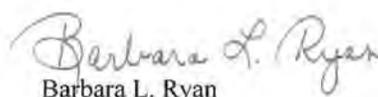
Sincerely,


Elana Levens-Craig
President


Dianne El-Hajj
Vice President


Ken Fox
Clerk


Dustin Burns
Member


Barbara L. Ryan
Member


Kristin Baranski
Superintendent

BOARD OF EDUCATION · Dustin Burns, Dianne El-Hajj, Ken Fox, Elana Levens-Craig, Barbara Ryan
DISTRICT SUPERINTENDENT · Kristin Baranski

9625 Cuyamaca Street · Santee, California 92071-2674 · (619) 258-2300 · www.santeesd.net

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Dept./Floor/Suite/Room

City: SAN DIEGO State: CA ZIP: 92123-1202

2 Your Internal Billing Reference

3 To

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Company: [REDACTED]

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June 07, 2017

Robert Peterson
California Public Utilities Commission
RE: Pipeline Safety and Reliability Project:
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

Submitted via email to: SDgaspipeline@ene.com

Dear Mr. Peterson:

COMMENTS ON THE PIPELINE SAFETY AND RELIABILITY PROJECT (A1509013)

The Goodan Ranch Policy Committee, made up of representatives from the County of San Diego, California Department of Fish and Wildlife (CDFW), City of Poway and City of Santee appreciates the opportunity to comment on the CPUC Pipeline Safety and Reliability Project (A1509013) during the public scoping period. The Sycamore Canyon Goodan Ranch Preserve (Preserve) is owned and managed by the County of San Diego in partnership with the respective agencies. The Cities of Poway and Santee border the Preserve.

The Goodan Ranch Policy Committee is opposed to any alignments that are located through the Preserve, specifically the "Rainbow to Santee" and "Rainbow to Santee Non-Miramar" alternatives as proposed. Goodan Ranch has a rich history of habitat preservation, cultural resource protection and recreational uses. Additionally, endangered animals and plants such as the California Gnatcatcher and San Diego Thornmint are found in this Preserve. The proposed alternatives noted above would cause significant impacts to said resources and operations.

Any pipeline alignments and construction easements need to follow existing public roads to limit impacts to biological resources, cultural resources trails, and structures/facilities. Impacted public road(s) and other areas will need to be replaced or restored to the satisfaction of the local jurisdictions that are affected by the project.

In summary we believe that other alternatives are more realistic and we strongly urge CPUC not to pursue the proposed route through Goodan Ranch. If you have any

questions regarding these comments, please contact Deborah Mosley, Acting Chief Resource Management Division, at (858) 966-1374, or via email at deborah.mosley@sdcounty.ca.gov.

Sincerely,



Supervisor Dianne Jacob
County of San Diego



Tim Dillingham
California Department of Fish & Wildlife



Councilmember Barry Leonard
City of Poway



Councilmember Stephen Houlahan
City of Santee

cc: Brian Albright, County of San Diego
Ed Pert, California Department of Fish & Wildlife
Bill Maertz, City of Santee
Belinda Romero, City of Poway



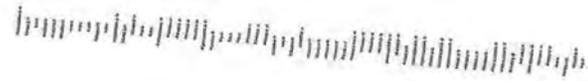
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California Public Utilities Commission
RE: Pipeline Safety and Reliability
Project
c/o Ecology and Environment Inc.
505 Sansome St., Ste. 300
San Francisco CA 94111

9411193155 0017



June 12 2017 S. Schielk
Calif. Public Utilities Commission (CPUC)

RE: Pipeline Safety and Reliability Project
c/o Ecology and Environment Inc
505 Sansome St., Ste 300
San Francisco CA 94111

New ^{Natural} Gas Line 3602 Detouring 1600

Attn Project mgr,

Why do we need two natural gas lines —
your new 3602 plus making
line 1600 to be used for distribution?

Is the CPUC anticipating huge
developments in the near future and
accessing our tax dollars to pay for
a new pipeline?

Running gas lines near the military base —
US Marine Corps Air Station — Miramar
is a huge hazard to training artillery with
~~as greatly as~~ increased fire risk and
disruption of base activities regarding
training and national defense.

Regarding Santee residents — we do not need
more construction: noise pollution
air pollution, heavy machinery from
installation or destruction of hills and valleys.

natural
gaslines

3602

1600

Page 2
EPUC
J Schuelke

Environmental Impact - NOT GOOD.

Disruption of natural habitat
wildlife travelways both mammals and birds
native plant species disruption - destroying plus
Endangerment to birds mammals
amphibians and humans.

This proposal does not appear to be
founded on any real need or
careful thought.

A natural gasline should
neither be running (installed)
near a military facility with
explosives training nor near
our homes in this capacity.

I suggest the old line 1600
be tested and repaired for its
original purpose. As your mailed
notice showed options of new line 3602
plus de-rating line (1600) with
~~no~~ no evidence of ~~existing~~ existing problems; ~~or~~
~~is~~ ~~doing~~ ~~so~~, ~~to~~ repairing line 1600,
should be adequate.

~~XXXXXXXXXX~~
Santee CA 92071



City Manager's Office
201 North Broadway
Escondido CA 92025

SAN DIEGO
CA 920
13 JUN '17
PM 9 L



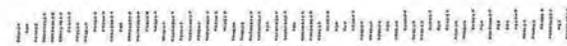
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Robert Peterson
California Public Utilities Commission
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

94111-045575





Sam Abed, Mayor
201 North Broadway, Escondido, CA 92025
Phone: 760-839-4610 Fax: 760-839-4578

June 12, 2017

Robert Peterson
California Public Utilities Commission
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

RE: Pipeline Safety and Reliability Project

Dear Commissioner Peterson:

I am writing on behalf of the Escondido City Council regarding the San Diego Gas & Electric (SDG&E) Pipeline Safety & Reliability Project (PSRP).

Since the proposed route for the new pipeline passes through Escondido, we have been following the project closely. The PSRP will allow SDG&E to reduce the pressure of an existing 16-inch pipeline that was constructed in 1949. With nearly eight miles of that aging pipe in our community, we are eager to see the system modernized with state-of-the-art infrastructure. The safety of our residents is of paramount concern to us as elected leaders, as is having a reliable supply of natural gas for residents and businesses.

The necessity of a new, modern pipeline is critical for both safety and reliability in our region. I respectfully encourage you to move the PSRP application forward as expeditiously as possible.

Sincerely,

A handwritten signature in blue ink that reads "Sam Abed". The signature is fluid and cursive, written in a professional style.

Sam Abed
Mayor

cc: City Council Members

LOCAL UNION 465
INTERNATIONAL BROTHERHOOD OF ELECTRICAL WORKERS
7444 Trade Street
San Diego, California 92121



SAN DIEGO
CA 92121
13 JUN '17
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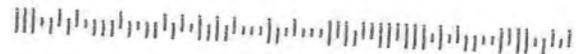
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California Public Utilities Commission
c/o Ecology and Environment, Inc.
505 Sansome Street., Suite 300
San Francisco, CA 94111
SDgaspipeline@ene.com

94111-315575





June 13, 2017

VIA US MAIL AND EMAIL

California Public Utilities Commission
c/o Ecology and Environment, Inc.
505 Sansome Street., Suite 300
San Francisco, CA 94111
SDgaspipeline@ene.com

Re: Support for Pipeline Safety and Reliability Project

To Whom it May Concern:

On behalf of IBEW LU 465, we are writing to express our support for the Pipeline Safety & Reliability Project proposed by San Diego Gas & Electric Company. IBEW Local Union 465 represents 2,700 working families in San Diego and Imperial Counties. Our members work to build and maintain the gas and electric infrastructure that keeps San Diego energized. Our utility workers risk their lives to electrify the homes of city residents while our gas construction workers address dangerous gas leaks and keep our gas distribution and transmission system safe for the public. Our Union represents workers at the following properties: San Diego Gas & Electric (SDG&E), Metropolitan Transit System, San Diego Trolley, NRG, Imperial Irrigation District, Davey Tree, and Utility Tree Service. We believe this is a critical project for the San Diego region, and that the California Public Utilities Commission should move to approve it.

This project is about public safety. The proposal is to build a new 36-inch natural gas transmission pipeline so that an existing 16-inch pipeline constructed in 1949 can be taken out of transmission service and brought into compliance with safety standards and requirements that were enacted following the fatal 2010 pipeline rupture in San Bruno, California.

When it comes to safety, we stand shoulder-to-shoulder with our employer-partners. San Diego's natural gas system should be brought into compliance with safety standards as soon as possible.

Besides public safety, a new pipeline will bring other critical benefits to the region. The project will improve the reliability and resilience of the natural gas system, supply the region with domestically produced energy, create quality jobs, and be built to best-in-class standards that protect the environment and local communities.

Just as it has on past projects, SDG&E has committed to using Union labor to build this pipeline. This project will be built by trained, skilled workers who are held to the highest standards by the IBEW. Union labor projects also bring economic benefits to working families. This pipeline project alone will support hundreds of construction workers and their families.

We are concerned that the CPUC may be considering not constructing the new pipeline or pressure-testing the existing 16-inch line so that it can remain part of the transmission system. Another alternative is to lower the pressure of the existing 16-inch line and rely on natural gas that is imported into the local system from Mexico to meet San Diego's energy needs.

All of these alternatives should be eliminated from further consideration. The San Diego region – with its significant population, economy, and military presence – should not be dependent on a 1949 pipeline or foreign infrastructure to meet its energy needs. These alternatives are not reasonable or feasible and should be rejected.

It is time to invest in the safety and reliability of San Diego's natural gas system with a new pipeline for the region. We urge you to support the efforts to construct the Pipeline Safety & Reliability Project without any further delay.

Sincerely,



Nate Fairman
Business Manager/
Financial Secretary

cc: Senator Ben Hueso
Assemblymember Lorena Gonzalez Fletcher

DEPARTMENT OF TRANSPORTATION

DISTRICT 11

4050 TAYLOR STREET, M.S. 240

SAN DIEGO, CA 92110

PHONE (619) 688-6960

FAX (619) 688-4299

TTY 711

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*Making Conservation
a California Way of Life.*

June 12, 2017

11-SD-15

PM VAR

SDG&E Natural Gas Line and De-rating Line

SCH#2017051031

Mr. Robert Peterson
California Public Utilities Commission
RE: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

Dear Mr. Peterson:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the Pipeline Safety and Reliability Project – New Natural Gas Line and De-rating Line. The mission of Caltrans is to provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability. The Local Development-Intergovernmental Review (LD-IGR) Program reviews land use projects and plans to ensure consistency with our mission and state planning priorities.

Caltrans is aware of the project and has been coordinating with SDG&E on the pipeline locations crossing within Caltrans Right of Way (R/W). Caltrans appreciates the early engagement by SDG&E to address our needs when developing the scope for this project.

Caltrans would like to submit the following comments for the Notice of Preparation (NOP) for the proposed Pipeline Safety and Reliability Project – New Natural Gas Line and De-rating Line draft Environmental Impact Report (EIR) located near Interstate 15 (I-15):

Any work performed within Caltrans R/W will require discretionary review and approval by Caltrans and an encroachment permit will be required for any work within the Caltrans R/W prior to construction. No work shall begin in Caltrans R/W until an encroachment permit is approved. As part of the encroachment permit process, the applicant must provide an approved final environmental document including the California Environmental Quality Act (CEQA) determination addressing any environmental impacts with the Caltrans R/W, and any corresponding technical studies. Identification of avoidance, minimization, and mitigation measures will be a condition of the encroachment permit approval.

Mr. Robert Peterson
June 12, 2017
Page 2

SDG&E shall prepare and submit to Caltrans a traffic management plan as part of the encroachment permit application. The traffic management plan shall require that closure or partial closure of I-15 be limited to times as to create the least possible inconvenience to the traveling public and that signage be posted prior to the closure to alert drivers of the closure in accordance with Caltrans requirements. Traffic shall not be unreasonably delayed. The plan shall also outline suggested detours to use during the closures, including routes, signage, and public outreach.

Please see Section 600 of the Encroachment Permits Manual for requirements regarding utilities and state R/W: <http://www.dot.ca.gov/trafficops/ep/manual.html>.

The following is a list of environmental issues and resources that are typically analyzed for projects on Caltrans facilities, and impacts to these resources should be addressed in the Draft and Final EIR:

- Air Quality
- Noise
- Biological Resources
- Water Quality and Stormwater
- Paleontological Resources
- Cultural Resources
- Community Character and Cohesion including Environmental Justice
- Land Use including Farmlands
- Visual/Aesthetics
- Hazardous Waste/Materials
- Traffic and Transportation
- Pedestrian and Bicycle Facilities

Caltrans appreciates continued involvement in the EIR process and looks forward to continuing cooperation with the California Public Utilities Commission in coordinating land use and transportation issues associated with this project. If you have any questions, please contact Keri Robinson of the Caltrans Development Review Branch at (619) 688-3193 or by e-mail at keri.robinson@dot.ca.gov.

Sincerely,



ANN M. FOX
Deputy District Director
Planning and Local Assistance



Douglas M. Schneider
Vice President
System Integrity & Asset Management
555 W, Fifth Street, GT12B8
Los Angeles, CA 90013

Tel: (213) 244-5154
DSchneider@semprautilities.com

June 12, 2017

Via EMAIL and Federal Express

Mr. Robert Peterson
California Public Utilities Commission
RE: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111
SDgaspipeline@ene.com

Re: Scoping Comments of San Diego Gas & Electric Company and Southern California Gas Company on the Notice of Preparation of an Environmental Impact Report for the Pipeline Safety & Reliability Project, Application 15-09-013

Dear Mr. Peterson:

On behalf of San Diego Gas & Electric Company and Southern California Gas Company (Applicants), thank you for the opportunity to submit these comments on the Notice of Preparation of an Environmental Impact Report (EIR) for the Pipeline Safety & Reliability Project (Proposed Project).

Exactly three years ago today, the California Public Utilities Commission (Commission) approved our Pipeline Safety Enhancement Plan (PSEP) in the wake of the fatal pipeline rupture in San Bruno, California in 2010. The Commission's approval marked an important milestone towards the Commission's stated objective that "all natural gas transmission pipelines in service in California must be brought into compliance with modern standards of safety."¹

¹ Rulemaking (R.) 11-02-019, *Pipeline Safety Enhancement Plan of Southern California Gas Company (U-904-G) and San Diego Gas & Electric Company (U 902-M) Pursuant to D.11-06-017, Requiring All California Natural Gas Transmission Operators to File a Natural Gas Transmission Pipeline Comprehensive Pressure Testing Implementation Plan* at 1 (August 26, 2011).

If approved, the Proposed Project will significantly enhance the safety of Line 1600, one of the highest priority (*i.e.*, “Phase 1”) pipelines identified in our PSEP. Line 1600 was constructed in 1949 using non-state-of-the-art construction techniques and materials. It passes through populated areas in San Diego County as well as the cities of Escondido and San Diego. There is no question that this line should be brought “into compliance with modern standards of safety” as soon as possible, consistent with state law and the Commission’s direction.

The Commission’s commitment to safety also embodies a commitment to resiliency. As expressed in its Safety Policy Statement, the Commission’s “Overarching Safety Mission” is:

[t]o assure to the State of California that all of us will work every day *to assure that the regulated utilities we depend on for critical services are as safe and resilient as they can possibly be.* The CPUC not only will assure compliance with safety laws and regulations, but also challenge itself and the utilities to excellence.²

We share the Commission’s commitment to safety and resiliency, which are the very foundation of the Proposed Project Objectives:

1. Implement pipeline safety requirements for existing Line 1600 and modernize the system with state-of-the-art materials;
2. Improve system reliability and resiliency by minimizing dependence on a single pipeline; and
3. Enhance operational flexibility to manage stress conditions by increasing system capacity.

In short, we have a unique opportunity to significantly improve *both* the safety and resiliency of our natural gas system. By replacing the transmission function of Line 1600, we address safety. By replacing it with a larger diameter pipeline, we greatly bolster system reliability and provide needed operational flexibility.

In approving PSEP three years ago, the Commission made clear, “we want the applicants to implement Safety Enhancement now.”³ In fact, the Commission and the Applicants share the statutory objective to bring the natural gas system into compliance with modern standards of safety “as soon as practicable.”⁴ Nearly two years have passed since we submitted the Proponents’ Environmental Assessment (PEA) for the Proposed Project. Unfortunately, per the current proceeding schedule, a Draft EIR is not anticipated until August 2018—more than one

² Safety Policy Statement of the California Public Utilities Commission (July 10, 2014) (emphasis added), available at <http://cpuc.ca.gov/general.aspx?id=7772>.

³ D.11-06-017, *Decision Implementing a Safety Enhancement Plan and Approval Process for San Diego Gas & Electric Company and Southern California Gas Company; Denying the Proposed Cost Allocation for Safety Enhancement Costs; and Adopting a Ratemaking Settlement* at 2 (June 12, 2014).

⁴ Public Utilities Code § 958. See also, D.11-06-017 at 19-20.

year from now. We believe it is practicable for the Commission to release a Draft EIR sooner than that.

To that end, and consistent with California Environmental Quality Act (CEQA), we urge you to focus the scope of the Draft EIR in order to expedite its release for public comment. This includes eliminating from further consideration any alternatives that would be considered “not feasible”, as well as only analyzing alternative routes that would avoid or substantially lessen the environmental impacts associated with the Proposed Project.⁵

We believe there is or will soon be substantial evidence before the Commission, which will facilitate streamlining the environmental review of the Proposed Project as we request. This evidence includes:

- the robust PEA and application materials;
- extensive submittals to the Commission’s Energy Division – CEQA Unit;
- the Cost Effectiveness Analysis and additional information regarding the cost, feasibility and benefits of several of the Proposed Project Alternatives, which further support the PEA’s findings and conclusions;
- comments received during the scoping period; and
- additional evidence submitted in the regulatory proceeding.

Based on substantial evidence before the Commission, alternatives that are not “feasible” as defined by CEQA⁶ or impracticable, other than the No Project Alternative, do not need to be analyzed further and should be rejected to expedite release of the Draft EIR. For example, alternatives that cannot assure reliable gas service to SDG&E’s customers should be found infeasible, such as a battery alternative (which could only address a loss of electricity from a loss of gas-fired generation) or Otay Mesa alternatives that cannot assure a firm supply of gas when needed by customers. With respect to the No Project Alternative, we believe the Draft EIR should analyze that alternative to the extent required by CEQA, but conclude that it is not feasible based upon substantial evidence because it would leave Line 1600 in transmission service, thus not meeting the Applicants’ (and the Commission’s) safety goal.

Similarly, we do not believe that the issuance of the Draft EIR should be delayed in order to allow overly-extensive analysis of alternative routes that do not avoid or substantially lessen the environmental impacts of the Proposed Project. As stated in our Routing Criteria,⁷ the Proposed

⁵ California Public Resources Code Section 21002.

⁶ CEQA defines “feasible” as “capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors. Cal. Pub. Res. Code § 21061.1.

⁷ See, A.15-09-013, Proponents’ Environmental Assessment (PEA), Section 2.4, *Applicants’ Routing Criteria* at 2-8.

Project has specifically been designed to avoid and minimize environmental impacts, not to mention costs, acquisition or condemnation of private properties, and conflicts with mission-critical operations at Marine Corps Air Station Miramar. While we support the Commission conducting a thorough analysis of the alternatives, the proposed route and project design features already minimize environmental impacts. CEQA does not require an extensive analysis of every possible route, and we do not believe that bringing Line 1600 into compliance with safety requirements should be delayed in order to review routes that are not environmentally superior to the Proposed Project.

For your convenience, Attachment A to this letter has been prepared by the Proposed Project technical team to highlight some of the additional information that has been developed regarding the Otay Mesa Alternatives (including Northern Baja Alternative), Offshore Route Alternative, Alternative Energy Alternative (Battery Storage Alternative), Alternative Diameter Pipelines Alternatives, and No Project Alternative. The Applicants believe that the Commission should reject each of these alternatives as infeasible, including the No Project Alternative.⁸ With the exception of the No Project Alternative, these alternatives do not require further review in the Draft EIR.

We thank you for considering these comments and supporting our efforts to implement our PSEP in a timely manner. We look forward to working together to advance our mutual goals of safety and resiliency as soon as possible.

Sincerely,



Douglas M. Schneider
Vice President
System Integrity & Asset Management

Enclosures:

Attachment A: Scoping Comments of SDG&E and SoCalGas

cc: Molly Sterkel, Program Manager, Infrastructure Planning and Permitting, Energy Division
Lonn Maier, Supervisor, Infrastructure Permitting and CEQA, Energy Division
Franz Cheng, Supervisor, Gas Section, Energy Division
Jonathan Koltz, Legal Counsel
Ken Bruno, Program Manager, Gas Safety and Reliability, Safety and Enforcement Division

⁸ Several of these alternatives to the Proposed Project were raised by the Administrative Law Judge in A.15-09-013, *Joint Assigned Commissioner and Administrative Law Judge's Ruling Requiring an Amended Application and Seeking Protests, Responses, and Replies* (Jan. 22, 2016). The ruling set forth a list of alternatives, some of which were not analyzed in the PEA.

Matt Epuna, Supervisor, Gas Safety and Reliability, Safety and Enforcement Division
Durga Shrestha, Utilities Engineer, Safety and Enforcement Division
Carolina Contreras, Senior Utilities Engineer, Office of Safety Advocates

ATTACHMENT A

Scoping Comments of San Diego Gas & Electric Company and Southern California Gas Company on the Notice of Preparation of an Environmental Impact Report for the Pipeline Safety & Reliability Project

San Diego Gas & Electric Company (SDG&E) and Southern California Gas Company (SoCalGas) (together, Applicants) submit the following additional information regarding the cost, feasibility and benefits of several alternatives to the Pipeline Safety & Reliability Project (Proposed Project),¹ which further support the Applicants' findings and conclusions set forth in the Proponent's Environmental Assessment (PEA).

The Applicants believe the information constitutes substantial evidence, which will assist the California Public Utilities Commission (Commission) in eliminating alternatives that are infeasible from analysis in the Environmental Impact Report (EIR) and streamline the environmental review of this important public safety project. Based on substantial evidence before the Commission, alternatives that are not "feasible" as defined by the California Environmental Quality Act (CEQA), speculative or impracticable do not need to be analyzed further and should be rejected to expedite release of the Draft EIR. CEQA defines "feasible" as "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors."²

As discussed below, Applicants must respond to the safety mandate issued following the 2010 explosion and fire in San Bruno. Among other things, the Legislature adopted the California Natural Gas Safety Act of 2011, including Public Utilities Code section 958, which requires all natural gas intrastate transmission line segments that were not pressure tested or that lack sufficient documentation of a pressure test, such as Line 1600, to be pressure tested or replaced "as soon as practicable."³ Thus, in the context of public safety, it is particularly important that the Commission eliminate alternatives that cannot be completed "within a reasonable period of time", among other things.

I. Additional Information Confirms that Several Alternatives Should Not Be Included in the EIR Because They Are Both Infeasible and Unable to Meet Project Objectives

A. *Otay Mesa Alternative 1 (Northern Baja Alternative): Obtain Gas From Ehrenberg Delivered at Otay Mesa*

1. This Alternative Does Not Meet Project Objectives

¹ The Proposed Project involves: (a) the construction of a new, approximately 47-mile long, 36-inch diameter natural gas transmission pipeline in San Diego County and associated facilities (Line 3602), and (b) lowering the pressure (de-rating) of approximately 45 miles of existing Line 1600 for use as a distribution line, once the new line is constructed.

² Cal. Pub. Res. Code § 21061.1.

³ California Public Utilities Code § 958.

One objective of the Proposed Project is to increase the reliability and resiliency of the SDG&E gas system. Currently, roughly 90% of the gas delivered in SDG&E's gas system flows through Line 3010, with roughly 10% flowing through Line 1600. Essentially no gas flows into SDG&E's gas system through its Otay Mesa receipt point because it is more expensive to deliver gas to that receipt point. Applicants are recommending that Line 1600, constructed in 1949 and containing manufacturing anomalies, be de-rated to distribution service to enhance safety. Absent another source of supply into SDG&E's gas system, that would leave SDG&E's customers dependent on a single pipeline, Line 3010, for gas service. In the event of a Line 3010 outage or, to a lesser extent, a Moreno Compressor Station outage, gas service to SDG&E's customers would be at risk and, depending upon the electric load at the time, electric service could be at risk from the loss of gas to gas-fired generation in San Diego.

As more fully explained in Exhibit A attached hereto, *Prepared Direct Testimony of Jani Kikuts on Behalf of San Diego Gas & Electric and Southern California Gas Company* (March 21, 2016), an unplanned outage on Line 3010 during a period of high demand could result in the loss of gas service to approximately 550,000 meters within 8 hours. The curtailment associated with this plausible large scale outage is likely to result in gas outages for multiple customer types including residential, commercial, industrial, school, hospital, and military, as well as local county and city government facilities. Restoring gas service after a large scale outage is a time consuming activity requiring customer outreach, system engineering evaluations and support activities for field personnel. The system would need to be made safe and each customer line individually purged and brought back on line. In the described scenario, mutual aid would be required from other utilities to assist. It is estimated that if 200 service technicians were working to restore service, it would take over 50 days to complete this task. Even if 1,000 technicians were available, it would take nearly two weeks. The social and economic consequences of an event like this would be massive. The Proposed Project will bring significant reliability benefits that would minimize these consequences. If it was constructed and in service, there would be little or no disruption to customers if the scenario described were to occur.

As set forth below, the Otay Mesa Alternative 1 does not assure a reliable source of gas supply in the event of a Line 3010 outage because insufficient firm capacity is available to bring gas to the Otay Mesa receipt point and interruptible capacity may or may not be available when needed.

In addition, because gas would only be delivered to the Otay Mesa receipt point when it was needed, this alternative does not meet the project objective to enhance operational flexibility. As discussed below, renewable resources (particularly solar and wind) can be extremely volatile from hour to hour and very difficult to forecast. As such, flexible and quick start natural gas-fired electric generation is increasingly relied upon to make up for any unanticipated shortfall in renewable generation. Electric generation plants can no longer rely on fuel oil as a back-up for natural gas. As a result natural gas is now the preferred fuel for electric generation plants, which must ramp up quickly to stabilize the grid. In order to serve quick ramping, gas-fired electric generation, gas would need to be delivered to Otay Mesa on a consistent daily basis. This reliance on natural gas is further demonstrated by The California Independent System Operator (CAISO) in their planning for a solar eclipse event on August 21, 2017. In their May 2017 analysis of the eclipse event, CAISO indicates that natural gas will be

leveraged as one of the mitigation measures to offset the impacts of the loss of solar resources.⁴ Therefore, Otay Mesa Alternative 1 does not meet Applicants' project objectives.

2. This Alternative is Likely Infeasible

Otay Mesa Alternative 1 requires the transportation of gas supply across the North Baja California (BC) Pipeline System, which is comprised of three pipelines, North Baja Pipeline, Gasoducto Rosarito and Transportadora de Gas Natural de Baja California (TGN). Gas supply for this alternative would originate from the El Paso Natural Gas (EPNG) South Mainline system east of Ehrenberg, Arizona and enter the North Baja Pipeline traveling southeast through California to the international border at Los Algodones, into Gasoducto Rosarito. The gas would then head west through Mexico for approximately 140 miles on Gasoducto Rosarito to TGN where it would head north and interconnect with the SDG&E system at the Otay Mesa receipt point, just south of Tecate.

The requisite firm pipeline capacity through the North BC Pipeline System is likely unavailable. To obtain firm capacity from Ehrenberg to Otay Mesa, there must be available firm capacity on all three pipelines. While some available firm capacity exists on the North Baja Pipeline from Ehrenberg to Los Algodones, Gasoducto Rosarito has stated in February 2016 that only 20 million cubic feet per day (MMcfd) in firm capacity was available on their system from the North Baja Pipeline to TGN. Firm delivery rights at Otay Mesa for 20 MMcfd would not be sufficient to cover the lost capacity of Line 1600 once it is de-rated and becomes a distribution pipeline, much less provide redundancy for Applicants' natural gas system in the event of a Line 3010 outage, as well as reduce the risk associated with a Moreno Compressor Station outage. Specifically, to cover the lost capacity of Line 1600 alone, 150 MMcfd would be necessary. To provide redundancy for Line 3010, Applicants would need firm delivery of 570 MMcfd at Otay Mesa—nearly 30 times the current firm capacity that is available on the North BC Pipeline system from Ehrenberg.⁵

SDG&E's April 2017 Long-Term Demand Forecast projects the 1 in 10 year cold day demand at 590 MMcfd in 2020/21, and 548 MMcfd in 2025/26. While SDG&E's Otay Mesa receipt point has the physical capacity to receive 400 MMcfd, SDG&E's system would require further upgrades to handle more. If Line 1600 is de-rated to distribution service and Line 3010 is out of service during peak demand, delivery of 400 MMcfd at Otay Mesa would not be sufficient to serve all customers.

The North BC Pipeline System transports gas to customers in Mexico, and Mexican customers' use is projected to grow, thus making future capacity (firm or interruptible) even more uncertain. Publicly available information from multiple sources forecasts growing natural

⁴ CAISO 2017 Solar Eclipse Report (May 1, 2017), available at http://www.caiso.com/Documents/Briefing_SolarEclipse-ISORReport-May_2017.pdf

⁵ Although Applicants could attempt to replace capacity lost from Line 1600, Line 3010, or Moreno Compressor Station with interruptible capacity through the North BC Pipeline System, there is an obvious risk that capacity needed to support the current system will be interrupted. While Applicants do not believe that would be consistent with its performance as a prudent operator, the Commission will ultimately have to decide whether this is an acceptable risk for SDG&E's customers to bear.

gas exports to Mexico from the United States. For example, according to the Secretary of Energy of the Federal Government of Mexico, U.S. exports to the northwest region of Mexico are expected to grow from 568.4 MMcfd in 2017 to 942.2 MMcfd in 2030.⁶ Similarly, Kinder Morgan recently noted that U.S. exports to Mexico are forecast to increase.⁷ The projected additional gas load in the Baja California region, whether it is to support growing commercial or industrial use, or to support the increased demand from electricity generation, will seek service on the existing North BC Pipeline system. This demand will absorb any capacity that may be available on existing North BC Pipeline infrastructure, and would be in direct competition with Otay Mesa Alternative 1. In short, the more gas that is consumed in this region of Mexico, the less capacity is available for others to transport gas from Ehrenberg into Applicants' system via the Otay Mesa receipt point.

For these reasons, Applicants consider Otay Mesa Alternative 1 infeasible.

3. This Alternative Also Presents Multiple Risks that Make the Alternative Imprudent and Fail to Meet Project Objectives

The Otay Mesa Alternative 1 does not meet the objectives of the Proposed Project. As stated above, gas supply on the North BC Pipeline System must travel across three different pipelines, North Baja Pipeline, Gasoducto Rosarito and TGN, to reach the Otay Mesa receipt point. As of February 2016, only 20 MMcfd of firm capacity was available on Gasoducto Rosarito, which is far below what is necessary to replace the transmission function of Line 1600 or to support Applicants' natural gas system in the event of an outage on Line 3010 or to reduce the risk associated with an outage at the Moreno Compressor Station. The limit in available firm capacity would not improve system reliability and resiliency by minimizing dependence on a single pipeline, and would not enhance operational flexibility to manage stress conditions.

Even assuming availability of the requisite firm capacity (an assumption that is unsupported by the facts), SDG&E's Otay Mesa receipt point has a physical capability to receive firm supplies up to 400 MMcfd. In order to obtain the full amount of capacity, Applicants believe that improvements on the Gasoducto Rosarito Pipeline System located in Mexico and the North Baja Pipeline System located in California, which runs for approximately 86 miles, would be required.⁸ Such construction is estimated to be costly. Based on publicly available information, Applicants estimate the cost of construction for new pipelines to loop with the North BC Pipeline System would be approximately \$977 million in direct costs.⁹

⁶ Mexico SENER, *Prospectiva da Gas Natural 2016-2030* (December 30, 2016), at 81, Table A.17, [http://www.gob.mx/cms/uploads/attachment/file/177624/Prospectiva de Gas Natural 2016-2030.pdf](http://www.gob.mx/cms/uploads/attachment/file/177624/Prospectiva_de_Gas_Natural_2016-2030.pdf)

⁷ Kinder Morgan, January 25, 2017 Analyst Conference Presentation, "*The Best is Yet to Come*," at 32, http://ir.kindermorgan.com/sites/kindermorgan.investorhq.businesswire.com/files/event/additional/17_AD_pres_vF-REFORMAT.pdf.

⁸ As this pipeline is not within Applicants' system, additional information may be required to determine what work is necessary.

⁹ If new pipelines and/or compression is needed on the North BC Pipeline System to deliver the level of gas desired, the Applicants can estimate that cost if allowed to acquire the information from North BC

Furthermore, to provide full replacement/redundancy for Line 3010, which has capacity of 570 MMcfd, physical expansion of the Otay Mesa receipt point and the SDG&E system would be required. Such improvements would also be costly, costing \$100 million to upgrade the receipt point.¹⁰

These costs, combined with the uncertain cost to obtain a contract for firm delivery rights make this alternative infeasible. In addition, this alternative requires construction and may not reduce the potentially significant environmental impacts of the Proposed Project.

In addition, this alternative poses unacceptable risks. As noted in the PEA:

San Diego County—the second largest county in California, and home of the eighth most populous city and 17th largest metropolitan area in the United States (U.S.)—had a growing population of more than 3.2 million people in 2014 and a regional economy of \$179 billion. San Diego is also home to the largest concentration of military in the world and the largest federal military workforce in the U.S. SDG&E provides natural gas service to this significant portion of California’s population and economy through over 868,000 natural gas meters in San Diego County.

The Otay Mesa Alternative 1, by definition, depends on infrastructure that is: (a) located in a foreign sovereign nation, (b) subject to the rules and regulation of a foreign sovereign nation, and (c) not owned or operated by Applicants. Increasing the region’s dependence on infrastructure located outside of the United States and not subject to Commission oversight presents significant risks.

The most recent IEnova Annual Report expresses concerns over foreign sovereign risk. IEnova has identified a number of potential business risks specific to Mexico, including the Baja California State, where they do business. Specific risks identified include legislative changes, policy changes, violence related to drug trafficking, and unanticipated tax reforms.¹¹ Such risks

service providers through a Request for Proposal (RFP) process. Without such information, the Applicants have estimated a direct cost of up to \$977 million using publicly available information, for 400 MMcfd, that was presented in the Cost-Effectiveness Analysis. See Exhibit B attached hereto, A.15.-09-013, Vol. III, *Cost-Effectiveness Analysis for the Pipeline Safety & Reliability Project (CEA)*, San Diego Gas & Electric Company and Southern California Gas Company (March 2016), Table 6 at 22.

¹⁰ The Applicants estimated this cost based upon a per mile unit costs and no further engineering analysis was performed to derive this estimate.

¹¹ “The Company’s current energy infrastructure projects are primarily located in the states of Baja California, Sinaloa, Sonora, Chiapas, Chihuahua, Coahuila Durango, Nuevo Leon, Jalisco, Tamaulipas, San Luis Potosi, Tabasco and Veracruz, and all our current permits and approvals are issued by either the Mexican government or by local governmental authorities. As a result, any legislative changes, measures taken, stricter rules implemented or additional requirements imposed by the relevant governmental authorities (including changes derived from state and local elections) may materially adversely affect our business, financial condition, results of operation, cash flows, prospects and/or the market price of our securities. In addition, we are exposed to risks of a local recession, the occurrence of a natural disaster, an increase in local crime rates or local political and social developments in the regions in which we operate, which could have a material adverse effect on our business, financial condition, results of

suggest that this alternative may not be able to meet Applicants' objective of ensuring safe and reliable gas services to the San Diego region. Applicants understand that reliability means actually delivering gas to customers, having the necessary capacity and operational flexibility, and having the ability to respond in emergency situations. Reliability will be difficult with the uncertainties and risks associated with this alternative.

B. *Otay Mesa Alternative 2: Obtain Regasified LNG from Energia Costa Azul*

The second alternative for bringing gas to the Otay Mesa receipt point originates from the ECA LNG Terminal near Ensenada, and requires the purchase of regasified LNG from the ECA Terminal, which is transported on the Gasoducto Rosarito LNG Spur to the TGN system for delivery to Otay Mesa.

This Otay Mesa Alternative 2 suffers from many of the same problems as Otay Mesa Alternative 1. The risks and uncertainty that apply to Otay Mesa Alternative 1, which renders such an alternative infeasible and unlikely to meet any of Applicants' objectives, also apply to Otay Mesa Alternative 2. This alternative also depends on resources located in a foreign sovereign nation, subject to the rules and regulations of foreign sovereign nation, and not owned or operated by Applicants.

Additionally, the costs associated with Alternative 2 may render it infeasible. The ECA to Otay Mesa path was developed and constructed to serve regasified LNG to customers in Mexico and California. While this capacity is fully subscribed, it remains idle due to the significant price disparity between domestic gas supply available to Applicants' system and LNG delivered to ECA, even at current depressed LNG prices. The cost of purchasing LNG from the ECA facility will remain above market for the foreseeable future due to the incremental costs of liquefaction, transportation, and regasification for LNG that are not required for domestic supply. Additionally, costs are expected to remain high due to continuing disparity between domestic U.S. natural gas prices and the delivered prices for LNG. IEnova says as much in their recent annual report.¹²

Additionally, ECA's Terms and Conditions require a minimum daily delivery (MinDDQ) from ECA's storage tanks to the shipper, which would require storage tanks to be repeatedly refilled at great expense. As more fully described in Exhibit C attached hereto, Rebuttal Testimony of SDG&E and SoCal Gas, Chapter 5, *Intervenors Have Not Identified Any Viable Otay Mesa Alternative (Witness: Paul Borkovich)*, the physics of LNG results in boil off that

operations, cash flows, prospects and/or the market price of the Company's securities." 2016 IEnova Annual Report at 36, <http://phx.corporate-ir.net/phoenix.zhtml?c=251832&p=irol-IRHome>.

¹² "Of the terminal's capacity holders, only IEnova LNG has delivered LNG cargos to the terminal. Based on the market price of LNG relative to the price of natural gas in the natural gas markets typically served using regasified LNG from our LNG terminal, we do not anticipate that our third party customers, Shell Mexico, or Shell, and Gazprom Mexico, or Gazprom, will deliver LNG to the terminal in the near future, and we do not anticipate that in the near future our subsidiary IEnova LNG will deliver more than the minimum quantities required to keep the terminal cold." 2016 IEnova Annual Report at 24.

alters the nature of the remaining stored LNG, such that it requires it to be vaporized and to be shipped out before it is no longer usable as natural gas. Thus, there is need for the constant turnover of stored LNG at ECA. Whatever is in storage is constantly being reduced by the minimum daily delivery requirement, so maintaining a sufficient amount to meet SDG&E's needs in the event of an unplanned outage of Line 3010 would require a steady re-supply of the ECA facility.

For these reasons, the Otay Mesa Alternative 2 is infeasible and may be incapable of accomplishing the Proposed Project's fundamental objective of reliability.

C. *Offshore Route Alternative*

The Offshore Route Alternative assumes construction of a 58-mile, 36-inch diameter underwater pipeline off the shore of Southern California, transitioning onshore at the Line 3010/3011 intersection. The Offshore Route Alternative is prohibitively expensive, therefore making such an alternative infeasible. Applicants anticipate that it would cost approximately \$1.45 billion to construct the Offshore Route Alternative.¹³ Additionally, permits with multiple federal, state, and local agencies and jurisdictions—most notably a Coastal Development Permit from the California Coastal Commission—needed to construct an offshore pipeline are unlikely to be obtainable in a *timely manner (at least 8 years), if at all*.

D. *Alternative Energy*

The Assigned Commissioner and Administrative Law Judge's Ruling directed Applicants to prepare a "need/cost analysis report related to wider range of alternatives,"¹⁴ including analysis of two alternate energy alternatives: grid-scale battery/energy storage and smaller-scale battery storage. Applicants evaluated these alternatives as part of the CEA (*see*, Exhibit B).

The Alternative Energy Alternatives do not meet the project objectives for several reasons. First, the Battery Storage Alternatives do not provide reliability and resiliency to the gas system, which provides gas for residential space heating, water heating, cooking and other uses, as well as to commercial, industrial, military and public buildings for similar and manufacturing uses. Second, by failing to address the capacity of the gas system that would be lost from de-rating Line 1600 to improve safety, the Battery Alternatives do not facilitate de-rating Line 1600 and thus do not support the Proposed Project's safety objective. Third, because battery storage is not a mature technology at this time, the Battery Alternatives do not adequately address the risk to reliable electric service that would arise from a curtailment of gas to gas-fired generation in San Diego, which is one of the reasons Applicants seek to ensure the gas system's reliability and resiliency.

1. Battery Storage Does Not Serve Non-Electric Needs

¹³ See Exhibit B, CEA, Table 6 at 22.

¹⁴ A.15-09-013, *Joint Assigned Commissioner and Administrative Law Judge's Ruling Requiring an Amended Application and Seeking Protests, Responses, and Replies*, dated January 22, 2016 (January 22 Ruling). The January 22 Ruling set forth a list of alternatives, some of which were not analyzed in the PEA.

SDG&E's service territory for natural gas is the County of San Diego,¹⁵ which has a growing population of 3,317,749.¹⁶ SDG&E has approximately 30,000 meters that serve customers that are classified based on their tariff rate as commercial/industrial and fewer than 100 that are taking service under an EG related tariff such as power plants and cogeneration. The remaining meters, over 830,000, are classified as residential customers based on their tariff. Residential customers choose to consume natural gas for purposes of cooking, heating water, space heating, drying clothing among other uses. Commercial and industrial customers also often use natural gas for water heating and space heating, but also rely on it for processes such as those that require heat to melt, dry, bake, or glaze a product. Natural gas is used as a heat source in making glass, steel, cement, bricks, ceramics, tile, paper, pharmaceuticals, food products and many other commodities and end use products. Many hospitals and military installations in the San Diego area rely on natural gas for many uses, including as a fuel for their combined heat and power facilities that are essential for their operations.

There has also been continued installation of new fuel cells by commercial customers which demonstrates the growing integral relationship of natural gas with the expanding use of fuel cells as an important distributed generation resource. The transportation sector also utilizes natural gas not only for automobiles, but on a larger scale for fleets of buses as well trash trucks and other commercial vehicles.

All of these natural gas customers have invested considerable resources into the facilities, equipment and processes associated with the long term use of natural gas as an energy source. Not only have they purchased the equipment such as stoves, water heaters, furnaces, dryers, commercial machinery and vehicles, but they have invested in configuring their buildings and facilities with the piping and other infrastructure to correspond to their planned use of natural gas.

While battery storage might help avoid loss of electricity from a loss of gas to San Diego gas-fired electric generation, batteries cannot supply SDG&E's customers (including core, non-core) with gas for residential, commercial, and industrial needs. For example, while SDG&E may be able to maintain electricity for some period of time during a pipeline outage through the use of battery storage options, SDG&E's customers would not have any natural gas service to operate their gas water heaters, gas heating units, gas appliances, fuel cells, cooking or any other gas-fired equipment that is used in various industries, such as healthcare, manufacturing, biotech, restaurants, and water and sewer treatment. If the lack of supply causes disruption in service to portions of the SDG&E system, it may be a period of days that these customers could be without service as SDG&E works to safely restore service.

Accordingly, neither battery storage alternative meets the project objectives of reliability and resiliency.

2. The Battery Storage Technology Is Not Yet Mature and Does Not Meet the Project Objective to Ensure Reliable Electric Service

¹⁵ SDG&E Gas Tariff Book, Sheet 1, CPUC Sheet No. 7072-G.

¹⁶ U.S. Census July 1, 2016 estimate, <https://www.census.gov/quickfacts/table/PST045216/06>

The grid scale battery alternative assumes installation of lithium-ion batteries at an estimated cost of \$500/kWh (kilowatt hours).¹⁷ For approximately 2,802 MW (megawatts) of power and four hours of energy, approximately 11,200 MWh (megawatt hours) of capacity is required. Between 100 and 125 acres of land is needed for this alternative. The smaller scale battery alternative assumes approximately 11,200 MWh of energy storage capacity for four hours of electric supply, projected at an estimated installed cost of \$600/kWh.¹⁸ The difference in cost per kWh accounts for the number of sites required to host the smaller scale battery locations.

While technology is advancing, current battery storage options do not provide a reasonable alternative to the Proposed Project and the timeline for advancement of this technology is uncertain. To demonstrate this point, Applicants recently analyzed whether the battery storage alternatives could supply customers with the energy equivalent to that of the Proposed Project in the form of electricity.¹⁹ Applicants (including SDG&E whose electric grid includes the world's largest lithium ion battery storage project in the world) are unaware of a battery storage project of this magnitude being undertaken and, as a result, battery production on this scale would be very difficult, very expensive, very large (requiring approximately 100 acres of land) and would take a very long time to produce.

The evaluation revealed that in order for the four hours of battery storage to be ready and available if a system wide natural gas outage occurred, the system of batteries would need to remain fully charged at all times. As a general matter, grid-scale batteries would likely be charged and discharged on a regular basis and operated by the CAISO as an ongoing resource that it could count on for grid reliability purposes. Thus, given the uncertainty of the timing of a natural gas outage, the system of batteries may not be fully charged when needed. Furthermore, even if the batteries were kept fully charged, at most they would cover a four-hour period, which may not be sufficient time to restore gas service and is not equivalent to the benefits provided by the Proposed Project.

For these reasons, although battery storage will certainly be part of California's future energy portfolio, it cannot replace the role that natural gas plays in electric generation. California relies heavily on natural gas to integrate increasing amounts of renewable resources such as wind and solar onto the electric grid. The California Energy Commission (CEC) recognizes that wind and solar are intermittent energy sources, which are subject to rapid and often unpredictable fluctuations based on factors such as the weather, time of day, and temperature.²⁰ Accordingly, renewables cannot be relied upon as a region's sole source of energy.²¹ Additional fuels are necessary when the sun is not shining and the wind is not

¹⁷ Costs were developed based on a rough order of magnitude estimate. The estimate considered energy storage capacity, amount of land required, number of sites and project complexity. See Exhibit B, CEA at 26.

¹⁸ *Id.* The difference in cost per kWh from the grid scale alternative is accounted for by the number of sites required to host the smaller scale battery locations.

¹⁹ This evaluation was conducted using a scenario under which: the gas supply is lost to all local natural gas-fired electric generation during a peak electric load period; gas supply is unavailable for a four-hour period; and no customer outages occur. The evaluation is included in the Updated Direct Testimony of S. Ali Yari (February 21, 2017) at 9-11, attached hereto as Exhibit D.

²⁰ 2016 Integrated Energy Policy Report (IEPR) Update at 6, http://www.energy.ca.gov/2016_energyypolicy/.

²¹ See Exhibit D, Updated Direct Testimony of S. Ali Yari (February 21, 2017) at 4.

blowing.²² The CEC acknowledges that “[a]s more variable renewable electricity generating resources, like wind and solar, are added to California’s electricity resource mix, it becomes more challenging to integrate them while maintaining grid reliability, safety, and security.”²³ Because natural gas is a reliable energy source that can be swiftly and flexibly deployed, natural gas remains a necessary complement for renewable electric resources.²⁴

Additionally, natural gas will be necessary to ensure the ability to meet rapid peak demand periods. The CAISO recently analyzed the impacts of increased renewable sources on the electric generation curve (through key California energy and environmental policy drivers) and found that the increased use of renewables results in the emergence of new operating conditions such as steep ramping periods, over-generation risks, and a decreased ability to maintain grid reliability by adjusting electricity production.²⁵ The rapid on and off-ramping of gas-fired electric generation is well-suited to address the short, steep demand ramps both after the morning peak and prior to the late afternoon peak. Renewable energy sources simply cannot be dispatched to meet such demands. Accordingly, as explained by the International Energy Agency and the National Renewable Energy Laboratory, natural gas and renewables remain partners: “Power generation based on natural gas offers the flexibility and increased dispatchability that complements renewable energy power generation.”^{26,27}

Currently, battery storage cannot serve as the necessary complement for renewable electric resources because of limited battery capacity, cost (described below), and the inability to ensure that the batteries would contain full charges when needed. Until other nascent technologies such as grid-scale energy storage mature, natural gas-fired electric generation will continue to serve as the critical safety net for California’s electric grid.

3. Battery Storage Is Prohibitively Expensive

²² 2016 IEPR Update at 6.

²³ 2016 IEPR Update at 20-21.

²⁴ The CEC finds that natural gas-fired power plants currently offer the most flexibility for “quickly, reliably, and cost-effectively” ramping up or down to balance electricity supply and demand.” *Id.*, at 6.

²⁵ California ISO, *What the Duck Curve Tells Us About Managing a Green Grid* (2016), available at https://www.caiso.com/Documents/FlexibleResourcesHelpRenewables_FastFacts.pdf. See also, *Revisiting the California Duck Curve, An Exploration of its Existence, Impact, and Migration Potential*, Scott Madden Management Consultants (October 2016) at 1 (“The duck curve is real and growing faster than expected.”), http://www.scottmadden.com/wp-content/uploads/2016/10/Revisiting-the-Duck-Curve_Article.pdf.

²⁶ National Renewable Energy Laboratory (February 2014); International Energy Agency (2011) [“Natural gas has an important role to play in complementing low-carbon energy solutions by providing the flexibility needed to support a growing renewables component in power generation.”], https://energyindepth.org/wp-content/uploads/2015/03/NG_Renew.pdf.

²⁷ Natural gas and natural gas infrastructure will play a key role in supporting California and San Diego’s climate change and decarbonization policies by continuing to enable increased integration of renewable energy, supporting significant greenhouse gas (GHG) and other emissions reductions in the transportation sector, providing for the continued use of increasingly efficient equipment, and facilitating the delivery of captured biomethane from organic sources for productive uses in the transportation and other sectors.

Finally, the battery storage alternatives remain infeasible because they would be cost prohibitive. Applicants anticipate that the grid scale battery alternative will cost over \$8 billion,²⁸ and the smaller scale battery alternative will cost over \$10 billion.²⁹ With these high costs, the battery storage options are economically infeasible.

II. Alternatives That Fail to Reduce Significant Environmental Impacts

As described in the PEA, the Proposed Project's potentially significant impacts are temporary in nature. Accordingly, the Proposed Project's environmental impacts will be less than any of the alternatives, which will have permanent impacts. Additionally, many of the other proposed projects, including, the Offshore Route, South Orange County Coastal, Cross-Country Alternatives, Valley Center, Rainbow-El Norte Parkway-Santee, Second Pipeline Along Line 3010, and Rainbow to Santee Non-Miramar, will fail to reduce impacts to a less than significant level.³⁰

III. Alternatives That Will Not Meet Project Objectives

A. Alternative Diameter Pipelines

To enhance the safety of their integrated natural gas system, Applicants believe that the operating pressure of Line 1600 should be lowered, and based on testimony served in the regulatory proceeding on April 17, 2017, the Office of Ratepayer Advocates (ORA) and Utility Consumers' Action Network (UCAN) agree with Applicants on this point. If Line 1600 is de-rated and operated at a distribution service level with a Maximum Allowable Operating Pressure (MAOP) of 320 psig as Applicants propose, SDG&E's system capacity will be reduced from 595 MMcfd³¹ to 570 MMcfd.³²

With Line 1600 de-rated to 320 psig (MAOP), to provide resiliency to the SDG&E system and redundancy for Line 3010, a new pipeline must be constructed to at least 30 inches in diameter. A pipeline with a 30-inch diameter provides complete coverage for an outage on Line 3010 for either planned or unplanned reasons.

A pipeline of 36 inches, however, would significantly enhance the resiliency of the SDG&E system and would provide critical support to the current SDG&E system capacity of 595 MMcfd.³³ Additionally, a 36-inch diameter pipeline operating in conjunction with Line 3010 can theoretically support the current SDG&E system. Under either outage scenario, a 36-inch pipeline would provide enough capacity to meet the demand forecast for the Commission-mandated 1-in-10 year cold day design standard through the 2035/36 winter operating season.

²⁸ See, Exhibit B, CEA, Table 6 at 22.

²⁹ See, *Id.*

³⁰ This list is not exhaustive and may be expanded when additional analysis of other alternatives is performed.

³¹ With Line 3010 and Line 1600 (at 512 psig) in operation, the capacity of the SDG&E system is 595 MMcfd.

³² With Line 3010 and Line 1600 operating at 320 psig, without any new facilities installed in the SDG&E service territory, the capacity of the SDG&E system is 570 MMcfd.

³³ With Line 3010 and Line 1600 (at 512 psig) in operation.

Because smaller diameter pipelines could not provide the needed capacity for reliability and resiliency, the alternative diameter pipeline alternatives do not meet the Proposed Project's fundamental objectives.

B. *No Project (Hydrotest) Alternative*

1. Pressure Testing Does Not Address All of the Long-Term Safety Concerns Arising from Continued Operation of Line 1600

As more fully explained in Exhibit E attached hereto, *Review of Risk Factors for Line 1600* by Michael Rosenfeld, PE (February 20, 2017), the 68-year old Line 1600 transmission pipeline has greater vulnerability or susceptibility to several key failure mechanisms, as compared with the proposed Line 3602. Line 1600 was constructed using predominantly electric flash welded pipe, a manufacturing technique that has known flaws and is now obsolete. Although pressure testing does lower the risk, it would not eliminate the risks associated with electric flash-welded legacy pipe on Line 1600. In fact, pressure testing could enhance the likelihood of issues with the older pipeline. An in-line inspection (ILI) was recently performed on Line 1600 in three different phases, and the final reports identified and confirmed the presence of over 2,700 anomalies in the pipeline: Phase 1 found 1,471; Phase 2 found 1,226; and Phase 3 found 85.

If the Commission selects the No Project (Hydrotest) Alternative, Line 1600 will be over 70 years old by the time pressure testing is complete. If Line 1600 is pressure tested and then operated and maintained at a transmission service stress level, anomalies that survive the pressure test will be exposed to higher overall risk compared to operation at lower stress levels. Furthermore, pressure testing only identifies flaws that fail during testing, but will not provide for management of remaining flaws. There will be undetected flaws (including hook cracks that are too narrow to be detected with in-line inspection technology) exposed to transmission stresses that will remain well beyond the conclusion of pressure testing. Reducing the pressure on Line 1600, in contrast to pressure testing, will mitigate the risk of future flaw growth and potential failure related to the destabilization of what would otherwise be considered stable manufacturing and construction flaws.

Pressure testing would not result in the installation of modern safety features. By contrast, construction of proposed Line 3602 would provide long-term safety and environmental benefits through modern manufacturing methods, stronger and thicker steel, and installation of modern safety features, such as warning mesh above the pipeline to alert excavators they are near the pipeline and 24-hour real-time leak detection monitoring and intrusion detection monitoring on the new line. The proposed new Line 3602 would be constructed utilizing state of the art manufacturing methods, resulting in higher quality steel with increased strength and wall thickness.

First and foremost, the Proposed Project is about safety—an issue that is, and has always been, paramount for Applicants. Because the No Project (Hydrotest) Alternative cannot provide safety benefits comparable to the Proposed Project, it does not meet Applicants' project objectives.

2. A Pressure Test of Line 1600 Would Be Complicated and Protracted

While pressure testing Line 1600 is technically feasible, it would be complicated, protracted, and fraught with risk. As more fully explained in Exhibit F attached hereto, *Line 1600 Hydrotest Study and Cost Estimate*, San Diego Gas & Electric Company and Southern California Gas Company (March 21.2016), hydrotesting a pipeline involves numerous steps to physically take a pipeline or a segment of a pipeline out of service. Line 1600 presents special challenges in that it is not a single unencumbered pipeline that can be taken out of service all at once. Not only is Line 1600 one of just two transmission lines feeding San Diego, but it is interconnected with three other transmission pipelines and it also feeds approximately 50 other smaller pipelines that are tapped directly off it. Approximately 152,000 customers rely directly on this pipeline, many of which are completely dependent on Line 1600 for service. As outlined in Exhibit F, performing a hydrotest requires detailed analysis and planning to determine how the pipeline can be taken out of service, filled with water, and tested, all while keeping customers in service using special techniques such as temporary pipelines to bypass the test area and temporary supply sources.

Moreover, Line 1600 has specific characteristics that impose limitations for implementing a hydrotest that would make it a very expensive and complicated project (with the potential to interrupt service), which in the end would not change the fact that the pipeline is nearly 70 years old, and may still have flaws yet to be identified in future integrity assessments. Accordingly, this alternative does not meet the project objectives.

3. Pressure Testing Alone Leaves the System Exposed to Reliability Risks

The No Project (Hydrotest) Alternative does not address Applicants' reliability concerns regarding SDG&E's gas transmission system. The over 3 million residents, 30,000 businesses, and significant military installations in San Diego would remain essentially dependent on Line 3010, and a significant portion would remain at risk of losing gas service in the event of a Line 3010 outage even if Line 1600 remained in service after a hydrotest. On its own, at a MAOP of 640 psig, Line 1600 supports a system capacity of 150 MMcfd. While a Line 3010 outage may have a low-probability of occurring, it is a significant threat to Applicants' overall system integrity and would severely impact SDG&E's ability to serve core customers and is an important consideration for the Commission in evaluating alternatives.

As discussed above, an unplanned outage on Line 3010 during a period of high demand could result in the loss of gas service to approximately 550,000 meters within 8 hours with significant consequences for customers. The social and economic consequences of an event like this would be massive. The Proposed Project will bring significant reliability benefits. If it was constructed and in service, there would be little or no disruption to customers if the scenario described were to occur.

Applicants have an obligation to provide safe and reliable natural gas service within San Diego County. Because the No Project (Hydrotest) Alternative does not enhance the redundancy

and resiliency of Applicants' integrated natural gas transmission system, it does not meet the project objectives.

IV. There Is a Compelling Need to Complete CEQA Review in a Timely Manner

- A. The Natural Gas Safety Act of 2011 (Public Utilities Code Section 958) and Decision (D.)11-06-017 Require Applicants to Test or Replace Line 1600 "As Soon as Practicable"

As previously discussed, Line 1600 is a 1949 electric flash-welded legacy pipeline, with known manufacturing flaws, located in high consequence areas (HCAs). In response to the 2010 natural gas pipeline rupture and fire in the City of San Bruno, the California Legislature acted expeditiously by adopting regulations to improve pipeline safety. Among other things, the Legislature adopted the California Natural Gas Safety Act of 2011, including Public Utilities Code section 958, which requires all natural gas intrastate transmission line segments that were not pressure tested or that lack sufficient documentation of a pressure test, such as Line 1600, to be pressure tested or replaced "as soon as practicable."³⁴

The Commission also took swift action and instituted proceedings aimed at bringing natural gas pipelines into compliance with "modern standards of safety." They further declared that historic exemptions must come to an end with an orderly and cost conscience implementation plan."³⁵ To accomplish this, all natural gas operators in California had to submit pipeline safety plans, which set forth their plans to "test or replace." Applicants submitted their Pipeline Safety Enhancement Plan (PSEP) in 2011 and Phase 1 of Applicants' PSEP was approved by the Commission in 2014.³⁶ The Commission, in their Phase 1 PSEP Decision, indicated that Applicants' proposal to replace Line 1600 must be addressed in "new applications for those projects."³⁷ Thus, in 2015, Applicants filed this application for the Proposed Project.

Accordingly, Applicants' must pressure test or remove Line 1600 from transmission service, as soon as practicable to comply with the State's safety mandate and maintain reliable service.

Applicants believe that the Proposed Project is the best project to comply with this directive. The Proposed Project will meet or exceed all applicable State and Federal safety regulations,³⁸ can be accomplished within a reasonable period of time, and will ensure reliable delivery of gas to the San Diego region.

- B. Streamlined and Efficient Review of the Proposed Project Is Possible and Necessary

³⁴ California Public Utilities Code § 958.

³⁵ D.11-06-017 at 18.

³⁶ D.14-06-007.

³⁷ D.14-06-007 at 16-17.

³⁸ Includes CPUC General Order (GO) 112-F, 49 Code of Federal Regulations (CFR) Part 191-192, California Occupational Safety and Health Act (Cal/OSHA), Public Utilities Code § 958.

When Applicants filed this application in September 2015, the understanding was that a joint environmental document would be prepared with the Commission as the CEQA lead and Marine Corps Air Station (MCAS) Miramar as the federal National Environmental Policy Act lead. In March 2017, Applicants were informed that MCAS Miramar withdrew as the federal lead and a joint environmental document was no longer contemplated. Currently, the Commission is the sole lead agency and controls the timeline for the CEQA review. The Commission should conduct the CEQA review process as efficiently as possible to ensure that Applicants meet the State's safety mandate as soon as practicable. To this end, Applicants have taken extraordinary steps to facilitate a timely and careful analysis of the Proposed Project. Applicants pre-filed the PEA in July 2015, formally filed the PEA on September 30, 2015, and have responded to all of the Commission's data requests and completeness questions on, if not well before, the provided deadlines in order to facilitate an expeditious review. Given the Commission's and Applicants' mutual desire to process pipeline safety projects in a timely manner, Applicants look forward to continue working with the Commission on the next phase of the CEQA review.

EXHIBIT A

Application No: A.15-09-013
Exhibit No.: _____
Witness: J. Kikuts

In The Matter of the Application of San Diego Gas
& Electric Company (U 902 G) and Southern
California Gas Company (U 904 G) for a Certificate
of Public Convenience and Necessity for the Pipeline
Safety & Reliability Project

Application 15-09-013
(Filed September 30, 2015)

PREPARED DIRECT TESTIMONY OF
JANI KIKUTS
ON BEHALF OF
SAN DIEGO GAS & ELECTRIC COMPANY
AND
SOUTHERN CALIFORNIA GAS COMPANY

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

March 21, 2016

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1 **I. PURPOSE AND OVERVIEW**

2 The purpose of my prepared direct testimony on behalf of San Diego Gas & Electric
3 Company (SDG&E) and Southern California Gas Company (SoCalGas) (collectively, the
4 Utilities) is to describe how a supply disruption on an existing SDG&E gas transmission line
5 would impact the Utilities' system and their ability to provide gas service to customers. My
6 testimony also addresses the high-level steps that the Utilities would undertake to manage a
7 potential outage event.

8 **II. SDG&E GAS SYSTEM OVERVIEW**

9 As explained in the Prepared Direct Testimony of David Bisi, the SDG&E gas
10 transmission system primarily consists of two large diameter high-pressure pipelines. Lines
11 3010 and 1600 extend north to south from the Rainbow Station, located at the Riverside/San
12 Diego County border and terminate at the San Diego metropolitan area. Two cross-ties join Line
13 3010 and Line 1600, the northern cross-tie runs from Escondido to Carlsbad and the southern
14 cross-tie runs across Miramar. From Miramar another large diameter pipeline extends eastbound
15 to Santee. From Santee the large diameter pipeline system extends to the Otay Mesa metering
16 station at the U.S./Mexico border. At Otay Mesa, the SDG&E system interconnects with the
17 Transportadora de Gas Natural, S.R.L. pipeline, providing another receipt point for supplies into
18 the SoCalGas/SDG&E system, if supplies are available, as explained in the Prepared Direct
19 Testimony of Gwen Marelli.

20 The transmission system supplies gas to approximately 14,600 miles of distribution
21 operated mains and services. The 8,000 miles of gas mains are operated at either high-pressure
22 (over 60 pounds per square inch, gage (psig)) or medium-pressure (60 psig and below). This
23 network of mains is supplied by 505 regulator stations located throughout the system to maintain
24 gas pressure and provide adequate capacity to meet customer needs. This network contains

1 approximately 2,250 maintained valves providing the SDG&E capability to isolate the total
2 system into smaller areas for operation, construction, and emergency purposes.

3 The final component of this network is composed of gas service lines that connect the
4 high- and medium-pressure mains to each customer meter set assembly (MSA) and “house
5 pipeline.” SDG&E maintains approximately 6,600 miles of service lines serving approximately
6 873,000 meters.

7 **III. OUTAGE SCENARIOS**

8 The Utilities’ gas transmission and distribution systems are complex networks of
9 pipelines. There are an infinite number of scenarios that could cause an outage; each different
10 and unique due to outage or damage location, duration, weather, customer demand, availability
11 of alternate gas supplies, and other unrelated system constraints such as compressor station
12 capacity or additional outages on the transmission or distribution pipeline systems.¹

13 To illustrate the potential impact to the SDG&E gas system and customers in the event of
14 a Line 3010 outage, my testimony assumes that Line 1600 has been pressure tested and placed
15 back into service operating at 640 psig.² In summary, an unplanned disruption of service on Line
16 3010 is a significant threat to overall system integrity and SDG&E’s ability to serve core
17 customers. The Utilities’ proposed 47-mile, 36 inch diameter natural gas transmission pipeline

¹ As described in the Amended Application, the Utilities retained PricewaterhouseCoopers (PwC) to perform a cost-effectiveness analysis, which included a scenario analysis that evaluates SDG&E’s system performance in the case of an outage or reduction in pressure of Line 3010. *See* Amended Application, Volume III – Cost-Effectiveness Analysis. I provided data input to the analysis, which PwC used to model a range of scenarios across a variety of parameters and variables, with the aim to assess any resulting gas and electric curtailment impacts to customers.

² Due to the specific characteristics of Line 1600, the maximum allowable operating pressure (MAOP) of Line 1600 is now 640 psig, even though it historically operated at 800 psig. *See* Prepared Direct Testimony of Travis Sera.

1 (Proposed Project or Line 3602) would provide resiliency and redundancy for Line 3010, as long
2 as compression is available.³

3 **IV. LINE 3010 OUTAGE SCENARIO**

4 As explained in the Prepared Direct Testimony of David Bisi, the SDG&E gas transmission
5 system is highly dependent on Line 3010 and the Moreno Compressor Station, and an outage on
6 Line 3010, either planned or unplanned, severely reduces the capacity of the SDG&E system.
7 The resulting system and customer impact of an outage is highly dependent on a variety of
8 factors including outage location, outage duration, weather conditions, system demand, and
9 alternate gas supply availability. The following outage scenario is just one plausible example of
10 the kinds of potential impacts that could occur to core, noncore, and electric generation
11 customers in the event of an outage on the northern section of Line 3010. Depending on the
12 circumstances, the impacts of other outage scenarios could be more or less severe than those
13 described below.

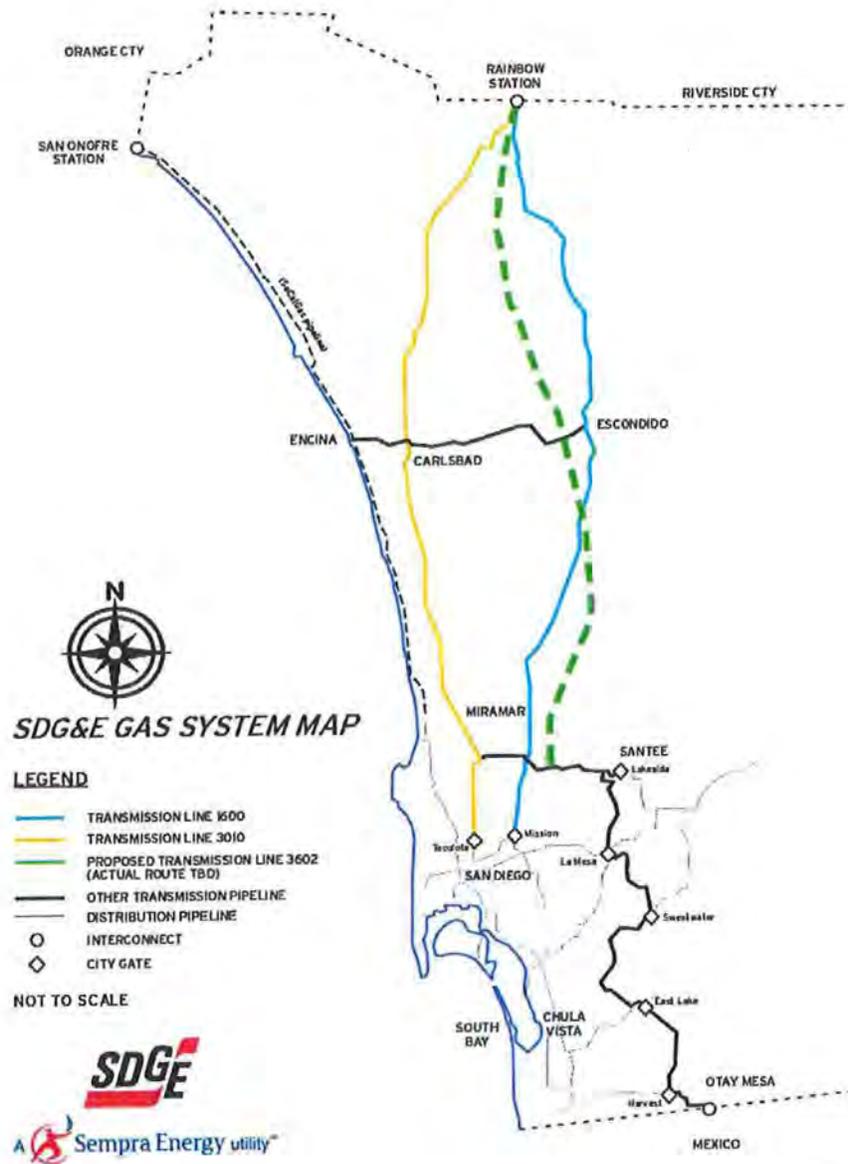
14 The assumptions for this outage scenario are as follows:

- 15 • Outage occurs at 10 a.m. on the northern end of Line 3010. After an initial
16 release of gas for a period of 3 to 15 minutes, approximately 6.5 miles of Line
17 3010 are isolated by main line valve closures. See Figure 1 below for overall
18 system map.
- 19 • The isolated segment of Line 3010 will be out of service for an extended period of
20 time, but a minimum of 24 hours.
- 21 • The event occurs during a 1-in-10 year gas demand day, which on average has a
22 10% probability of occurring each year during the winter season.
- 23 • Alternate gas supplies through Otay Mesa are not available in the short term at the
24 time of the Line 3010 outage.
- 25 • Moreno Compressor Station is functioning at full capacity feeding the SDG&E
26 transmission system through Line 1600.

³ See Prepared Direct Testimony of David Bisi.

- Without Line 3010 or additional gas supplies at the Otay Mesa interconnect, Line 1600 is operating at its maximum current transmission capacity of 150 million cubic feet per day (MMcfd)⁴ supplying the SDG&E system.

FIGURE 1



OCT 2015

⁴ If there is an outage on Line 3010, Line 1600 operating by itself can contribute up to 150 MMcfd. See Prepared Direct Testimony of David Bisi.

1 **V. OUTAGE SCENARIO IMPACT TO SDG&E GAS DISTRIBUTION SYSTEM**
2 **AND CUSTOMERS⁵**

3 The SDG&E gas transmission system supplies gas to downstream distribution high
4 pressure supply lines and distribution mains. Distribution systems are designed assuming a
5 Minimum Operating Pressure (MinOP) in the transmission system, the MinOp gradient on Line
6 3010 and Line 1600 ranges from a high of 350 psig to a low of 250 psig from North to South
7 under normal operating conditions. Pipeline capacity, or ability to serve downstream demand, is
8 exponentially related to the length of the pipeline and system inlet pressure, as transmission
9 system pressures diminish below MinOp the distribution system's ability to adequately serve
10 customer demand drops exponentially potentially leading to an outage.

11 In the scenario outlined above in Section IV, the SDG&E transmission system has
12 experienced an outage on a northern segment of Line 3010 with no alternate gas supplies
13 available at Otay Mesa. As a result, the transmission system is solely supplied by Line 1600
14 with a capacity of 150 MMcfd. The remaining system capacity, core demand, electric generation
15 demand, and noncore demands are summarized in Figure 2 below.

16

FIGURE 2

System Capacity and Demand		
With Line 3010 Outage and No Otay Mesa Source		
Line 1600 Capacity	150	MMcfd
Core Demand	350	MMcfd
Electric Generation (EG) Demand	165	MMcfd
Noncore, Non-EG Demand	44	MMcfd
Noncore, Non-Compliant Demand	18	MMcfd

17 Initially at the time of isolation of the Line 3010 segment, the transmission system will
18 have 111 MMcf of line pack. With Line 1600 solely feeding the SDG&E transmission system
19 and without any curtailment, the line pack will quickly diminish as customer demand is

⁵ See Section V of the Prepared Direct Testimony of Mr. S. Ali Yari for a discussion of electric reliability impacts from a gas service interruption.

1 significantly higher than available supply that can be brought in through Line 1600. In a
2 relatively short amount of time, pressures will drop and customer gas outages will begin to occur
3 until a natural system balance is reached between remaining demand and capacity of Line 1600.

4 Upon recognition of a transmission system capacity constraint, curtailment procedures
5 will be implemented according to SDG&E Rule 14 as noted in the Prepared Direct Testimony of
6 Gwen Marelli. In this outage scenario it is assumed that the following curtailments occur in an
7 effort to preserve core customers:

- 8 • EG demand of 165 MMcfd is fully curtailed within 1 hour of capacity constraint
9 identification.
- 10 • Noncore, non-EG customer demand of 44 MMcfd is fully curtailed within 4 hours
11 of capacity constraint identification.

12 In this scenario, it is assumed that not all noncore customers will comply with the
13 curtailment order in a timely manner. These customers may have committed to production or
14 delivery of services with economical or contractual consequences for failure to deliver.
15 Examples of customer types include small manufacturing, asphalt plants, food processing,
16 industrial bakeries, and large scale laundry facilities.

17 The remaining system demand consists of a core demand of 350 MMcfd and non-
18 compliant noncore demand of 18 MMcfd. As illustrated in Figure 3, the shortfall between
19 available supply through Line 1600 and system demand requires additional curtailment of 218
20 MMcfd of core and noncore non-compliant customers.

21

FIGURE 3
System Capacity and Demand
With Line 3010 Outage and No Otay Mesa Source

Line 1600 Capacity (Supply)	150	MMcfd
Core Demand	350	MMcfd
Noncore, Non-Compliant Demand	18	MMcfd
Required Curtailment (Shortfall)	218	MMcfd

1 Without additional load curtailment beyond EG and large noncore system, pressures will
2 continue to drop until the system can no longer flow gas to all customers. It is estimated that the
3 first naturally occurring system outages begin to occur at system extremities approximately 6
4 hours after isolation of Line 3010. Areas likely to experience initial outages include Alpine,
5 Rancho San Diego, Camp Pendleton Marine Corps Base, and portions of Rancho Bernardo. As
6 initial outages occur, the rest of the system will continue to lose pressure resulting in the loss of
7 additional customers. It is estimated that at the 8-hour mark, the gas system will have lost 218
8 MMcfd of core and noncore non-compliant demand corresponding to an estimated 60% to 65%
9 of core customers. This represents roughly 550,000 meters.

10 Allowing the gas system to "self-curtail" through naturally occurring gas outages from
11 diminishing supply is likely to result in multiple outages with undefined boundaries scattered
12 through the service territory. When adequate transmission supply returns, and in order to restore
13 these customers, these outage areas would need to be identified, isolated, purged of any air that
14 may have entered the system. This would require a methodical effort of great complexity and
15 resource needs, and could take weeks to complete, as described in Section VI.

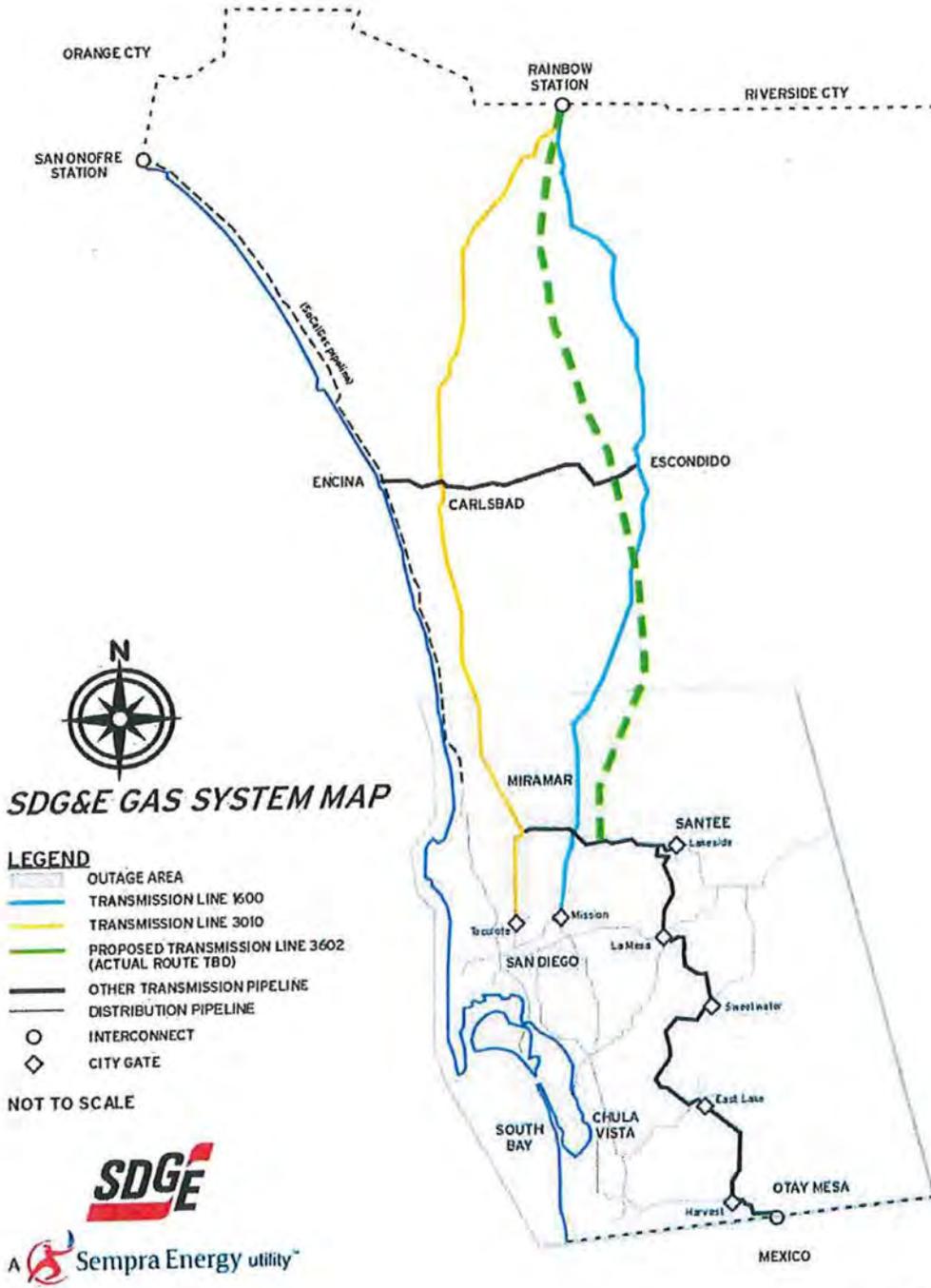
16 In this scenario alternate gas supplies from the Otay Mesa receipt point are not available
17 and additional curtailment of 218 MMcfd is required to meet the system capacity. As discussed
18 in the Prepared Direct Testimony of Gwen Marelli, the immediate supply of gas from Otay Mesa
19 receipt point is not guaranteed. The preferred approach would be to deliberately, proactively,
20 and in a controlled manner, isolate large portions of the system. By doing so, the exact
21 curtailment boundaries and affected customer counts will be defined and the remaining
22 customers will receive adequate service from Line 1600 at a capacity of 150 MMcfd.

1 Initial curtailment of EG and large noncore customers gains some time to evaluate
2 impacts to remaining customers and form a strategy. However, deliberate curtailment action
3 must take place prior to the 6- to 8-hour mark in this scenario. Considering the time necessary to
4 develop and execute a curtailment plan specific to a particular outage scenario, 6 to 8 hours is not
5 a lot of time. A curtailment effort would be executed through the closure of valves in strategic
6 areas of the service territory. Distribution valves are not automated and require a field response
7 with windshield time, potential traffic control requirements, and potential resource constraints
8 depending on the number of valves to be isolated.

9 The most effective approach to required large scale curtailment of core and small noncore
10 customers is by closing the least number of valves isolating a large quantity of customers. In this
11 scenario, the closure of 6 to 8 strategic valves would meet the required load curtailment and
12 effectively isolate an estimated 550,000 customers in the system south of Sorrento Valley,
13 Poway, and Ted Williams Highway 56 to the U.S. – Mexico border, as depicted in Figure 4.⁶ It
14 should be noted that the curtailment of a large geographic area is likely to result in gas outages
15 for multiple customer types including residential, commercial, industrial, schools, hospitals,
16 military bases, as well as local county and city government facilities, all of which would be
17 affected by this scenario. Following the initial isolation of the southern portion of the SDG&E
18 system, further sub-isolations of the outage area will occur in order to facilitate organized
19 restoration of service efforts.

⁶ This map is not to scale and is for illustrative purposes only.

FIGURE 4



OCT 2015

1 **VI. GAS SERVICE RESTORATION**

2 Recovering from a large scale gas outage and restoring service to customers is a time-
3 consuming activity requiring customer outreach, system engineering evaluations, and support
4 activities for field personnel. Examples of support activities include resource planning, meals,
5 establishment of centralized command locations, and restoration progress tracking. The size of
6 the field work force needed is directly dependent on the desired restoration timeframe and
7 number of outages. On average, one service technician can isolate or shut down 20 customers
8 per hour and relight 6 customers per hour once the distribution system is ready for relights. The
9 shut-offs and relights per hour are an average; the actual rate can vary depending on the area
10 terrain, time of day, majority multi-family or single family units, and age of appliances. Newer
11 appliances have electronic ignition and are faster to place in service than older appliances.

12 In this scenario, it is safe to assume that an outage of 550,000 customers would require
13 mutual aid from other utilities for a period of weeks. As an example, SDG&E can allocate
14 approximately 100 service technicians to the restoration effort, and with another 100 mutual aid
15 technicians working 12 hour shifts, it would take approximately 12 days to isolate all the risers in
16 the affected area and another 42 days to perform restores for a total field effort of 53 days. Even
17 if over 1,000 field employees were available through mutual aid, it would still take nearly 2
18 weeks to restore customers. The following activity list outlines the basic steps required in
19 system isolation / restoration.

20 Shut Off

- 21
- 22 • Set up area based command post.
 - 23 • Perform meter shut-offs through area sweeps and gas riser valve closures. Mark
 - 24 or tag each meter as shut off, and document the shut off. Inform customer if present.
 - 25 • Report back to area command post.

1 Restoration of Service

- 2 • Purge gas system in restoration area to 100% gas.
- 3 • If customer is present and premises are accessible perform and document
- 4 restoration of service.
- 5 • If customer is not present, service cannot be restored. Valve on riser is left in
- 6 closed position and a door tag is left for a follow up appointment.
- 7 • Keep notes of any unusual circumstances encountered at a customer's premises.

8 In sum, if the Proposed Project was constructed and in service, there would be no

9 disruption to customers if the scenario described above occurred.

1 **VII. QUALIFICATIONS**

2 My name is Jani Kikuts. I am employed by SDG&E as the Gas Engineering Supervisor.

3 My business address is 6875 Consolidated Way, San Diego, California, 92121.

4 I received a Bachelor of Science degree in Mechanical Engineering from San Diego State
5 University in 2005 and I am a registered professional engineer. I have been employed by
6 SDG&E since 2006, and have held engineering and supervisory positions within the Gas
7 Engineering Department in Gas Technical Services.

8 I have held my current position since October 2011. My current responsibilities include
9 supervising the Gas Engineering group responsible for engineering and planning SDG&E's gas
10 distribution system. As such, I am responsible for: ensuring the distribution system meets the
11 CPUC-mandated design standards; recommending system improvements and additions as
12 necessary; monitoring the changing dynamics of the gas distribution system as customer demand
13 changes; performing capacity analysis for proposed customer projects on the distribution system;
14 and supporting routine capital and franchise driven work.

15 I have not previously testified before the California Public Utilities Commission.

16 This concludes my prepared direct testimony.

EXHIBIT B

COST-EFFECTIVENESS ANALYSIS

for the

PIPELINE SAFETY & RELIABILITY PROJECT

San Diego Gas & Electric Company

and

Southern California Gas Company

Application A.15-09-013

Volume III

March 2016

PREPARED BY PWC

WITH INPUT AND DATA FROM APPLICANTS AND CONTENT FROM APPLICANTS' CONSULTANTS

**COST-EFFECTIVENESS ANALYSIS FOR THE AMENDED APPLICATION OF SAN
DIEGO GAS & ELECTRIC COMPANY (U 902 G) AND SOUTHERN CALIFORNIA
GAS COMPANY (U 904 G) FOR A CERTIFICATE OF PUBLIC CONVENIENCE
AND NECESSITY FOR THE PIPELINE SAFETY & RELIABILITY PROJECT**

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I. EXECUTIVE SUMMARY

On September 30, 2015 San Diego Gas and Electric Company (SDG&E) and Southern California Gas Company (collectively the Applicants) filed Application 15-09-013¹ (Application) with the California Public Utilities Commission (CPUC or Commission) in support of their Pipeline Safety & Reliability Project (PSRP or Proposed Project).

The Proposed Project consists of constructing a new 47 mile long, 36-inch natural gas transmission line, (Line 3602), and de-rating the existing Line 1600.

On January 22, 2016 the Assigned Commissioner and Administrative Law Judge issued a joint ruling² (Ruling) directing the Applicants to file and serve an Amended Application by March 21, 2016 that includes, among other things, a cost analysis that compares the relative costs and benefits of the Proposed Project and various project alternatives (Alternatives).³ Specifically, the Ruling requires that the analysis: 1) quantify seven categories of benefits, and 2) apply quantifiable data to define the relative costs and benefits of the Proposed Project and the Alternatives identified in the Ruling.⁴ The seven categories of benefits that must be quantified are (1) increased safety; (2) increased reliability; (3) increased operational flexibility; (4) increased system capacity; (5) increased ability for gas storage by line packing; (6) reduction in the price of gas for ratepayers; and (7) other benefits identified by the Applicant.⁵

This analysis has been prepared by PricewaterhouseCoopers Advisory Services, LLC (PwC), with input and data from the Applicants, in response to the Ruling (Cost-Effectiveness Analysis). Consistent with the Ruling, the analysis applies quantifiable data to define the relative costs and benefits of the Proposed Project and Alternatives. The costs analysis includes the estimated fixed costs, the on-going operating costs, and the avoided costs (*i.e.*, costs that will not be incurred when the Proposed Project or a particular Alternative is implemented). The benefits analysis evaluates each of the seven types of benefits specifically identified in the Ruling.

¹ Certificate of Public Convenience and Necessity for the Pipeline Safety and Reliability Project, Application (A.) 15-09-013.

² Joint Assigned Commissioner and Administrative Law Judge's Ruling Requiring an Amended Application and Seeking Protests, Responses and Replies (Ruling).

³ Ruling, pages 11-14.

⁴ Ruling, page 12.

⁵ Ruling, page 12.

Table 1 below highlights the requirements in the Ruling that are addressed by this Cost-Effectiveness Analysis.

Table 1 - Ruling Requirements

Ruling Requirement ⁶	Method for Complying with the Ruling	Reference in Cost-Effectiveness Report
<p><i>The analysis will quantify specific benefits including: (1) increased safety; (2) increased reliability; (3) increased operational flexibility; (4) increased system capacity; (5) increased ability for gas storage by line packing; (6) reduction in the price of gas for ratepayers; and (7) other benefits identified by the Applicant. All benefits must be quantified.</i></p>	<p>A benefits scoring model was developed based on quantifiable data for each of the seven benefit types.</p>	<ul style="list-style-type: none"> • Section V: Benefits Analysis • Table 11 - Increased Safety Benefits Score • Table 14 - Increased Reliability Benefits Score • • Table 17 - Increased Operational Flexibility Benefits Score • Table 20 - Increased System Capacity Benefits Score • Increased Gas Storage through Line Pack – included under Increased System Capacity • Table 23 - Reduction in Gas Prices to Ratepayers Benefit Scores • Table 24 - Summary of Other Benefits Scores
<p><i>The analysis will apply quantifiable data to define the relative costs of the proposed project and, at a minimum, the range of alternatives identified in this Ruling.⁷</i></p>	<p>First, preliminary cost estimates were developed for the Proposed Project and the Alternatives, then an "avoided cost" was calculated for the Proposed Project and each Alternative so that a "net cost" could be derived for each.</p>	<ul style="list-style-type: none"> • Section IV: Cost Analysis • Table 6 - Estimated Fixed and Operating Costs • Section IV, C: Avoided Costs Associated with the Proposed Project and Alternatives • • Table 8 Avoided Costs
<p><i>The analysis will apply quantifiable data to define the relative benefits of the proposed project and, at a minimum, the range of alternatives.</i></p>	<p>A benefit score was developed for the Proposed Project and each Alternative.</p>	<ul style="list-style-type: none"> • Table 2 - Proposed Project and Alternatives Relative Benefit Ranking and Net Costs
<p><i>Include an estimate of costs, both fixed and operating, as required by Rule 3.1(f).</i></p>	<p>Preliminary estimates were developed for both the fixed and operating costs for the Proposed Project and the Alternatives using standard estimating methods based on the known project scope.</p>	<ul style="list-style-type: none"> • Section IV: Cost Estimating • Table 6 - Estimated Fixed and Operating Costs

⁶ Ruling, page 12.

⁷ The range of alternatives refers to the 10 alternative projects labeled A-K in the Ruling, pages 12-13.

The relative costs and benefits of the Proposed Project and Alternatives are summarized in Table 2 below.

Table 2 - Proposed Project and Alternatives Relative Benefit Ranking⁸ and Net Costs⁹

Project Alternatives		Benefit Rank	Net Cost (\$M)
A	Proposed Project (36" pipeline Rainbow to Line 2010 Route)	1	\$256.2
B	Hydrotest Alternative ¹⁰	15	\$118.7
C1	Alt Diameter Pipeline, Proposed Route (10")	18	\$302.7
C2	Alt Diameter Pipeline, Proposed Route (12")	18	\$291.6
C3	Alt Diameter Pipeline, Proposed Route (16")	11	\$241.4
C4	Alt Diameter Pipeline, Proposed Route (20")	10	\$239.2
C5	Alt Diameter Pipeline, Proposed Route (24")	9	\$229.6
C6	Alt Diameter Pipeline, Proposed Route (30")	8	\$233.5
C7	Alt Diameter Pipeline, Proposed Route (42")	1	\$341.9
D	Replace Line 1600 in Place with a 16" Transmission Pipeline Alternative	12	\$560.4
E/F	Otay Mesa Alternatives ¹¹	13	\$876.8
G	LNG Storage (Peak-Shaver) Alternative	14	\$2,584.7
H1	Alternate Energy Alternative: Grid-Scale Batteries	16	\$8,330.1
H2	Alternate Energy Alternative: Smaller-Scale Batteries	16	\$10,010.1
I	Offshore Route	7	\$1,295.5
J1	Blythe to Santee Alternative 1	3	\$1,219.3
J2	Blythe to Santee Alternative 2	3	\$1,157.3
J3	Cactus City to San Diego Alternative	3	\$981.1
K	Second Pipeline Along Line 3010 Alternative	3	\$427.1

After evaluating the net costs and benefits of the Proposed Project and Alternatives, this Cost-Effectiveness Analysis concludes that the Proposed Project is the most cost-effective, prudent alternative. This conclusion is based on the following:

⁸ Ranked from 1 through 19 with 1 being the highest rank.

⁹ Net costs are calculated as: Fixed Costs + Operations & Maintenance Costs + Avoided Costs. Net costs are discussed in Section IV, C.

¹⁰ In the Ruling, Alternative B is referred to as the "No Project Alternative" and defined as hydrotesting Line 1600 in sections and repairing or replacing pipeline segments as needed. The Applicants refer to Alternative B herein as the "Hydrotest Alternative."

¹¹ The Ruling identifies two alternative projects utilizing the Otay Mesa receipt point: Non-Physical (Contractual) or Minimal Footprint Solutions (Alternative E); and the Northern Baja Alternative (Alternative F). Both of these rely upon the use of Otay Mesa receipt point (Otay Mesa) capacity in place of the Proposed Project. Accordingly, the Applicants will refer to the two alternatives as a single project titled "Otay Mesa Alternatives." See Prepared Direct Testimony of Gwen Marelli (March 21, 2016).

- The lowest net cost project, the Hydrotest Alternative, was ranked among the lowest in terms of project benefits;
- The Proposed Project and the Alternate Diameter Pipeline (42-inch) are ranked highest in terms of benefits and also among the highest in terms of having the least net costs;
- The difference in net costs between the least-cost, Hydrotest Alternative, and the Proposed Project is approximately \$138 million, which is outweighed by significant, quantifiable benefits that are not offered by the Hydrotest Alternative;
- After the least-cost alternative (Hydrotest Alternative), five projects are clustered in the net cost range of \$225 million to \$260 million and include alternate pipeline diameters of 16-, 20-, 24-, 30- and 36-inches (the Proposed Project);
- In terms of benefits, the Proposed Project scored higher than the four other Alternatives that also ranked in the net cost range of \$225 million to \$260 million (Alternative Diameters Pipelines 16-, 20-, 24- and 30-inch);
- After the cluster that includes the Proposed Project, the next group of projects grouped by least net cost ranges from \$290 million to \$430 million and includes Alternate Diameters of 10-, 12- and 42-inches as well as the Second Pipeline Along Line 3010 Alternative;
- The two highest net cost categories include Alternatives with net costs ranging from \$500 million to \$1 billion (Replace Line 1600 In-Place with a New 16-inch Transmission Pipeline Alternative, Otay Mesa Alternatives, Cactus City to San Diego) and more than \$1 billion (Blythe to Santee Pipeline Route Alternatives 1 and 2, Off-Shore, Liquefied Natural Gas (LNG) Storage, and Alternate Energy Alternatives);
- Four Alternatives rank second highest in terms of benefits: the Cross-Country Pipeline Route Alternatives (Blythe to Santee Pipeline Routes, Alternatives 1 and 2; Cactus City to San Diego Alternative) and the Second Pipeline Along Line 3010 Alternative;
- The 10- and 12-inch Alternative Diameter Pipelines rank lowest in terms of benefits;
- New, larger diameter pipelines, including the Proposed Project, outperform the “least-cost” (Hydrotest Alternative) in six out of the seven benefits categories (safety, reliability, operational flexibility, system capacity, gas storage through line pack, and other benefits) and receive the same score for the category of reduction in gas price for ratepayers;

- As compared to the 16-, 20-, 24- and 30-inch Alternate Diameter Pipelines, the Proposed Project provides additional reliability, operational flexibility, system capacity, gas storage through line pack, and other benefits;
- The 42-inch Alternate Diameter Pipeline offers the same benefits as the Proposed Project but costs approximately \$86 million more.

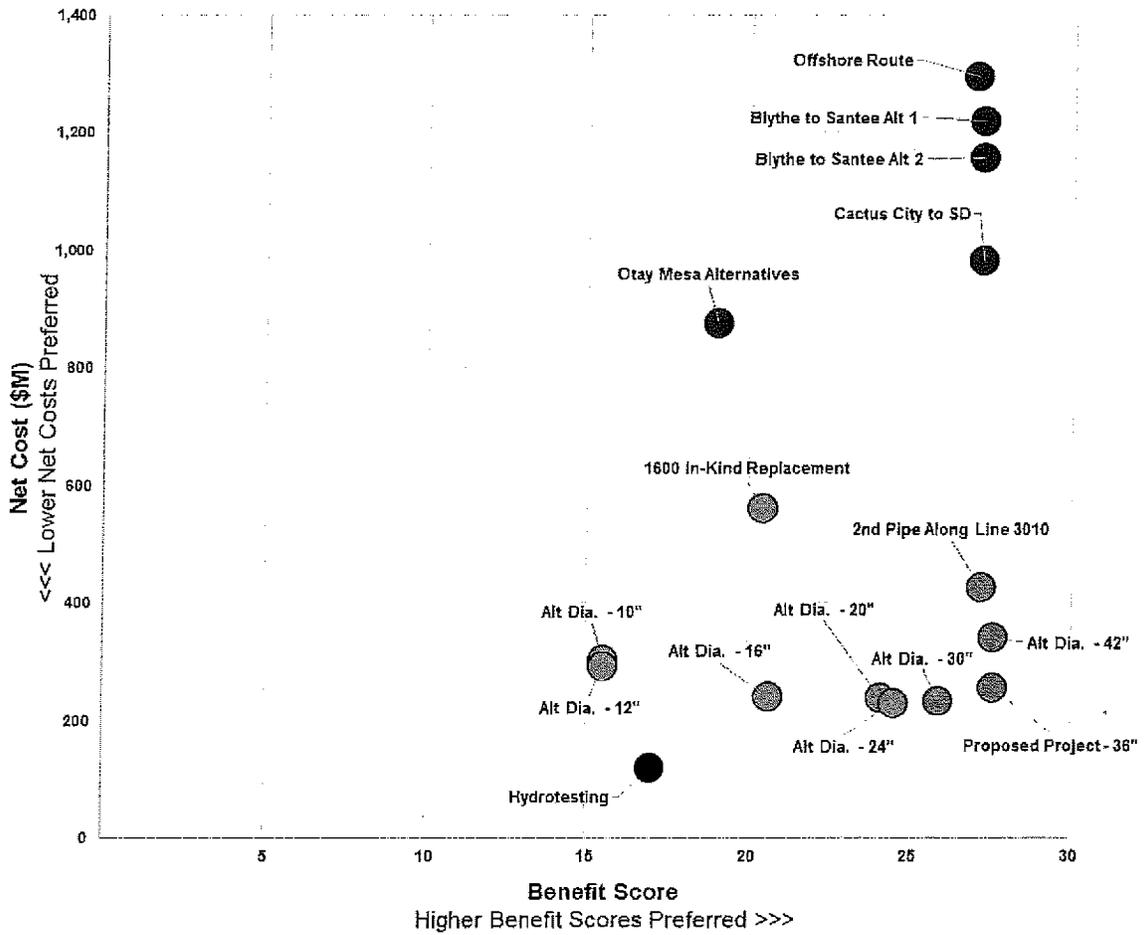
For these reasons, the Proposed Project is identified as the overall most cost-effective alternative.

The results of this Cost-Effectiveness Analysis – the net costs and benefits - are shown in Figure 1 below.¹²

¹² The following Alternatives have been excluded from the chart in order to manage axis scale:

- LNG Storage - Benefit Score 18.6, net cost \$2.6B
- Alt Energy (Grid Scale) - Benefit Score 16.2, net cost \$8.3B
- Alt Energy (Smaller Scale) - Benefit Score 16.2, net cost \$10B

Figure 1 - Net Costs and Benefits Score for Proposed Project and Alternative Projects



II. INTRODUCTION AND APPROACH

A. Background and Summary

On September 30, 2015 San Diego Gas and Electric Company (SDG&E) and Southern California Gas Company (collectively, the Applicants) submitted an application to the California Public Utilities Commission (CPUC or Commission) for a Certificate of Public Convenience and Necessity (CPCN) for the Pipeline Safety & Reliability Project, Application 15-09-013 (Application). The Proposed Project consists of constructing a new 47 mile long, 36-inch natural gas transmission line (Line 3602), along with the de-rating of existing Line 1600 (Proposed Project).

On January 22, 2016 the Assigned Commissioner and Administrative Law Judge issued the Joint Assigned Commissioner and Administrative Law Judge's Ruling Requiring an Amended Application and Seeking Protests, Responses and Replies. The Ruling directs the Applicants to file and serve an Amended Application by March 21, 2016 that includes, among other things, a cost analysis that compares the relative costs and benefits of the Proposed Project and various Alternatives.¹³ Specifically, the Ruling states:

- [Applicants] shall include a needs analysis in compliance with Rule 3.1(e) and cost analysis comparing the project with any feasible alternative sources of power, in compliance with Section 1003(d) and Rule 3.1(f).¹⁴
- The analysis will quantify specific benefits including: 1) increased safety; 2) increased reliability; 3) increased operational flexibility; 4) increased system capacity; 5) increased ability for gas storage by line packing; 6) reduction in the price of gas for ratepayers; and 7) other benefits identified by Applicant.¹⁵
- The analysis will apply quantifiable data to define the relative costs and benefits of the Proposed Project and, at a minimum, the range of alternatives identified in the Ruling. (For purposes of analysis, the cost analysis shall assume that each of the [identified] alternatives are feasible and include an estimate of costs, both fixed and operating, as required by Rule 3.1(f).)¹⁶

The "range of alternatives" briefly identified in the Ruling¹⁷ is described in Section III of this Cost-Effectiveness Analysis, together with the assumptions made by the Applicants regarding the Alternatives.

¹³ Ruling, pages 11-14.

¹⁴ Ruling, page 11.

¹⁵ Ruling, page 12.

¹⁶ Ruling, page 12.

¹⁷ Ruling, pages 12-13.

This Cost-Effectiveness Analysis has been prepared by PwC, with data and input from the Applicants, to address the requirement that Applicants prepare a cost analysis comparing the Proposed Project with the Alternatives; quantify specific benefit categories; and apply quantifiable data to define the relative costs and benefits of the Proposed Project and Alternatives. Per the Ruling, this Cost-Effectiveness Analysis assumes that each of the Alternatives is feasible.¹⁸

B. Overview of Methodology

Consistent with industry practice and Commission and Federal Energy Regulatory Commission (FERC) precedent,¹⁹ PwC, with input and data from the Applicants, undertook this Cost-Effectiveness Analysis to quantify and compare the relative costs and benefits of the Proposed Project and Alternatives described in the Ruling.

A cost-effectiveness analysis compares the cost of a project to different measures of program benefits.¹² A cost-effectiveness analysis evaluates not only the monetary benefits of a project but also considers benefits that are difficult or impractical to express in monetary terms. These benefits can be expressed in monetary or non-monetary (yet quantitative) units. Cost-effectiveness analyses have been applied to projects with both monetary and non-monetary benefits.

¹⁸ Ruling, page 12.

¹⁹ The CPUC has utilized cost-effectiveness analysis for evaluating the costs and benefits of a project or program. For example, the CPUC requirements for evaluating demand-side management program include:

“All demand-side resources (energy efficiency, demand response, and distributed generation) undergo a cost-effectiveness analysis. While the specific tests and the applications of those tests varies among the resources, the foundation of cost-effectiveness analysis for all demand-side resources is based in the Standard Practice Manual. The Standard Practice Manual contains the Commission’s method of evaluating energy saving investments using various cost-effectiveness tests. The four tests described in the Standard Practice Manual assess the costs and benefits of demand-side resource programs from different stakeholder perspectives, including participants and non-participants.”

(<http://www.cpuc.ca.gov/General.aspx?id=5267>)

FERC has also approved the use of a cost-effectiveness analysis to evaluate transmission planning projects.

“Here, the cost-effectiveness evaluation applies to projects considered not only to provide economic benefits but also to provide reliability benefits and to meet public policy requirements. While the benefits of projects considered purely for economics (e.g. adjusted production cost savings) may be quantified readily and included in a formula, reliability benefits and benefits derived from meeting public policy requirements may not be so readily quantifiable and detailed, and thus cannot easily be included in a formula.”

(<https://ferc.gov/whats-new/comm-meet/2011/072111/e-3.pdf>)

This Cost-Effectiveness Analysis, undertaken to comply with the Ruling, is based on two forms of benefits analysis: quantitative financial analysis and quantitative non-cost, unit-based analysis (unit benefits). The different types of analysis and the mechanisms used to score and compare the benefits are discussed in the following sections of this Cost-Effectiveness Analysis.

The Ruling requires the Applicants to conduct an analysis that will apply quantifiable data to define the relative costs and benefits of the Proposed Project and a range of Alternatives.²⁰ To comply with the requirement to apply quantifiable data to define the relative costs of the projects, PwC reviewed the Applicants' estimates of both the fixed cost for constructing the Proposed Project and the Alternatives and the on-going estimated costs for operating and maintaining them. Additionally, PwC and the Applicants identified certain avoided costs applicable to the Proposed Project and the Alternatives. PwC and the Applicants then quantified the impact of those avoided costs on the Proposed Project and the Alternatives over time to derive the "net cost" associated with the Proposed Project and each Alternative.

To comply with the requirement to apply quantifiable data to define the relative benefits of the projects, PwC and the Applicants first identified quantifiable characteristics and desirable outcomes associated with the seven benefits categories identified in the Ruling. Next, a scoring mechanism was developed and applied as an objective means to evaluate the Proposed Project and the Alternatives against each of the seven benefit types. The Applicants identified and defined a number of individual benefits within each of the seven benefit categories and applied non-monetary, quantifiable measures (*e.g.*, percent reduction in pipeline failures, percent increase in capacity) as the basis for scoring the Proposed Project and the Alternatives against each benefit. Care was taken to treat each benefit as unique and not count them more than one time in the scoring model. Once each of the projects was scored, PwC ranked them from highest to lowest based on the overall benefit score.

²⁰ Ruling, page 12.

Table 3 lists the costs and benefits evaluated and scored consistent with the requirements of the Ruling.

Table 3 - Costs and Benefits Evaluated and Scored

Description	Type of Assessment		Metric/Measure
	Quantitative Monetary	Quantitative Non-Monetary	
Project Costs - Fixed costs	✓		Dollars
Project Costs - Operating costs	✓		Dollars
Avoided Costs - Replacement of Line 1600	✓		Dollars
Avoided Costs - Reduced operation of Moreno Compressor Station	✓		Dollars
Safety - Increased safety margin to prevent pipeline rupture through the de-rating of Line 1600		✓	Defined benefit score
Safety - Long-term safety benefit of transmission pipeline		✓	Defined benefit score
Safety - Reduction in incidents per HCA mile of pipeline		✓	Defined benefit score
Safety - Increased real-time awareness of excavation damage		✓	Defined benefit score
Safety - Achievement of "as soon as practicable" safety objective		✓	Duration by year
Increased Reliability - Redundancy to natural gas transmission system		✓	Defined benefit score
Increased Reliability - Curtailment impact to core gas customers		✓	Percentile of average severity of curtailment scores
Increased Reliability - Curtailment impact to electric generation (EG) gas customers		✓	Percentile of average severity of curtailment scores
Increased Operational Flexibility - Meeting current and future natural gas peak demand		✓	Defined benefit score
Increased Operational Flexibility - Utility operational control of asset		✓	Defined benefit score
Increased System Capacity - Impact to system capacity		✓	Percentage increase in MMcfd of capacity
Increased gas storage through line pack		✓	Proportional to capacity
Reduction in gas prices to ratepayers		✓	Defined benefit score
Other Benefits - Emissions reductions due to reduced operating hours at compressor stations		✓	Percent reduction in net Moreno operating hours

All of the underlying estimates and technical data used to develop the cost estimates, avoided cost estimates and quantifiable benefits analysis were provided by the Applicants.

III. DESCRIPTION OF THE PROPOSED PROJECT AND THE PROJECT ALTERNATIVES

This section briefly summarizes the Proposed Project and the Alternatives identified in the Ruling.

For all of the Alternatives except the Hydrotest Alternative and the Replace Line 1600 in Place with a New 16-inch Transmission Pipeline Alternative, Line 1600 would be de-rated and operated as a distribution asset.

A. Proposed Project (Pipeline Safety & Reliability Project - PSRP)

Line 3602 is the proposed new 36-inch diameter, 47-mile long natural gas transmission pipeline connecting the existing Rainbow Metering Station to Marine Corps Air Station (MCAS) Miramar. Additionally, the Proposed Project includes the de-rating of the existing Line 1600, a 16-inch natural gas transmission pipeline that also runs from Rainbow Station to Miramar.

For additional information regarding the Proposed Project, please reference Applicants' PEA.²¹

B. Hydrotest Alternative

In the Ruling, the No Project Alternative includes hydrotesting Line 1600 in sections and only repairing or replacing pipeline segments as needed.²²

The Hydrotest Alternative involves a complex four year project to test the northern 45-miles of Line 1600, from Rainbow Metering Station to Kearny Villa Station. Line 1600 is an approximately 50-mile, 16-inch diameter, high pressure natural gas transmission pipeline that begins at the Rainbow Metering Station and terminates at Mission Station in San Diego.²³ The Hydrotest Alternative will involve testing 19 different pipeline segments during the shoulder months.²⁴ The Applicants would hydrotest Line 1600 in sections and only repair or replace pipeline segments as needed.

Testing will require installing bypasses and arranging for alternative distribution requirements and could include environmental mitigation and community impacts. It will also require gas to be imported from the gas transmission system receipt point located at Otay Mesa.

²¹ A.15-09-013, Volume II, Proponent's Environmental Assessment (PEA), Chapter 3.0, Project Description and Chapter 5.2.3, pages 5-16.

²² Ruling, page 12.

²³ Line 1600 Hydrotest Study and Cost Estimate. *See* Prepared Direct Testimony of Neil Navin (March 21, 2016), Attachment A, Appendix 12.

²⁴ The shoulder months are from April 1 through June 15, and October 1 through December 15.

For additional information regarding this Alternative, please refer to the Line 1600 Hydrotest Study and Cost Estimate.²⁵

C. Alternative Diameter Pipeline, Various Sizes, Proposed Route

This Alternative requires the Applicants to evaluate the installation of different sized pipelines of alternate diameters. This analysis assumed the same proposed route as the 47-mile Proposed Project from Rainbow Metering Station to MCAS Miramar. The seven alternate diameters addressed in this Cost-Effectiveness Analysis are:

Table 4 - Pipeline Material Thickness by Alternative Proposed Diameter of Line²⁶

No.:	Alternate Diameter ²⁷	Pipeline Specification
C1	Alt. Dia. 10"	Pipe, 10", X-52, 0.365" WT, FBE
C2	Alt. Dia. 12"	Pipe, 12", X-52, 0.375" WT, FBE
C3	Alt. Dia. 16"	Pipe, 16", X-52, 0.375" WT, FBE
C4	Alt. Dia. 20"	Pipe, 20", X-52, 0.375" WT, FBE
C5	Alt. Dia. 24"	Pipe, 24", X-65, 0.375" WT, FBE
C6	Alt. Dia. 30"	Pipe, 30", X-65, 0.50" WT, FBE
C7	Alt. Dia. 42"	Pipe, 42", X-60, 0.750" WT, FBE

Alternative C was included in the Ruling²⁸ but was not included in the PEA.

D. Replace Line 1600 in Place with a New 16-inch Transmission Pipeline

This Alternative requires the removal of the existing Line 1600 and replacing it with a new 16-inch diameter pipeline within existing easements.

Nineteen pipeline segments covering approximately 45 miles would be removed and replaced. Removal and replacement would be conducted in phases.

For additional information regarding Alternative D, please refer to the PEA.²⁹

²⁵ See Prepared Direct Testimony of Neil Navin (March 21, 2016), Attachment B.

²⁶ Provided by the Applicants.

²⁷ The Ruling calls for "an evaluation of pipeline sizes that range in diameter from 10 inches to 40 inches." On February 9, 2016, the Applicants confirmed with Energy Division staff that standard-sized pipeline diameters within this range should be evaluated and that a 42-inch diameter alternative can be included because 40 inches is not a standard size diameter.

²⁸ Ruling, page 13.

²⁹ PEA, Chapter 5.2.2, Page 5-9.

E. Otay Mesa Alternatives

The Ruling identifies two alternative projects utilizing the Otay Mesa receipt point: Non-Physical (Contractual) or Minimal Footprint Solutions (Alternative E); and the Northern Baja Alternative (Alternative F).³⁰ Both of these rely upon the use of Otay Mesa receipt point (Otay Mesa) capacity in place of the Proposed Project. Accordingly, the Applicants will refer to the two alternatives as a single project titled “Otay Mesa Alternatives.”

In order to deliver 400 million cubic feet per day (MMcfd) on a firm basis, the Otay Mesa Alternatives requires the physical construction of new pipeline facilities³¹ via an expansion on the North Baja pipeline systems. These Alternatives would also require the Applicants to secure a multi-year capacity contract for the transportation of gas supplies.³²

Several variations for Alternative E were described in the Ruling³³ that would also rely upon the use of Otay Mesa capacity; therefore, the Applicants assumed the same costs based on the Otay Mesa Alternatives assumptions above for purposes of this Cost-Effectiveness Analysis, even though these variations would potentially have incremental costs.

Alternative E was not included in the PEA, but was included in the Ruling.³⁴

F. See Alternative E: Otay Mesa Alternatives

Alternative F is discussed in conjunction with Alternative E above. Alternative F was included in the PEA and in the Ruling.³⁵

G. LNG Storage (Peak Shaver) Alternative

This LNG Alternative entails the construction of four independent LNG storage and regasification facilities, each located adjacent to an existing electric generating plant. This alternative is similar to the PEA’s “United States – LNG Alternative,” but at a smaller scale with LNG storage sited at or near natural gas peaker generation sites.”

³⁰ Ruling, page 13.

³¹ The Applicants were ordered in the Ruling to consider other specific options in Alternative E. These options included: 1) use of the Southern System Minimum Flow Requirement; 2) operational flow orders (OFO); 3) system balancing; and 4) tariff discounts.

³² See Prepared Direct Testimony of Gwen Marelli (March 21, 2016).

³³ See Amended Application.

³⁴ Ruling, page 13.

³⁵ Ruling, page 13.

LNG storage would serve three existing gas-fired generation sites in the SDG&E system, which is comprised of combustion turbines, steam turbines at Encina Power Plant (located in Carlsbad), the combined cycle plants at Palomar Energy Center (located in Escondido) and the Otay Mesa Energy Center (located in Otay Mesa), with LNG storage to serve one (1) planned (future) generation site in Pio Pico.

Each LNG facility would require rail or truck deliveries of LNG to support peak capacity shaving requirements or ability for each electric generating plant to operate for at least 5 days from LNG storage.

Alternative G was not included in the PEA but was included in the Ruling.³⁶

H. Alternate Energy Alternatives

1. Alternative H1: Grid-Scale Battery / Energy Storage

The Applicants assume that Alternative H1 – Grid Scale Battery/Energy Storage - envisions the installation of a system of grid-scale batteries and associated equipment that would be sufficient to supply customers with energy equivalent to the Proposed Project.

The Applicants' evaluation of Alternative H1 is based on a scenario under which: the gas supply is lost to all local electric generation during a peak load period; gas supply is unavailable for a four-hour period; and that no customer outages would occur. The Applicants are unaware of a battery storage project of this magnitude being undertaken and, as a result, battery production on this scale would be very difficult, very expensive, very large (requiring approximately 100 acres of land) and would take a very long time to produce.

A system of grid-scale batteries might provide four hours of electric supply under the circumstances that electric generation was unavailable due to the loss of the natural gas supply; however, grid-scale batteries would not provide any energy replacement for the residential and business needs that are currently supplied by natural gas. For example, during the four hour period, customers might still receive electricity service from the grid-scale batteries, but would not have any natural gas service to operate their gas water heaters, gas heating units, gas appliances or any other gas supplied equipment.

In order for the four hours of grid-scale storage to be ready and available if a system wide natural gas outage occurred, the system of batteries would need to be fully charged at all times. It is likely that grid-scale batteries would be charged and discharged on a regular basis and operated by the California Independent System Operator (CAISO) as an ongoing resource it could count

³⁶ Ruling, page 13.

on for grid reliability purposes. Therefore, depending on the timing of a natural gas outage, there is no certainty that the system of batteries would be fully charged when needed.³⁷

2. Alternative H2: Smaller-Scale Battery Storage

The Applicants assume that a smaller-scale, alternative energy battery storage involves the installation of smaller-scale batteries and associated equipment to supplement the gas supply system at times when additional capacity is needed (e.g. unplanned outages, maintenance, peak demand). Similar to the grid-scale battery storage project, the Applicants assume that smaller-scale battery storage would supply four hours of electric supply, including approximately 11,200 MWh of energy storage capacity.

Similar to the issue with the grid-scale battery storage, smaller-scale battery storage would not provide any energy replacement for the residential and business needs that are currently supplied by natural gas. Customers might still receive electricity service from the batteries, but would not have any natural gas service. Likewise, the same issues exist in that the system of batteries would need to be fully charged at all times, but would be charged and discharged on a regular basis and operated by the CAISO as an ongoing resource it could count on for grid reliability purposes. Therefore, depending on the timing of a natural gas outage, there is no certainty that the system of batteries would be fully charged when needed.³⁸

The Applicants could not identify any other reliable alternate energy options that do not require the installation of a new gas transmission pipeline.³⁹

Alternative H was included in the Ruling⁴⁰ but was not included within the PEA.

Henceforth, Alternatives H1 and H2 will be referred to as “Alternative Energy.”

I. Offshore Route Alternative

The Offshore Route Alternative assumes construction of a 36-inch diameter underwater pipeline off of the shore of Southern California, transitioning from offshore to onshore at Line 3010/3011 intersection (receiving point for supply gas to other pipelines in San Diego region). Figure 2 below shows a potential route for this Alternative.

For additional information regarding Alternative I, please refer to the PEA.⁴¹

³⁷ See Prepared Direct Testimony of S. Ali Yari (March 21, 2016).

³⁸ See Prepared Direct Testimony of S. Ali Yari (March 21, 2016).

³⁹ See Prepared Direct Testimony of S. Ali Yari (March 21, 2016).

⁴⁰ Ruling, page 13.

⁴¹ PEA, Chapter 5.2.2, Page 5-6.



Figure 2 - Offshore Route Alternative (Conceptual - illustrative purposes only)

J. Cross-County Pipeline Route Alternatives

The Cross-County Pipeline Route Alternatives comprise three distinguishable routes from Riverside and Imperial counties to the San Diego area. The alternative routes are shown in Figure 3 and discussed below.

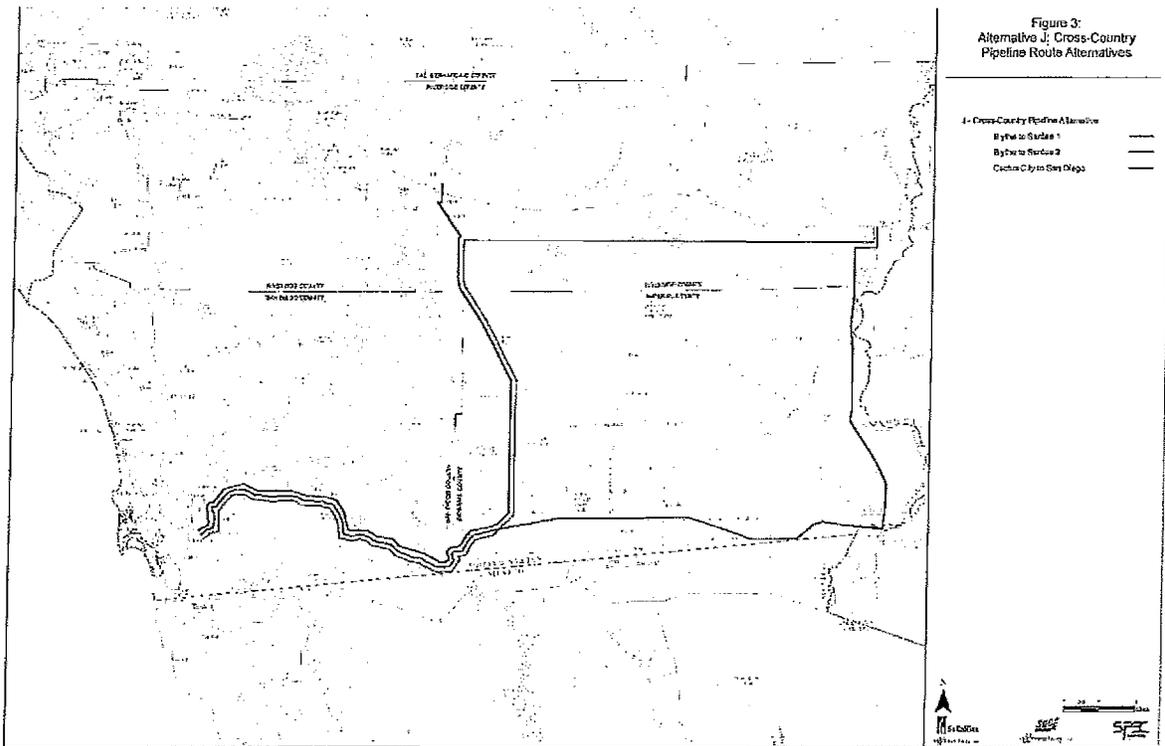


Figure 3 - Cross County Pipeline Route Alternatives (Conceptual - illustrative purposes only)

1. Blythe to Santee Alternative 1

This 222 mile cross-county pipeline initiates in the City of Blythe and traverses directly west, veering south near the northwestern corner of the Salton Sea in Riverside County. The route would then shift southwardly through Imperial County until just north of Ocotillo, at which point the route would run in a general westerly direction until its terminus within the community of Spring Valley. Approximately 202 miles of pipeline would be sited cross-county on undeveloped land, including land that is managed by eight different state and federal agencies.⁴²

2. Blythe to Santee Alternative 2

This 223 mile cross-county pipeline initiates in the City of Blythe and travels south until nearly reaching the City of Yuma, Arizona. At the City of Yuma, the route would veer west, following I-8 until its terminus within the community of Spring Valley. This Alternative would run through Riverside, Imperial, and San Diego counties. Approximately 199 miles of pipeline would be sited cross-county on undeveloped land, including land that is managed by eight different state and federal agencies.⁴³

⁴² PEA, Chapter 5.0, page 5-28.

⁴³ PEA, Chapter 5.0, page 5-30.

3. Cactus City to San Diego

This 160 mile cross-county pipeline initiates in Cactus City and travel south until just north of Ocotillo, at which point the route would shift west and travel generally in a western direction until its terminus within the community of Spring Valley. Approximately 120 miles of pipeline would be sited cross-county on undeveloped land that is managed by eight different state and federal agencies.⁴⁴

Alternatives J1-J3 were included in the Ruling as “Cross-County Pipeline Route Alternatives.”⁴⁵ For additional information regarding Alternatives J1-J3, please refer to the PEA.⁴⁶

K. Second Pipeline along Line 3010 Alternative

The Second Pipeline along Line 3010 Alternative would consist of constructing a new 36-inch pipeline approximately 45 miles in length, running adjacent to the existing 30-inch Line 3010. The second pipeline would originate at the existing Rainbow Metering Station and terminate at Line 3010’s interconnect with Line 2010.

For additional information regarding Alternative K, please refer to the PEA.⁴⁷

⁴⁴ PEA, Chapter 5.0, page 5-32.

⁴⁵ Ruling, page 13.

⁴⁶ PEA, Chapter 5.2.3, Pages 5-28, 5-30, 5-32.

⁴⁷ PEA, Chapter 5.2.3, Page 5-33.

IV. COSTS ANALYSIS

A. Methodology

The Ruling⁴⁸ directs Applicants to file an Amended Application that includes a cost analysis comparing the Proposed Project with any feasible alternative sources of power, in compliance with Section 1003(d) and Rule 3.1(f). Section 1003(d) requires “*Every electrical and every gas corporation submitting an application to the commission for a certificate authorizing the new construction of any electrical plant, line, or extension or gas plant, line or extension... shall include all of the following information... (d) a cost analysis comparing the project with any feasible alternative sources of power.*” Rule 3.1(f) requires “*a statement detailing the estimated cost of proposed construction or extension and the estimated annual costs, both fixed and operating associate therewith. In the case of a utility which has not yet commenced service or which has been rendering service for less than 12 months, the applicant shall file as part of the application supporting statements or exhibits showing that the proposed construction is in the public interest, and whether it is economically feasible.*”

In most cases, implementing the Proposed Project or one of the Alternatives will avoid certain costs that would arise if another alternative were implemented. To illustrate, constructing a new pipeline to replace the transmission function of Line 1600 would reduce or avoid certain costs associated with operating the Moreno Valley Compressor Station. The methodology used to account for these “avoided costs” (or savings), and develop a “net cost” for the Proposed Project and each of the Alternatives is expressed in simple terms as follows:

$$\text{Fixed Costs} + \text{O\&M Costs} + \text{Avoided Costs} = \text{Net Costs}$$

For the purposes of this Cost-Effectiveness Analysis, the Applicants’ do not distinguish between capital and expense costs.

The Applicants developed the fixed cost estimate for the Proposed Project and Alternatives using common, industry standard estimating practices, aligned with Association for the Advancement of Cost Engineering Recommended Practices.⁴⁹ The estimates are based on a combination of market research, historical data, parametric modeling, semi-detailed unit costs and order-of-magnitude estimating based on experience and engineering judgment. The level of scope definition and estimating accuracy has been defined by references to the Association for the Advancement of Cost Engineering (AACE) RP 56R-08 Classification system, described below.

For the Proposed Project and all the Alternatives except the Hydrotest Alternative (Alternative B) and Replace Line 1600 in Place with a New 16-inch Transmission Pipeline Alternative

⁴⁸ Ruling, pages 11-12.

⁴⁹ AACE® International Recommended Practice No. 56R-08.

(Alternative D), Line 1600 would be de-rated and operate as a distribution asset. The costs for de-rating Line 1600 are included in the fixed cost estimate for all the Alternatives except Alternatives B and D. The costs for de-rating Line 1600 were developed based on a combination of historical data, semi-detailed unit costs, and engineering experience and judgment. Under the Hydrotest Alternative, it is anticipated that Line 1600 will be replaced within approximately 20 years.

Applicants also estimated the on-going, annual operating costs for the Proposed Project and the Alternatives. The operating costs for the pipeline alternatives also include amounts for complying with Transmission Integrity Management Program (TIMP) requirements. The operating cost estimates were developed using a combination of historical operations and maintenance costs and other estimates based on Applicants' engineering judgment. This analysis assumes that operating costs for the Otay Mesa Alternatives are included in Applicants' contract pricing.

B. Estimated Costs of the Proposed Project and Alternatives

Cost Estimate Classification

In support of the Application filing in September 2015, Applicants developed a cost estimate for the Proposed Project based on a defined route, semi-detailed design and engineering, and a robust environmental assessment. By contrast, the maturity of the estimates for each Alternative is lower, due to the lack of detailed definition for key project cost drivers – such as scope definition, level of completed design and engineering, material and labor requirements, permitting needs, environmental requirements, and schedule/sequence assumptions.

For those Alternatives that were not carried forward by Applicants in the PEA⁵⁰ – the Off-Shore Route Alternative, Existing Alignment Alternatives (Replace Line 1600 In-Place with a New 16-inch Transmission Pipeline Alternative, New 16" or 36" Pipe Parallel to Line 1600), LNG Alternatives, Infrastructure Corridor Alternative, and the Northern Baja Alternative – detailed cost estimates were not prepared. Only high-level cost estimates are available for those Alternatives, which were previously determined by the Applicants to be imprudent as compared to the Proposed Project.

The Applicants' estimating team evaluated each of the project estimates against the AACE International⁵¹ Recommended Practices, specifically, the cost estimate classification system, to classify the level of maturity of each estimate. The AACE classification is based on the

⁵⁰ PEA, Chapter 5.0, pages 5-6 through 5-15.

⁵¹ AACE International developed a guideline for cost estimate classification in the late 1960s to early 1970s. Those guidelines and standards are generally accepted in the engineering and construction communities as a means for evaluating the maturity of a project cost estimate.

relationship between scope definition and estimate accuracy. The estimate accuracy range is based on known scope, but excludes unforeseen risks that could alter that scope.⁵²

The AACE matrix maturity levels are defined on a scale from 1 through 5 based on Primary Characteristics and Secondary Characteristics, as shown below:

Table 5 - Cost Estimate Classification Matrix for Building and General Construction Industries

ESTIMATE CLASS	Primary Characteristic		Secondary Characteristic	
	MATURITY LEVEL OF PROJECT DEFINITION DELIVERABLES Expressed as % of complete definition	END USAGE Typical purpose of estimate	METHODOLOGY Typical estimating method	EXPECTED ACCURACY RANGE Typical variation in low and high ranges ⁵³
Class 5	0% to 2%	Functional area, or concept screening	SF or m ² factoring, parametric models, judgment, or analogy	L: -20% to -30% H: +30% to +50%
Class 4	1% to 15%	Schematic design or concept study	Parametric models, assembly driven models	L: -10% to -20% H: +20% to +30%
Class 3	10% to 40%	Design development, budget authorization, feasibility	Semi-detailed unit costs with assembly level line items	L: -5% to -15% H: +10% to +20%
Class 2	30% to 75%	Control or bid/tender, semi-detailed	Detailed unit costs with forced detailed take-off	L: -5% to -10% H: +5% to +15%
Class 1	65% to 100%	Check estimate or pre bid/tender, change order	Detailed unit costs with detailed take-off	L: -3% to -5% H: +3% to +10%

The cost estimates prepared by the Applicants were developed based on the known and anticipated project scope at the time of the filing (September 2015), along with additional estimating information that was collected or developed for the Proposed Project and certain alternative projects that were subsequently identified in the Ruling. Table 6 below shows the estimated fixed cost and annual operating costs for the Proposed Projects and each of the Alternatives.

⁵² AACE Recommended Practice, No. 56R-08, Cost Estimate Classification System – As Applied for the Building and General Construction Industries, TCM Framework: 7.3 – Cost Estimating and Budgeting, Rev. December 5, 2012. 7 AACE International Recommended Practice, No. 34-R-05, TCM Framework: 7.3 - Cost Estimating and Budgeting, 2007, p. 4.

⁵³ The state of construction complexity and availability of applicable reference cost data affect the range markedly. The +/- value represents typical percentage variation of actual cost from the cost estimate after application of contingency (typically at a 50% level of confidence) for given scope.

The estimated costs for the Proposed Project and the Alternatives include contingency. Per the AACE, contingency is defined as “a cost element of the estimate used to cover the uncertainty and variability associated with a cost estimate, and unforeseeable elements of cost within the defined project scope.”⁵⁴ Including a contingency allows for uncertain cost elements to be included in the project budget, even though the exact contingency-related expenditures and unforeseen events are currently unknown.

Table 6 - Estimated Fixed and Operating Costs⁵⁵

Alt. No.	Project Name	(Millions of 2015 Dollars)	
		Fixed Cost	Annual Operating Cost ⁵⁶
A	Proposed Project (Rainbow to Line 2010 Route)	\$441.9	\$0.3
B	Hydrotest Alternative	\$112.9	\$0.5
C1	Alt Diameter Pipeline, Proposed Route (10")	\$297.6	\$0.3 ⁵⁷
C2	Alt Diameter Pipeline, Proposed Route (12")	\$320.1	\$0.3 ⁵⁸
C3	Alt Diameter Pipeline, Proposed Route (16")	\$337.1	\$0.3
C4	Alt Diameter Pipeline, Proposed Route (20")	\$352.9	\$0.3
C5	Alt Diameter Pipeline, Proposed Route (24")	\$361.2	\$0.3
C6	Alt Diameter Pipeline, Proposed Route (30")	\$392.2	\$0.3
C7	Alt Diameter Pipeline, Proposed Route (42")	\$527.5	\$0.3
D	Replace Line 1600 in-Place with a New 16-inch Transmission Pipeline Alternative	\$556.1	\$0.4
E/F	Otay Mesa Alternatives	\$977.1	\$45 ⁵⁹
G	LNG Storage (Peak-Shaver) Alternative AKA (United States – LNG Alternative)	\$2,669.7	\$1.2
H1	Alternate Energy (Battery) Alternative – Grid Scale	\$8,415.1	\$1.2
H2	Alternate Energy (Battery) Alternative – Smaller Scale	\$10,095.1	\$1.2
I	Offshore Route Alternative	\$1,449.9	\$0.5

⁵⁴ AACE International Recommended Practice No. 34R-05, TCM Framework: 7.3 – Cost Estimating and Budgeting, 2007, p. 4.

⁵⁵ Prepared Direct Testimony of Neil Navin (March 21, 2016), page 31, workpaper Estimated Fixed and Operating Costs for Proposed Project and Alternatives

⁵⁶ Annual Operating Costs includes the costs for complying with TIMP. The Applicants incur TIMP costs once every seven years. TIMP costs were divided by 7 to determine the “annual” TIMP costs. That portion – 1/7 – were added to the annual O&M costs to determine total operating costs.

⁵⁷ The 10-inch and 12-inch alternate diameter pipelines do not meet regulatory requirements for natural gas demand on a 1-in-10 year winter day. It is assumed that these alternatives will require the import of gas via the Otay Mesa receipt point. These additional import costs have been accounted for by including them as O&M costs in order to calculate net costs. This analysis can be seen in Section V, Avoided Cost.

⁵⁸ *Id.*

⁵⁹ Estimated costs to transport natural gas. See Prepared Direct Testimony of Gwen Marelli (March 21, 2016), page 7.

Alt. No.	Project Name	(Millions of 2015 Dollars)	
		Fixed Cost	Annual Operating Cost ⁶⁶
J1	Blythe to Santee Alternative 1	\$1,377.5	\$1.4
J2	Blythe to Santee Alternative 2	\$1,315.5	\$1.4
J3	Cactus City to San Diego Alternative	\$1,143.4	\$1.0
K	Second Pipeline Along Line 3010 Alternative	\$595.2	\$0.3

Cost Estimate Assumptions

Described below are the respective assumptions and inclusion/exclusion considered for the Proposed Project and Alternatives.

Alternative A: Proposed Project (Rainbow to Line 2010 Route)

Applicants developed direct cost estimates for the Proposed Project based on the known and anticipated project scope at the time of the Application's filing (September 2015). The cost estimates have been updated to include the de-rating of Line 1600 to distribution pressure. The direct cost estimates include costs for material and equipment procurement, construction, engineering and design, environmental permitting and mitigation, other project execution-related activities, and company labor. The cost estimate is within a Class 3 range of accuracy as defined by AACE.⁶⁰

Alternative B: Hydrotest

Cost estimates were developed for this project based on historic information and experience with similar types of projects. The level of contingency was decided using expert judgment, based on the accuracy of the estimate which reflects a Level 4 class estimated as defined by AACE classification system.

Alternative C1: Alternative Diameter Pipeline, Proposed Route (10")

High-level cost estimates have been developed for this Alternative. Costs for this Alternative were scaled from the Proposed Project on a cost per mile basis. This project involves the same proposed route and similar components as the Proposed Project though in different quantities. Other costs for activities such as engineering, survey, and right-of-way acquisition, should be comparable, on a unit cost basis, to the estimates developed for the Proposed Project. A 10-inch alternate diameter pipeline does not meet regulatory requirements for natural gas demand on a 1-in-10 year winter day. It is therefore assumed that this Alternative will require the import of gas via the Otay Mesa receipt point.

⁶⁰ See Prepared Direct Testimony of Neil Navin (March 21, 2016), page 16

Alternative C2: Alternative Diameter Pipeline, Proposed Route (12”)

High-level cost estimates have been developed for this Alternative. Costs for this Alternative were scaled from the Proposed Project on a cost per mile basis. This project involves the same proposed route and similar components as the Proposed Project though in different quantities. The pipeline material specifications for each alternative would be similar to the Proposed Project. Other costs for activities such as engineering, survey, and right-of-way acquisition, should be comparable, on a unit cost basis, to the estimates developed for the Proposed Project. A 12-inch alternate diameter pipeline does not meet regulatory requirements for natural gas demand on a 1-in-10 year winter day. It is therefore assumed that this Alternative will require the import of gas via the Otay Mesa receipt point.

Alternative C3: Alternative Diameter Pipeline, Proposed Route (16”)

High-level cost estimates have been developed for this Alternative. Costs for this Alternative were scaled from the Proposed Project on a cost per mile basis. This project involves the same proposed route and similar components as the Proposed Project though in different quantities. The costs for activities such as engineering, survey, and right-of-way acquisition, should be comparable, on a unit cost basis, to the estimates developed for the Proposed Project.

Alternative C4: Alternative Diameter Pipeline, Proposed Route (20”)

High-level cost estimates have been developed for this Alternative. Costs for this Alternative were scaled from the Proposed Project on a cost per mile basis. This project involves the same proposed route and similar components as the Proposed Project though in different quantities. Other costs for activities such as engineering, survey, and right-of-way acquisition, should be comparable, on a unit cost basis, to the estimates developed for the Proposed Project.

Alternative C5: Alternative Diameter Pipeline, Proposed Route (24”)

High-level cost estimates have been developed for this Alternative. Costs for this Alternative were scaled from the Proposed Project on a cost per mile basis. This project involves the same proposed route and similar components as the Proposed Project though in different quantities. Other costs for activities such as engineering, survey, and right-of-way acquisition, should be comparable, on a unit cost basis, to the estimates developed for the Proposed Project.

Alternative C6: Alternative Diameter Pipeline, Proposed Route (30”)

High-level cost estimates have been developed for this Alternative. Costs for this Alternative were scaled from the Proposed Project on a cost per mile basis. This project involves the same proposed route and similar components as the Proposed Project though in different quantities. Other costs for activities such as engineering, survey, and right-of-way acquisition, should be comparable, on a unit cost basis, to the estimates developed for the Proposed Project.

Alternative C7: Alternative Diameter Pipeline, Proposed Route (42”)

High-level cost estimates have been developed for this Alternative. Costs for this Alternative were scaled from the Proposed Project on a cost per mile basis. This project involves the same proposed route and similar components as the Proposed Project though in different quantities. Other costs for activities such as engineering, survey, and right-of-way acquisition, should be comparable, on a unit cost basis, to the estimates developed for the Proposed Project.

Alternative D: Replace Line 1600 in Place with a New 16" Transmission Pipeline Alternative (In-Kind Replacement)

High-level cost estimates have been developed for this Alternative. Costs for this Alternative were scaled from the Proposed Project on a cost per mile basis. This project involves similar components as the Proposed Project though in different quantities. Other costs for activities such as engineering and survey should be comparable, on a unit cost basis, to the estimates developed for the Proposed Project. Right-of-way acquisition costs for this Alternative are significantly greater than those for the Proposed Project.⁶¹

Alternative E/F: Otay Mesa Alternatives

In evaluating the Otay Mesa Alternatives, the Applicants identified both a low end cost and a high end cost for building out capacity to provide service under these Alternatives. The low end cost is based on existing rates for the pipelines and rates for facilities in service since 2002.⁶² The high end cost is based on recently published pipeline costs for projects proposed or awarded for construction in Arizona and Northern Mexico. The high end cost assumes the North Baja Pipeline System and Gasoducto Rosarito System are looped from Ehrenberg to TGN.

Alternative G: LNG Storage (Peak-Shaver) Alternative AKA (United States – LNG Alternative)

The estimate for this Alternative was based on evaluating the costs for a similar LNG storage facility project, and developing factored estimates for the supply and construction of four LNG storage facilities based on each facility's operational requirements. These estimates were developed for each LNG storage facility by comparing them to available, actual costs for an existing LNG storage facility. Liquefaction costs were excluded – LNG plant costs have been factored based on re-gasification and storage only.

⁶¹ A feasibility study was conducted to evaluate the feasibility of acquiring the necessary Right of Ways.

⁶² See Prepared Direct Testimony of Gwen Marelli (March 21, 2016), page 7.

Alternative H: Alternate Energy (Battery) and Alternative (Alternative H1 - Grid Scale and Alternative H2 - Smaller Scale)

Costs for both the grid scale and smaller scale alternatives were developed based on a rough order of magnitude estimate. The estimate considered energy storage capacity, amount of land required, number of sites and project complexity.

The Grid Scale Alternative assumes installation of lithium-ion batteries at \$500/kWh (kilowatt hours). For approximately 2,802 MW (megawatts) of power and four hours of energy, approximately 11,200 MWh (megawatt hours) of capacity is required. Between 100 and 125 acres of land is needed for this installation.

The Smaller Scale Alternative assumes approximately 11,200 MWh of energy storage capacity for four hours of electric supply, projected at an installed cost of \$600/ kWh. The difference in cost per kWh accounts for the number of sites required to host the smaller scale battery locations.

Alternative I: Off-Shore Alternative

A high level cost estimate for this Alternative was prepared based on considering broad project assumptions. There is a lack of scope definition. The estimate is based on a productivity efficiency factor for marine project conditions. Permitting costs and costs arising as a result of environmental considerations were assumed to be very high.

Alternative J1: Blythe to Santee Alternative 1

High-level cost estimates have been developed for this Alternative. This project involves similar components as the Proposed Project though in significantly different quantities. Costs for this Alternative were scaled from the Proposed Project on a cost per mile basis and adjusted for population density and terrain type. The pipeline material specifications for each alternative would be similar to the Proposed Project. Class estimate for this Alternative is very high level based on the lack of scope definition and that broad assumptions are considered.

Alternative J2: Blythe to Santee Alternative 2

High-level cost estimates have been developed for this Alternative. This project involves similar components as the Proposed Project though in significantly different quantities. Costs for this Alternative were scaled from the Proposed Project on a cost per mile basis and adjusted for population density and terrain type. The pipeline material specifications for each alternative would be similar to the Proposed Project. Class estimate for this Alternative is very high level based on the lack of scope definition and that broad assumptions are considered.

Alternative J3: Cactus City to San Diego Alternative

High-level cost estimates have been developed for this Alternative. This project involves similar components as the Proposed Project though in significantly different quantities. Costs for this Alternative were scaled from the Proposed Project on a cost per mile basis and adjusted for population density and terrain type. The pipeline material specifications for each alternative would be similar to the Proposed Project. Class estimate for this Alternative is very high level based on the lack of scope definition and that broad assumptions are considered.

Alternative K: Second Pipeline along Line 3010 Alternative

High-level cost estimates have been developed for this Alternative. This project involves similar components as the Proposed Project though in different quantities. The pipeline material specifications for each alternative would be similar to the Proposed Project. Other costs for activities such as engineering and surveying, should be comparable, on a unit cost basis, to the estimates developed for the Proposed Project. Right of way acquisition costs for this Alternative are significantly greater than those for the Proposed Project.⁶³

C. Avoided Costs Associated with the Proposed Project and Alternatives

The Applicants analyzed the total avoided costs that would accrue over an assumed 100 year useful life⁶⁴ for the Proposed Project and Alternatives involving construction of a new pipeline (all Alternatives except the Hydrotest Alternative and the Replace Line 1600 In Place with a 16" Pipeline Alternative). This analysis allowed for the evaluation of:

- The anticipated avoided costs over set periods of time;
- Both one-time and recurring avoided costs; and
- The net cost that incorporates both the total cost for installing the project and the avoided costs.

The Applicants' methodology⁶⁵ for calculating the avoided costs is as follows:

- Determine the various cost elements that make up the two types of avoided costs (described in the following section);

⁶³ A feasibility study was conducted to evaluate the feasibility of acquiring the necessary Right of Ways.

⁶⁴ The Role of Pipeline Age in Pipeline Safety, Kiefner and Rosenfield states that "...a well-maintained and periodically assessed pipeline can safely transport natural gas indefinitely." A 100 year lifetime period has been assumed for calculation purposes.

⁶⁵ The Applicants use a conservative methodology for conducting the avoided cost analysis. The Applicants' method is based on conservative assumptions and is commonly used in evaluating the costs of projects over time. Other methods could be used to analyze avoided costs over time.

- Tabulate the avoided costs on a time line for the Proposed Project and for those Alternatives to which they apply;
- Escalate the avoided costs over time by applying an inflation rate of 2.9%;⁶⁶
- Discount the avoided costs back to 2015 at 7.79%,⁶⁷ resulting in avoided costs presented in 2015 values; and

Calculate the net cost by adding the estimated fixed cost plus the present value of operating expenses and avoided costs over 100 years shown in

- Table 8.

It is assumed that avoided costs will begin to accrue from the year that the Proposed Project and Alternatives become operational.⁶⁸

Two avoided costs are associated with not having to hydrotest Line 1600, and are accounted for in this analysis, as follows:

Avoided Cost 1: Future Replacement of Line 1600

Even if Line 1600 is hydrotested, it is prudent to assume that it will need to be replaced eventually. Thus, this set of avoided costs include the cost associated with replacing Line 1600 at some point in the future. The Applicants have established a 20-year interval as a reasonable expectation for the expiration of the benefits from pressure testing. This interval is based upon engineering judgment, and Line 1600 would likely either need to be replaced or re-evaluated depending upon a number of factors that would ultimately include coating degradation, cathodic protection performance, time-dependent threat growth, leakage maintenance program demands, and time-independent threat rates.⁶⁹

The avoided costs analysis assumes Line 1600 operating as a transmission asset will be replaced in 20 years. These avoided costs are realized by the Proposed Project and the Alternatives that contemplate derating Line 1600.

⁶⁶ Inflation rate based on IHS Fourth Quarter 2015 Construction Cost Index Forecasts for Gas Utility Construction: Pacific Region for Transmission Plant averaged from 2017 through 2025.

⁶⁷ SDG&E discount rate. *See* Prepared Direct Testimony of Michael Woodruff (March 21, 2016).

⁶⁸ *See* Prepared Direct Testimony of Neil Navin (March 21, 2016), page 31: Workpaper – Estimated Fixed and Operating Costs for Proposed Project and Alternatives.

⁶⁹ *See* Prepared Direct Testimony of Travis Sera (March 21, 2016), page 24.

Avoided Cost 2: Moreno Compressor Station Operations

For the Proposed Project, or certain Alternatives (C4, C5, C6, C7, I, J1, J2, J3, K)⁷⁰ there can be a potential impact on the costs associated with the annual operations and maintenance of the Moreno Compressor Station^{71,72} as well as the amounts expended for emissions.

The following sections describe these avoided cost elements in more detail.

1. Future Replacement of Line 1600

Overview of Current Costs

Line 1600, if hydrotested and maintained at transmission level service (the Hydrotest Alternative), will be abandoned and/or replaced earlier than the Proposed Project or any of the Alternatives that would allow Line 1600 to be de-rated because Line 1600 will have a shorter usable asset lifespan. The estimated cost of installing a new 16-inch diameter pipeline along the same route as the Proposed Project, which is the most efficient replacement option from a cost perspective, is \$337.1M. The estimated remaining life of Line 1600 is assumed to be 20 years or less.

Source of Avoided Cost

The Proposed Project and Alternatives except the Hydrotest Alternative will have a useful life in excess of Line 1600 if it is maintained as a transmission asset. This analysis assumes that the Proposed Project and the Alternatives will have a service life of 100 years. Over the life of the Proposed Project and the Alternatives, the costs related to the eventual replacement of Line 1600 will be avoided.

Assumptions

For the purpose of this avoided costs analysis, it is assumed that Line 1600 will be replaced with a 16-inch diameter transmission pipeline along the same route as the Proposed Project. It is assumed that the physical replacement work will take two years.

⁷⁰ The cross county lines (J1, J2 and J3) are not directly connected to the Moreno Compressor Station, but are assumed to provide similar benefits with regards to avoided costs as the Proposed Project, due to the additional capacity inherent to a 36" pipeline. Due to the length of these lines, it is possible that additional compression may be needed to balance the gas flow in the system. However, at this stage in the design, it is not known whether this additional compression will be required.

⁷¹ See Prepared Direct Testimony of Neil Navin (March 21, 2016), Attachment A – PSRP Report at Attachment XII - Moreno Compressor Station PSRP Report.

⁷² For the Proposed Project, it is assumed that the Moreno Compressor Station would only require reduced operations to function minimally as a safeguard during extreme or unplanned capacity interruption scenarios. See Prepared Direct Testimony of Neil Navin (March 21, 2016), Attachment A – PSRP Report at Attachment XII - Moreno Compressor Station PSRP Report.

The costs for replacing Line 1600 in the future make up the avoided costs for future Line 1600 Replacement in the cost avoidance analysis.

2. Moreno Compressor Station Operations

*Overview of Current Costs*⁷³

The Proposed Project and certain Alternatives would reduce the need for compression at Moreno Compressor Station. Although compression at Moreno would likely still be needed at certain times, many of the operating costs could potentially be avoided or reduced. The associated avoided costs include the following:

Emission Fees and Permitting: Based on average annual costs for emissions, emissions subjected to fee, and applied fee rates. Average cost from 2011 to 2014 is \$44,748.

Operations and Maintenance: Based on average annual costs for labor and non-labor costs. Average annual costs for 2010 to 2015 is \$2,613,907.

Fuel: Based on the average cost of fuel used, with the average price per dekatherm for the California border in 2021 assumed to be \$3.23.⁷⁴ Average annual costs based on usage for 2011 to 2013 is \$1,400,000.

NOx Sales and Purchases: Each year, the Applicants are allocated a fixed number of credits for NOx RECLAIM emissions.⁷⁵ When emissions are exceeded, additional credits have to be purchased. Similarly, unused credits can be sold at spot market prices. Average annual emissions at Moreno Compressor Station from 2012 to 2015 were 139,338 lbs. The average cost for emission credits is approximately \$14 per lb.

GHG Costs: Applicants pay for greenhouse gas (GHG) emissions arising from Moreno Compressor Station operations.⁷⁶ The average annual GHG emissions from 2012 to 2014 were 25,159 metric tons. Projected annual GHG costs are \$1,320,830 per annum based on a levelized price per ton of \$52 per metric ton.

⁷³ Based on the figures provided within the Prepared Direct Testimony of Neil Navin (March 21, 2016), Attachment A – PSRP Report at Attachment XII - Moreno Compressor Station PSRP Report.

⁷⁴ Based on CMEGroup Globex Futures.

⁷⁵ See Assembly Bill (AB) 32 (California Global Warming Solutions Act of 2006) - <http://www.arb.ca.gov/cc/ab32/ab32.htm>

⁷⁶ Pursuant to AB 32 and the Governor's Executive Order S-01-07.

Source of Avoided Cost

The estimated annual cost savings resulting from assuming reduced operations at Moreno Compressor Station for the Proposed Project and certain Alternatives is approximately \$5.87 million, calculated as:⁷⁷

Table 7 - Savings associated with the installation of a 36" or larger pipeline

Cost Element	Annual Savings
O&M Non-Labor	(\$295,077)
Fuel	(\$1,363,626)
NOx Purchases	(\$1,162,000)
NOx Sales	(\$691,125)
GHG Cap & Trade Cost	(\$1,254,789)
Capital Spending	(\$1,100,000)
Annual Sum	(\$5,866,617)

Assumptions

Avoided costs relating to the Moreno Compressor Station will be incurred for the Proposed Project and Alternatives C4, C5, C6, C7, I, J1, J2, J3 and K, as follows:

- Alternative C7 (42" pipeline) and Alternatives I (Off-shore), J1, J2, and J3 (Cross-County Alternatives)⁷⁸ and K (Second Pipeline along Line 3010) will provide the same reduction in operational requirements to the Moreno Compressor Station as the Proposed Project.

⁷⁷ The Moreno Compressor Station PSRP Report (Prepared Direct Testimony of Neil Navin (March 21, 2016), Attachment A – PSRP Report at Attachment XII) makes the following assumptions with regards to cost saving should the Proposed Project be implemented:

- The Moreno Compressor Station operations will be reduced by 95% to function minimally as a safe guard during extreme or unplanned capacity interruption scenarios for a 36" line.
- Fuel, NOx credit purchases and sales, and GHG costs are reduced in direct proportion (*i.e.*, 1:1) as the reduction in operation;
- Emission fees and permitting costs will remain unchanged due to the need of maintaining permitting for the compressor the station;
- Labor costs will remain unchanged, and Non-labor costs will be reduced by \$300,000 (or 20% of annual cost average); and
- \$1.1M in capital spending will be avoided (based on historical capital spending).

⁷⁸ The cross county lines (J1, J2 and J3) are not directly connected to the Moreno Compressor Station, but are assumed to provide similar benefits with regards to avoided costs as the Proposed Project, due to the additional capacity inherent to a 36" pipeline. Due to the length of these lines, it is possible that additional compression may be needed to balance the gas flow in the system. However, at this stage in the design, it is not known whether this additional compression will be required.

- Alternatives C4, C5 and C6 (20", 24" and 30" pipelines, respectively) will provide some reduction in operational requirements to the Moreno Compressor Station, assumed to be in direct proportion to the reduction in pipeline diameter.⁷⁹

The analysis assumes that the remaining Alternatives will not have any effect on the current state operational output of the Moreno Compressor Station and, therefore, do not accrue avoided costs.

D. Net Costs of the Proposed Project and Alternatives

The table below shows the avoided costs associated the Proposed Project and the Alternatives:

Table 8 - Avoided Costs (Millions of 2015 Dollars)

Alt No.	Project Name	Fixed Cost	Total O&M Cost ⁸⁰	Avoided Cost	Net Cost
A	Proposed Project (36" pipeline Rainbow to Line 2010 Route)	\$441.9	\$4.6	(\$190.3)	\$256.2
B	Hydrotest Alternative	\$112.9	\$5.8	\$0.0	\$118.7
C1	Alt Diameter Pipeline, Proposed Route (10")	\$297.6	\$105.3	(\$100.3)	\$302.7
C2	Alt Diameter Pipeline, Proposed Route (12")	\$320.1	\$71.8	(\$100.3)	\$291.6
C3	Alt Diameter Pipeline, Proposed Route (16")	\$337.1	\$4.6	(\$100.3)	\$241.4
C4	Alt Diameter Pipeline, Proposed Route (20")	\$352.9	\$4.6	(\$118.3)	\$239.2
C5	Alt Diameter Pipeline, Proposed Route (24")	\$361.2	\$4.6	(\$136.3)	\$229.6
C6	Alt Diameter Pipeline, Proposed Route (30")	\$392.2	\$4.6	(\$163.3)	\$233.5
C7	Alt Diameter Pipeline, Proposed Route (42")	\$527.5	\$4.6	(\$190.3)	\$341.9
D	Replace Line 1600 in Place with a New 16" Transmission Pipeline	\$556.1	\$4.4	\$0.0	\$560.4
E/F	Otay Mesa Alternatives	\$977.1	\$0.0	(\$100.3)	\$876.8
G	LNG Storage (Peak-Shaver) Alternative	\$2,669.7	\$15.3	(\$100.3)	\$2,584.7
H1	Alternate Energy Alternative: Grid-Scale Batteries	\$8,415.1	\$15.3	(\$100.3)	\$8,330.1
H2	Alternate Energy Alternative: Smaller-Scale Batteries	\$10,095.1	\$15.3	(\$100.3)	\$10,010.1
I	Offshore Route	\$1,449.9	\$5.1	(\$159.5)	\$1,295.5
J1	Blythe to Santee Alternative 1	\$1,377.5	\$16.7	(\$175.0)	\$1,219.3
J2	Blythe to Santee Alternative 2	\$1,315.5	\$16.8	(\$175.0)	\$1,157.3
J3	Cactus City to San Diego Alternative	\$1,143.4	\$12.7	(\$175.0)	\$981.1
K	Second Pipeline Along Line 3010 Alternative	\$595.2	\$3.5	(\$171.6)	\$427.1

⁷⁹ The Moreno Compressor Station PSRP Report (Prepared Direct Testimony of Neil Navin (March 21, 2016), Attachment A – PSRP Report at Attachment XII) shows a straight line reduction in operations in proportion to pipeline diameter between 36" and 16" diameters.

⁸⁰ Present value of O&M and TIMP costs over 100 years. Also includes present value of gas transportation costs via Otay Mesa for Alternatives C1 and C2.

The results of the costs analysis show that the “least-cost” alternative is the Hydrotest Alternative, which has an estimated net cost of \$118.7 million. Table 9 shows the Proposed Project and remaining Alternatives grouped together by range of net costs. After the Hydrotest Alternative, the next group of least-cost alternatives are clustered together in the \$225 million to \$260 million range. This second least-cost category includes alternate diameter sizes ranging from 16- to 36-inches (*i.e.*, the Proposed Project). The third least-cost category has a larger range, from \$290 million to \$430 million, and includes Alternative Diameters of 10-, 12- and 42-inches as well as the Second Pipeline Along Line 3010 Alternative.

The remaining two categories of Alternatives far exceed the net costs of the Proposed Project. These last two “greatest cost” categories include Alternatives whose net costs range from \$500 million to \$1 billion (Replace Line 1600 in Place with a New 16-inch Pipeline, Otay Mesa Alternatives and Cactus City to San Diego Alternative) and over \$1 billion (Blythe to Santee Pipeline Routes, Alternatives 1 and 2, Off-Shore, LNG Storage, and Alternative Energy Alternatives).

Table 9 - Relative Costs of Proposed Project and Alternatives from Least to Greatest Net Cost

Net Cost Range	Alt No.	Project Name	Net Cost
\$100 M to \$200 M	B	Hydrotest	\$118.7 M
\$225 M to \$260 M	C5	Alt Diameter Pipeline 24"	\$229.6 M
	C6	Alt Diameter Pipeline 30"	\$233.5 M
	C4	Alt Diameter Pipeline 20"	\$239.2 M
	C3	Alt Diameter Pipeline 16"	\$241.4M
	A	Proposed Project (36" Diameter)	\$256.2 M
\$290 M to \$430 M	C2	Alt Diameter Pipeline 12"	\$291.6M
	C1	Alt Diameter Pipeline 10"	\$302.7 M
	C7	Alt Diameter Pipeline 42"	\$341.9 M
	K	Second Pipeline Along Line 3010 Alternative	\$427.1 M
\$500 M to \$1Billion	D	Replace Line 1600 In Place with a New 16-inch Transmission Pipeline	\$560.4 M
	E/F	Otay Mesa Alternatives	\$876.8 M
	J3	Cactus City to San Diego Alternative	\$981.1 M
	J2	Blythe to Santee Alternative 2	\$1,157.3 M
	J1	Blythe to Santee Alternative 1	\$1,219.3 M
Over \$1 Billion	I	Offshore Route Alternative	\$1,295.5 M
	G	LNG Storage Alternative	\$2,584.7 M
	H2	Alternate Energy Alternative: Smaller Scale Batteries	\$10,010.1 M
	H1	Alternative Energy Alternative: Grid Scale Battery	\$8,330.1 M

V. BENEFITS ANALYSIS⁸¹

This Cost-Effectiveness Analysis included an evaluation of the different types of benefits across the seven benefit types set forth in the Ruling. The benefits were quantified and scored using a benefits evaluation model that was developed by PwC, with input and data from the Applicants. This evaluation complies with the requirement in the Ruling to apply quantifiable data to define the relative benefits of the Proposed Project and the Alternatives.⁸² In addition to the quantifiable benefits, the Applicants identified a few project benefits that could not be readily quantified.

Approach and Methodology

To comply with the requirement to apply quantifiable data to define the relative benefits of the projects, PwC and the Applicants developed a model (referred to herein as the “benefits evaluation model”) to quantitatively evaluate and score the relative benefits of the Proposed Project and each of the Alternatives. PwC and the Applicants first considered desirable outcomes (*e.g.*, enhanced safety) and quantifiable characteristics (*e.g.*, percent reduction in incidents per High Consequence Area (HCA) mile) associated with the seven benefits categories identified in the Ruling. The model was then created to evaluate 16 specific benefits, each of which falls within one of the seven categories identified in the Ruling. Care was taken to treat each benefit as unique and not counted more than one time in the scoring model.

After the benefits were defined, PwC and the Applicants developed quantifiable scoring criteria so that benefits could be objectively evaluated and scored. The types of quantifiable metrics used in the scoring criteria include the percentage or measurable increase/reduction in a known quantity or unit of measure/metric that is used to define a benefit. For instance, a quantitative threshold expressed in terms of MMcf/d is used to quantify the increases expected in system capacity for the Proposed Project and each of the Alternatives. Similarly, the number of incidents per HCA mile is one metric relied on to quantify and score safety performance.

The complete list of benefits included in the scoring model and the metric or measure used to quantify and score each one, is listed in Table 10 of this Cost-Effectiveness Analysis.

The scoring criteria are generally applied on a 1 to 5 scale. In the scoring benefits model, 1 is the lowest (worst) score and 5 is the highest (best) score. The scores were averaged within each of the seven benefit categories and then those seven average scores were summed to determine the final benefit score for the Proposed Project and the Alternatives.

⁸¹ The avoided costs associated with the Proposed Project and each Alternative may also be viewed as a benefit. In order to avoid double-counting, however, avoided costs are not discussed in this section.

⁸² Ruling, page 12.

For certain benefits, there is no obvious measure or metric against which the benefit is generally compared. For those benefits, the scoring scale was defined to allow for an objective evaluation of the Proposed Project and the Alternatives against the scale and a quantitative measure of the benefit defined. For instance, measuring long-term safety benefits of a transmission pipeline is an important benefit and must be included in the overall analysis. Because there is no standard measure or metric for evaluating this benefit, the Applicants defined this benefit on an objective scale, defined by technical insight. This benefit type can then be scored and that score included in the overall quantitative benefits evaluation.

Once the scoring was complete for the Proposed Project and the Alternatives across each benefit category, the total benefit score was determined and a relative quantifiable benefit ranking was prepared.

Table 10 - Benefits Evaluation Scoring Summary

Benefits Criteria	Proposed Project - 36"	Hydrotest	Alt Diameter Pipelines - 10"	Alt Diameter Pipelines - 12"	Alt Diameter Pipelines - 16"	Alt Diameter Pipelines - 20"	Alt Diameter Pipelines - 24"	Alt Diameter Pipelines - 30"	Alt Diameter Pipelines - 42"	Replace Line 1600 In-Place	Clay Mesa Alternatives	LNG Storage	Alt Energy - Grid Scale	Alt Energy - Smaller Scale	Offshore Route	Blythe to Santee Alt 1	Blythe to Santee Alt 2	Cactus City to SD	2nd Pipeline Along Line 3010
1. Safety	5	3	5	5	5	5	5	5	5	4	4	3	3	3	4	4	4	4	4
2. Reliability	5	1	1	1	3	4	4	5	5	3	1	2	2	2	5	5	5	5	5
3. Operational Flexibility	5	4	4	4	4	5	5	5	5	4	3	4	4	4	5	5	5	5	5
4. System Capacity	5	3	2	2	3	4	4	5	5	3	5	3	3	3	5	5	5	5	5
5. Gas Storage thru Line Pack	5	3	2	2	3	4	4	5	5	3	5	3	3	3	5	5	5	5	5
6. Reduction in Gas Price for Ratepayers	3	3	3	3	3	3	3	3	3	3	1	1	3	3	3	3	3	3	3
7. Other Benefits	5	3	1	1	3	4	4	4	5	3	5	5	1	1	5	5	5	5	5
Total of Average Scores	27.6	17.0	15.5	15.5	20.6	24.1	24.5	25.9	27.6	20.4	19.0	18.6	16.2	16.2	27.0	27.2	27.2	27.2	27.2
Overall Relative Rank	1	15	18	18	11	10	9	8	1	12	13	14	16	16	7	3	3	3	3

(1 is the lowest (worst) score and 5 is the highest (best) score; Overall Relative Rank -- 1 is the highest and 18 is the lowest)

A. Increased Safety

Increased safety benefits were scored against the criteria in the benefits evaluation model. For the purposes of this evaluation it is assumed that the Proposed Project and all of the Alternatives will comply with State laws to pressure test or replace Line 1600.

1. Evaluating Benefits using the Benefits Evaluation Model

The increased safety benefits and the respective scoring criteria are described below.

- 1.1 Increased safety margin to prevent pipeline rupture through the de-rating of Line 1600:⁸³

Evaluating the increased safety margins in terms of the percentage of specified minimum yield strength (SMYS) on Line 1600.

1. N/A
2. Line 1600 operating at 800 psi (49% of SMYS) - Transmission Function
3. Line 1600 operating at 640 psi (39% of SMYS) - Transmission Function
4. Line 1600 operating at 320 psi (<20% of SMYS) - Distribution Function
5. Removal of Line 1600

- 1.2 Long-term Safety Benefit of Transmission Pipeline Project: Ability to sustain safety over the life of the transmission pipeline due to aspects such as:

- Presence of known significant anomalies,
- Presence of known anomalies, and
- Future resiliency or strength of design:
 - Thickness of material
 - Corrosion protection
 - Protective coating
 - Installation techniques that prevent damage to the pipe

The scale for scoring the projects against this benefit is:

1. Anomalies persist in transmission pipeline
2. N/A
3. No transmission pipeline is part of the project
4. N/A
5. Meets or exceeds modern design standards

- 1.3 Reduction in incidents per HCA mile of pipeline:⁸⁴ Using the Department of Transportation's (DOT) Pipeline and Hazardous Materials Safety Administration (PHMSA) data, age, type of pipeline material, wall thickness, and other parameters, a percentage reduction or increase in the number of incidents per HCA mile was able to be quantified.

The scale for scoring the projects against this benefit is:

1. > 25% increase in potential incidents/ HCA mile
2. 0-25% increase in potential incidents/HCA mile
3. No change in potential incidents/HCA mile likelihood
4. 0-25% reduction in incidents/ HCA mile
5. > 25% reduction in incidents/ HCA mile

⁸³ See Prepared Direct Testimony of Travis Sera (March 21, 2016).

⁸⁴ See Section V.H, Pipeline Failure Analysis

- 1.4 Increased real-time awareness of excavation damage: Ability to detect excavation damage in real-time to prevent or mitigate larger incidents from occurring.

The scale for scoring the projects against this benefit is:

1. Reduced capabilities for real-time awareness of excavation damage
2. N/A
3. No change in capabilities for real-time awareness of excavation damage
4. N/A
5. Increased capabilities for real-time awareness of excavation damage

- 1.5 Achievement of “as soon as practicable” safety objective:⁸⁵ Based on estimated completion or in-service year.

The scale for scoring the projects against this benefit is:

1. Beyond 2026
2. Complete by 2026
3. Complete by 2024
4. Complete by 2022
5. Complete by 2020

⁸⁵ In Decision (D.) 11-06-017, Ordering Paragraph 5, the Commission directed pipeline operators to develop a plan to test or replace all transmission pipelines that do not have documentation of a pressure test “as soon as practicable.”

The results of the safety benefits scoring are shown in Table 11 below.

Table 11 - Increased Safety Benefits Score

Safety Benefits	Proposed Project - 36"	Hydrotest	Alt Diameter - 10"	Alt Diameter - 12"	Alt Diameter - 16"	Alt Diameter - 20"	Alt Diameter - 24"	Alt Diameter - 30"	Alt Diameter - 42"	Replace Line 1600 In-Place	Otay Mesa Alternatives	LNG Storage	Alt Energy - Grid Scale	Alt Energy - Smaller Scale	Offshore Route	Blythe to Santee Alt 1	Blythe to Santee Alt 2	Cactus City to SD	2nd Pipeline Along Line 3010
1.1 Increased safety margin to prevent pipeline rupture through the de-rating of Line 1600 ⁸⁶	4	3	4	4	4	4	4	4	4	5	4	4	4	4	4	4	4	4	4
1.2 Long-term Safety Benefit of Transmission Pipeline	5	1	5	5	5	5	5	5	5	5	3	3	3	3	5	5	5	5	5
1.3 Reduction in incidents per HCA mile of pipeline	5	3	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
1.4 Increased real-time awareness of excavation damage	5	3	5	5	5	5	5	5	5	5	3	3	3	3	5	5	5	5	5
1.5 Achievement of "as soon as practicable" safety objective	4	4	4	4	4	4	4	4	4	2	3	2	2	2	1	2	2	2	2
Average Score	5	3	5	5	5	5	5	5	5	4	4	3	3	3	4	4	4	4	4

(1 is the lowest (worst) score and 5 is the highest (best) score)

⁸⁶ Line 1600 will be de-rated for all Alternatives except the Hydrotest Alternative and the Line 1600 Replace in Place with a New 16-inch Pipeline.

Results of the increased safety benefits evaluation are discussed below.

a) Proposed Project

The Proposed Project eliminates the need to operate Line 1600 at a higher pressure and instead allows for its de-rating at a lower and safer pressure that will improve overall system safety margins.

The Proposed Project will feature a new 36" pipeline (in addition to the de-rated Line 1600) that meets or exceeds design standards and ensures the longer term safety benefit of the transmission system.

The Proposed Project will also reduce the number of incidents per HCA mile in the system.^{87,88}

Ability to achieve "as soon as practicable" safety objective based on completion or in-service year.

b) Hydrotest

If Line 1600 remains a transmission asset, the risks of long seam weld hook crack failures, exposure to time dependent threats (such as corrosion), and other material and design related factors that can interact with non-state-of-the-art vulnerabilities to create increased risk remain as well, and therefore do not support the long term safety benefit of transmission pipeline.

Additionally, there are no significant changes in incidents per HCA mile if Line 1600 is hydrotested and remains in transmission level service.

No improvements in real-time awareness of excavation damages.

Ability to achieve "as soon as practicable" safety objective based on completion or in-service year.

⁸⁷ See Section V.H, Pipeline Failure Analysis.

⁸⁸ See Section V.H, Pipeline Failure Analysis.

c) *Alternative Diameter Pipelines*

Table 12 - Safety Benefits of Alternative Diameter Pipelines

Project	Safety Benefits
Alternative Diameter Pipelines 10" through 42" (with a de-rated Line 1600 at distribution pressure)	<p>De-rating of Line 1600 to distribution service will improve overall system safety margin.</p> <p>The new transmission pipeline meets or exceeds modern design standards for longer term safety benefit of transmission pipeline safety.</p> <p>Fewer incidents per HCA mile due to the use of state-of-the-art materials and fabrication techniques.</p> <p>Increased capability for real-time awareness of excavation damages.</p> <p>Ability to achieve "as soon as practicable" safety objective based on completion or in-service year.</p>

d) *Other Alternative Projects*

Table 13 - Safety Benefits of Other Alternatives

Project	Safety Benefits
Replace Line 1600 In-Place with a New 16-inch Transmission Pipeline (with removal of Line 1600)	<p>The removal and replacement of Line 1600 will improve overall system safety margin.</p> <p>The new transmission pipeline meets or exceeds modern design standards for longer-term safety benefit of transmission pipeline safety.</p> <p>Fewer incidents per HCA mile due to the use of state-of-the-art materials and fabrication techniques.</p> <p>Increased capability for real-time awareness of excavation damages.</p> <p>Unable to achieve "as soon as practicable" safety objective based on completion or in-service year.</p>
<p>De-rated Line 1600 is assumed for each of the below options (but no transmission pipeline is part of the project):</p> <ul style="list-style-type: none"> • Otay Mesa Alternatives • LNG Storage • Alternate Energy – Grid Scale • Alternate Energy – Smaller Scale 	<p>De-rating of Line 1600 to distribution service will improve overall system safety margin.</p> <p>There is no new transmission pipeline to meet or exceed modern design standards for longer-term safety benefit of transmission pipeline safety.</p> <p>Fewer incidents per HCA mile due a de-rated distribution Line 1600.</p> <p>No improvements in real-time awareness of excavation damages.</p> <p>Low ability to achieve "as soon as practicable" safety objective based on completion or in-service year for the Otay Mesa, the</p>

Project	Safety Benefits
Alternative Pipelines – 36" (with a de-rated Line 1600) <ul style="list-style-type: none"> • Blythe to Santee Alt 1 • Blythe to Santee Alt 2 • Cactus City to SD • 2nd Pipeline Along Line 3010 • Offshore Route 	LNG and Alternate Energy Alternatives. De-rating of Line 1600 to distribution service will improve overall system safety margin. The new transmission pipeline meets or exceeds modern design standards for longer term safety benefit of transmission pipeline safety. Fewer incidents per HCA mile due to the use of state-of-the-art materials and fabrication techniques. Increased capability for real-time awareness of excavation damages (for the Offshore Alternative this applies to segments that are on land). Low ability to achieve "as soon as practicable" safety objective based on completion or in-service year varies with these projects, with the Offshore Pipeline scoring the worst at 1, and the Cross County lines and the 2 nd Pipeline Along 3010 scoring 2s.

B. Increased Reliability

System reliability refers to the ability to maintain safe, consistent, and continuous service to customers. System reliability is insured by maintaining safe operating pressures, which in turn result from having sufficient supply to meet demand and sufficient pipeline and storage capacity.

Using modern design standards and state-of-the-art materials and technology can increase the reliability of the physical gas transmission asset. Additionally, extra capacity as a result of a larger pipe diameter and the ability to operate safely at a higher pressure, can help improve the inherent reliability of a system during events when (a) projected daily demand exceeds forecast levels or (b) intra-day demands fluctuate in a manner that exceeds current operating parameters.

The Proposed Project and Alternatives were evaluated and scored in terms of their impact on increasing the current reliability/redundancy of the Applicants' gas transmission system. The three main distinctions in assessing the impacts to reliability/redundancy are as follows:

- No change to system reliability/redundancy;
- Increased system reliability/redundancy, and
- Decreased system reliability/redundancy.

1. Evaluating Benefits using the Benefits Evaluation Model

Please note, system capacity-related reliability benefits are implicit in the evaluation of increased reliability. These benefits are included in the “Increased System Capacity” section below in order to avoid double-counting the benefits.

Increased reliability benefits have been assessed by evaluating and scoring the reliability aspects of the Proposed Project and Alternatives using the benefits evaluation model described above.

The increased reliability benefits of the respective scoring criteria are described below.

- 2.1 Redundancy to natural gas transmission system:

Ability for a project to provide redundancy to the natural gas system should an unplanned event occur and place any of the two primary gas transmission assets (Line 3010 and Moreno Compression Station) out of service. The scale for scoring the projects against this benefit is:

1. Reduced Level of System Redundancy
2. Existing Level of System Redundancy
3. Increased System Redundancy
4. Complete Redundancy for Line 3010
5. Complete Redundancy for Line 3010 or Moreno Compressor Station

- 2.2 Curtailment impact to core gas customers: An outage scenario analysis⁸⁹ has been performed to model the impact of the Alternatives on overall system reliability. The analysis evaluates curtailments to gas customers in the case of an outage or reduction in pressure of Line 3010 under current conditions, given the hypothetical availability of the Proposed Project or Alternates. A range of scenarios were modeled across variabilities in gas supply from Otay Mesa and seasonal variations in gas demand. SDG&E Gas Rule 14⁹⁰ was used to segregate impact to the key customer classes in order of their curtailment priority. The scenario analysis methodology and approach is discussed in detail in Section H, Supporting Analysis.

The scale for scoring the Alternatives against this benefit is based on a normalization of the average curtailment measured across all scenarios modeled for each Project Alternative. The average percentage of gas curtailment identified under each Project Alternative was normalized from 0% to 100%, and the following scores (1 through 5) were applied accordingly.

1. Normalized curtailment impacts are above 81% of the maximum in all Project Alternatives⁹¹

⁸⁹ See Section H for a detailed description of the scenario analysis performed.

⁹⁰ See Prepared Direct Testimony of Gwen Marelli (March 21, 2016), page 2.

⁹¹ Scores are based on a normalization of the average curtailment impacts under each Project Alternate, compared to the maximum impact for all Project Alternates. The maximum curtailment impact to the

2. Normalized curtailment impacts are between 61% and 80% of the maximum in all Project Alternatives
 3. Normalized curtailment impacts are between 41% and 60% of the maximum in all Project Alternatives
 4. Normalized curtailment impacts are between 21% and 40% of the maximum in all Project Alternatives
 5. Normalized curtailment impacts are between 0% and 20% of the maximum in all Project Alternatives
- 2.3 Curtailment impact to electric generation (EG) gas customers: An outage scenario analysis⁹² has been performed to model the impact of the Alternatives on overall system reliability. The analysis evaluates curtailments to customers in the case of an outage or reduction in pressure of Line 3010 under current conditions, given the hypothetical availability of the Proposed Project or Alternatives. A range of scenarios were modeled across variabilities in gas supply from Otay Mesa and seasonal variations in gas demand. SDG&E Gas Rule 14⁹³ was used to segregate impact to the key customer classes in order of their curtailment priority. The scenario analysis methodology and approach is discussed in detail in Section H, Supporting Analysis.

The scale for scoring the Alternatives against this benefit is based on a normalization of the average curtailment measured across all scenarios modeled for each Project Alternative. The average percentage of gas curtailment identified under each Project Alternative was normalized from 0% to 100%, and the following scores (1 through 5) were applied accordingly.

1. Normalized curtailment impacts are above 81% of the maximum in all Project Alternatives⁹⁴
2. Normalized curtailment impacts are between 61% and 80% of the maximum in all Project Alternatives
3. Normalized curtailment impacts are between 41% and 60% of the maximum in all Project Alternatives
4. Normalized curtailment impacts are between 21% and 40% of the maximum in all Project Alternatives
5. Normalized curtailment impacts are between 0% and 20% of the maximum in all Project Alternatives

core gas customer class, as an average across the 48 unique scenarios modeled per Project Alternate, was a 20.8% curtailment of gas services.

⁹² See Section H for a detailed description of the scenario analysis performed.

⁹³ See Prepared Direct Testimony (March 21, 2016) of Gwen Marelli, page 2.

⁹⁴ Scores are based on a normalization of the average curtailment impacts under each Project Alternate, compared to the maximum impact for all Project Alternates. The maximum curtailment impact to the electric generation (EG) gas customer class, as an average across the 48 unique scenarios modeled per Project Alternative, was a 46.6% curtailment of gas services.

- 2.4 Curtailment impact to non-core, non-EG gas customers: An outage scenario analysis⁹⁵ has been performed to model the impact of the Alternatives on overall system reliability. The analysis evaluates gas curtailments to customers in the case of an outage or reduction in pressure of Line 3010 under current conditions, given the hypothetical availability of the Proposed Project or Alternatives. A range of scenarios were modeled across variabilities in gas supply from Otay Mesa and seasonal variations in gas demand. SDG&E Gas Rule 14⁹⁶ was used to segregate impact to the key customer classes in order of their curtailment priority. The scenario analysis methodology and approach is discussed in detail in Section H, Supporting Analysis.

The scale for scoring the Alternatives against this benefit is based on a normalization of the average curtailment measured across all scenarios modeled for each Project Alternative. The average percentage of gas curtailment identified under each Project Alternative was normalized from 0 to 100%, and the following scores (1 through 5) were applied accordingly.

1. Normalized curtailment impacts are above 81% of the maximum in all Project Alternatives⁹⁷
 2. Normalized curtailment impacts are between 61% and 80% of the maximum in all Project Alternatives
 3. Normalized curtailment impacts are between 41% and 60% of the maximum in all Project Alternatives
 4. Normalized curtailment impacts are between 21% and 40% of the maximum in all Project Alternatives
 5. Normalized curtailment impacts are between 0% and 20% of the maximum in all Project Alternatives
- 2.5 Curtailment impact to electric customers: An outage scenario analysis⁹⁸ has been performed to model the impact of the Alternatives on overall system reliability. The analysis evaluates electric curtailments to customers in the case of an outage or reduction in pressure of Line 3010 under current conditions, given the hypothetical availability of the Proposed Project or Alternatives. A range of scenarios were modeled across variabilities in gas supply from Otay Mesa and seasonal variations in gas and electric demand. SDG&E Gas Rule 14⁹⁹ was used to segregate impact to the key customer classes in order of their curtailment priority. The scenario analysis methodology and approach is discussed in detail in Section H, Supporting Analyses.

⁹⁵ See Section H for a detailed description of the scenario analysis performed.

⁹⁶ See Prepared Direct Testimony of Gwen Marelli, (March 21, 2016), page 2.

⁹⁷ Scores are based on a normalization of the average curtailment impacts under each Project Alternate, compared to the maximum impact for all Project Alternates. The maximum curtailment impact to the non-core, non-EG gas customer class, as an average across the 48 unique scenarios modeled per Project Alternative, was a 63.2% curtailment of gas services.

⁹⁸ See Section H for a detailed description of the scenario analysis performed.

⁹⁹ See Prepared Direct Testimony of Gwen Marelli, (March 21, 2016), page 2.

The scale for scoring the Alternatives against this benefit is based on a normalization of the average curtailment measured across all scenarios modeled for each Project Alternative. The average percentage of curtailment required under each Project Alternative was normalized from 0 to 100%, and the following scores (1 through 5) were applied accordingly.

1. Normalized curtailment impacts are above 81% of the maximum in all Project Alternatives¹⁰⁰
2. Normalized curtailment impacts are between 61% and 80% of the maximum in all Project Alternatives
3. Normalized curtailment impacts are between 41% and 60% of the maximum in all Project Alternatives
4. Normalized curtailment impacts are between 21% and 40% of the maximum in all Project Alternatives
5. Normalized curtailment impacts are between 0% and 20% of the maximum in all Project Alternatives

The results of the increased reliability benefits scoring are shown in Table below.

Table 14 - Increased Reliability Benefits Score

Reliability Benefits	Proposed Project - 36"	Hydrotest	Alt Diameter - 10"	Alt Diameter - 12"	Alt Diameter - 16"	Alt Diameter - 20"	Alt Diameter - 24"	Alt Diameter - 30"	Alt Diameter - 42"	Replace Line 1600 In-Place	Otay Mesa Alternatives	LNG Storage	Alt Energy - Grid Scale	Alt Energy - Smaller Scale	Offshore Route	Blythe to Santee Alt 1	Blythe to Santee Alt 2	Cactus City to SD	3010
2.1 Redundancy to natural gas transmission system	5	2	1	1	2	3	3	4	5	2	3	3	1	1	5	5	5	5	5
2.2 Curtailment impact to core gas customers	5	1	3	3	5	5	5	5	5	5	1	1	1	1	5	5	5	5	5
2.3 Curtailment impact to electric generation (EG) gas customers	5	1	1	1	3	4	5	5	5	3	1	1	1	1	5	5	5	5	5

¹⁰⁰ Scores are based on a normalization of the average curtailment impacts under each Project Alternative, compared to the maximum impact for all Project Alternatives. The maximum curtailment impact to the electric customer class, as an average across the 48 unique scenarios modeled per Project Alternative, was a 4.2% curtailment of electric services.

Reliability Benefits	Proposed Project - 36"	Hydrotest	Alt Diameter - 10"	Alt Diameter - 12"	Alt Diameter - 16"	Alt Diameter - 20"	Alt Diameter - 24"	Alt Diameter - 30"	Alt Diameter - 42"	Replace Line 1600 In-Place	Otay Mesa Alternatives	LNG Storage	Alt Energy – Grid Scale	Alt Energy – Smaller Scale	Offshore Route	Blythe to Santee Alt 1	Blythe to Santee Alt 2	Cactus City to SD via opening existing Line 3010	
2.4 Curtailment impact to non-core, non-EG gas customers	5	1	1	1	2	3	4	5	5	2	1	1	1	1	5	5	5	5	5
2.5 Curtailment impact to electric customers	5	1	1	1	3	5	5	5	5	3	1	5	5	5	5	5	5	5	5
Average Score	5	1	1	1	3	4	4	5	5	3	1	2	2	2	5	5	5	5	5

(1 is the lowest (worst) score and 5 is the highest (best) score)

Results of the increased reliability benefits evaluation are discussed below.

a) Proposed Project

The Proposed Project will provide significant benefits in system reliability and resiliency.

The Proposed Project will provide complete redundancy to Line 3010 or Moreno Compressor Station in the event of a loss of either facility.

Based on a detailed outage and curtailment scenario analysis, the Proposed Project is expected to be amongst the projects that are estimated to result in the least amount of potential curtailment of customers across curtailment priorities defined by SDG&E Gas Rule 14.¹⁰¹

b) Hydrotest

Hydrotesting Line 1600 does not provide any significant additional benefits to system reliability to what is currently available to the gas system.

Based on a detailed outage and curtailment scenario analysis, the Proposed Project is expected to be amongst the projects that are estimated to result in the greatest amount of potential curtailment of customers across curtailment priorities defined by SDG&E Gas Rule 14.

¹⁰¹ See Prepared Direct Testimony of Gwen Marelli (March 21, 2016), page 2.

c) *Alternative Diameter Pipelines*

Table 15 - Reliability Benefits of Alternative Diameter Pipelines and the Replace Line 1600 In-Place with a New 16-inch Transmission Pipeline

Project	Reliability/Redundancy Benefits
Alternative diameter 10" through 12" (with a de-rated Line 1600 at distribution pressure)	Reduced level of system redundancy. See scoring Table for average curtailment percentages as defined by SDG&E's customer groups by order of service interruption priority.
Alternative diameter 16" (with a de-rated Line 1600 at distribution pressure) and the Replace Line 1600 In-Place with a New 16-inch Transmission Pipeline Alternative (no Line 1600)	Existing level of system redundancy. See scoring Table for average curtailment percentages as defined by SDG&E's customer groups by order of service interruption priority.
Alternative diameter pipelines 20" and 24" (with a de-rated Line 1600 at distribution pressure)	Increased System Redundancy. See scoring Table for average curtailment percentages as defined by SDG&E's customer groups by order of service interruption priority.
Alternative diameter pipeline 30" (with a de-rated Line 1600 at distribution pressure)	Complete Redundancy for Line 3010. See scoring Table for average curtailment percentages as defined by SDG&E's customer groups by order of service interruption priority.
Alternative diameter pipeline 42" (with a de-rated Line 1600 at distribution pressure)	Complete Redundancy for Line 3010 or Moreno Compressor Station. See scoring Table for average curtailment percentages as defined by SDG&E's customer groups by order of service interruption priority.

d) *Other Alternatives*

Table 16 - Reliability Benefits of Other Alternatives

Project	Reliability/Resiliency Benefits
Otay Mesa Alternatives (with a de-rated Line 1600 at distribution pressure)	Increased System Redundancy. See scoring Table for average curtailment percentages as defined by SDG&E's customer groups by order of service interruption priority.
Alternative pipelines: <ul style="list-style-type: none"> • Blythe-Santee Alt 1 • Blythe-Santee Alt 2 • Cactus City to SD • 2nd Pipeline Along Line 3010 • Offshore Route (with a de-rated Line 1600 at distribution pressure)	Complete Redundancy for Line 3010 or Moreno Compressor Station. See scoring Table for average curtailment percentages as defined by SDG&E's customer groups by order of service interruption priority.
<ul style="list-style-type: none"> • LNG Storage • Alternate Energy – Grid 	Increased System Redundancy for the LNG Storage option with Reduced System Redundancy for the Alternate Energy Alternatives.

Project	Reliability/Resiliency Benefits
Scale • Alternate Energy – Smaller Scale (Includes a de-rated Line 1600 at distribution pressure for all three above)	See scoring Table for average curtailment percentages as defined by SDG&E's customer groups by order of service interruption priority.

C. Increased Operational Flexibility

Increased operational flexibility is defined as the ability of the system to respond to operational (supply or demand) uncertainty in a manner that sustains normal operations with minimal impact to customers. Incremental pipeline capacity can provide flexibility to operate the Applicants' system by expanding the options available to handle stress conditions on a daily and hourly basis that put system integrity and customer service at risk.

Operational flexibility¹⁰² can be improved through the following means:

1. Increased capacity to handle intra-day or peak demand fluctuations; and
2. The ability to control day-to-day operations of the system without reliance on external systems or entities (complete asset control)

2. Evaluating Benefits using the Benefits Evaluation Model

Increased operational flexibility benefits have been assessed by evaluating and scoring the operational flexibility aspects of the Proposed Project and Alternatives using the benefits evaluation model described above.

The increased operational flexibility benefits of the respective scoring criteria are described below.

- 3.1 Meeting current and future natural gas peak demand: Ability to meet increasingly volatile daily and hourly peak demand due to: increased reliance on gas-fired EG to supplement closure of the San Onofre Nuclear Generating Station (SONGS) and dependence on intermittent renewable power; need to meet future peak demand due to increases in the use of renewable energy sources (up to 50% renewable generation by 2030); forecasted growth in the population of the San Diego greater metropolitan area (up by 1 million people by 2035).

The scale for scoring the projects against this benefit is:

1. No ability to meet current peak or future peak demand.
2. Decrease in the ability to meet current peak or future peak demand.
3. No increase in the ability to meet current peak or future peak demand.
4. Improved ability to meet current peak demand, but unlikely to meet future forecast peak demand.

¹⁰² See Prepared Direct Testimony of Davis Bisi (March 21, 2016).

5. Ability to meet and/or exceed the demands of current and all predicted future peak demand through 2035.

- 3.2 Utility Operational Control of Asset: Ability to control the physical asset by SDG&E.

The scale for scoring the projects against this benefit is binary:

1. Utility does not have operational control over asset
2. N/A
3. N/A
4. N/A
5. Utility has operational control over asset

The results of the increased operational flexibility scoring are shown in Table 17 below.

Table 17 - Increased Operational Flexibility Benefits Score

Operational Flexibility Benefits	Proposed Project - 36"	Hydrotest	Alt Diameter - 10"	Alt Diameter - 12"	Alt Diameter - 16"	Alt Diameter - 20"	Alt Diameter - 24"	Alt Diameter - 30"	Alt Diameter - 42"	Replace Line 1600 In-Place	Otay Mesa Alternatives	Alt Energy - Grid Scale	Alt Energy - Smaller Scale	Offshore Route	Blythe to Santee Alt 1	Blythe to Santee Alt 2	Cactus City to SD	2nd Pipeline Along Line 3010
3.1 Meeting current and future natural gas peak demand	5	3	2	2	3	4	4	4	5	3	5	3	3	5	5	5	5	5
3.2 Utility Operational Control of Asset	5	5	5	5	5	5	5	5	5	5	1	5	5	5	5	5	5	5
Average Score	5	4	4	4	4	5	5	5	5	4	3	4	4	5	5	5	5	5

(1 is the lowest (worst) score and 5 is the highest (best) score)

Results of the increased operational flexibility benefits evaluation are discussed below.

a) Proposed Project

The Proposed Project will replace an existing 16-inch diameter pipeline with a 36-inch diameter pipeline, which will increase the transmission capacity of the gas system in San Diego County by approximately 200 MMcfd. This increase in capacity will enhance the Applicants' ability to reliably manage the fluctuating peak demand of core and noncore customers, including electric generation (EG) and clean transportation. The new line would provide incremental system capacity and increase operational flexibility by expanding the options available to handle stress conditions on a daily and hourly basis that put customer service at risk.

The Proposed Project is able to meet and/or exceed the demands of current and all predicted future peak demand through 2035.

Under the Proposed Project, the Applicants retain operational control of the asset.

b) *Hydrotest*

There will be no increase in system capacity after the hydrotesting on Line 1600 is complete, and a potential short-term decrease in system capacity during the hydrotesting of Line 1600. In order to backfill the loss of supply from Line 1600 (~100 MMcfd), natural gas would have to be imported from Otay Mesa.

The lack of any increase in system capacity results in no change to the current operational flexibility and therefore no increase in the ability to meet current peak or future peak demand. Under this option the Applicants retain operational control of the asset.

c) *Alternative Diameter Pipelines*

Table 18 - Operational Flexibility Benefits of Alternative Diameter Pipelines

Project	Operational Flexibility Benefits
Alternative diameter 10" through 12" (with a de-rated Line 1600 at distribution pressure)	Decrease in the ability to meet current peak or future peak demand. Under this option the Applicants retain operational control of the asset.
Alternative diameter 16" (with a de-rated Line 1600 at distribution pressure)	No increase in the ability to meet current peak or future peak demand. Under this option the Applicants retain operational control of the asset.
Alternative diameter 20" through 30" (with a de-rated Line 1600 at distribution pressure)	Improved ability to meet current peak demand, but unlikely to meet future forecast peak demand through 2035. Under this option the Applicants retain operational control of the asset.
Alternative diameter 42" (with a de-rated Line 1600 at distribution pressure)	Ability to meet and/or exceed the demands of current and all predicted future peak demand through 2035. Under this option the Applicants retain operational control of the asset.

d) *Other Alternative Projects*

Table 19 - Operational Flexibility Benefits of Other Alternatives

Project	Operational Flexibility Benefits
Replace Line 1600 In-Place with a New 16-inch Transmission Pipeline Replacement (no Line 1600)	No increase in the ability to meet current peak or future peak demand. Under this option the Applicants retain operational control of the asset.

Project	Operational Flexibility Benefits
Otay Mesa Alternatives (with a de-rated Line 1600 at distribution pressure)	Ability to meet and/or exceed the demands of current and all predicted future peak demand through 2035. Under this option the Applicants do not retain operational control of the asset as the lines are owned and operated by third-party entities.
Alternative pipelines: <ul style="list-style-type: none"> • Blythe to Santee Alt 1 • Blythe to Santee Alt 2 • Cactus City to SD • 2nd Pipeline Along Line 3010 • Offshore Route (with a de-rated Line 1600 at distribution pressure for all cases above)	Ability to meet and/or exceed the demands of current and all predicted future peak demand through 2035. Under this option the Applicants retain operational control of the asset.
<ul style="list-style-type: none"> • LNG Storage • Alternative Energy (with a de-rated Line 1600 at distribution pressure for both cases above) 	No increase in the ability to meet current peak or future peak demand. Under this option the Applicants retain operational control of the asset.

D. Increased System Capacity

The Proposed Project and Alternatives were evaluated in terms of increased system capacity. The three elements of operational flexibility are:

- No change to system capacity
- Increased system capacity
- Decreased system capacity

1. Evaluating Benefits using the Benefits Evaluation Model

Increased system capacity benefits have been assessed by evaluating and scoring the capacity aspects of the Proposed Project and Alternatives using the benefits evaluation model described above.

The increased system capacity benefits of the respective scoring criteria are described below.

- 4.1 Impact to system capacity:¹⁰³ Ability of the project option to increase current system capacity. This impact is based on the diameter of the pipe and other critical design features. Increased system capacity can also help improve the system’s ability to meet additional load demands if the need arises. During intra-day, peak or extreme weather demand fluctuations, extra capacity can help bridge the gap between design and higher load scenarios.

The scale for scoring the projects against this benefit is:

1. Reduces system capacity by more than 20%
2. Reduces system capacity by up to 20%
3. No change to system capacity
4. Increases system capacity by up to 20%
5. Increases system capacity by more than 20%

The results of the increased capacity scoring are shown in Table 20 below.

Table 20 - Increased System Capacity Benefits Score

System Capacity Benefits	Proposed Project - 36"	Hydrotest	Alt Diameter - 10"	Alt Diameter - 12"	Alt Diameter - 16"	Alt Diameter - 20"	Alt Diameter - 24"	Alt Diameter - 30"	Alt Diameter - 42"	Replace Line 1600 In-Place	Otay Mesa Alternatives	LNG Storage	Alt Energy – Grid Scale	Alt Energy – Smaller Scale	Offshore Route	Blythe to Santee Alt 1	Blythe to Santee Alt 2	Cactus City to SD	2nd Pipeline Along Line 3010
4.1 Impact to system capacity	5	3	2	2	3	4	4	5	5	3	5	3	3	3	5	5	5	5	5

(1 is the lowest (worst) score and 5 is the highest (best) score)

Results of the increased capacity benefits evaluation are discussed below.

a) Proposed Project

The Proposed Project will increase overall gas system capacity. This increase in capacity will improve the ability to manage intra-day and peak load. To this end, the installation of a new 36” pipeline¹⁰⁴ is projected to add an additional 200 MMcfd (30%)¹⁰⁵ of system capacity.

¹⁰³ See Prepared Direct Testimony of David Bisi (March 21, 2016).

¹⁰⁴ In this scenario, Line 1600 will be consequentially de-rated to distribution operating pressures and no longer be considered a transmission asset.

¹⁰⁵ Current system capacity = 630 MMcfd in the winter operating season.

b) Hydrotest

A hydrotested Line 1600 will not add any incremental capacity to the system and will therefore not provide any of the benefits applicable to the Proposed Project above or the Alternatives.

c) Alternate Diameter Pipelines

Table 21 - System Capacity Benefits of Alternative Diameter Pipelines

Project	System Capacity Benefits
Alternate diameter 10" through 12" (with a de-rated Line 1600 at distribution pressure)	Reduces system capacity by up to 20%.
Alternate diameter 16" (with a de-rated Line 1600 at distribution pressure)	No change to system capacity.
Alternate diameter 20" and 24" (with a de-rated Line 1600 at distribution pressure)	Increases system capacity by up to 20%.
Alternate diameter 30" through 42"	Increases system capacity by more than 20%.

d) Other Alternatives

Table 22 - System Capacity Benefits of Other Alternatives

Project	System Capacity Benefits
Replace Line 1600 In-Place with a New 16-inch Transmission Pipeline Alternative (with no Line 1600)	No change to system capacity.
Otay Mesa Alternatives (with a de-rated Line 1600 at distribution pressure)	Increases system capacity by more than 20%.
Alternative pipelines: <ul style="list-style-type: none"> • Blythe to Santee Alt 1 • Blythe to Santee Alt 2 • Cactus City to SD • 2nd Pipeline Along Line 3010 • Offshore Route (with a de-rated Line 1600 at distribution pressure for cases above)	Increases system capacity by more than 20%.
<ul style="list-style-type: none"> • LNG Storage • Alternate Energy – Grid Scale • Alternate Energy – Smaller Scale (with a de-rated Line 1600 at distribution pressure for cases above)	No change to system capacity.

E. Increased Gas Storage through Line Pack

All additional pipelines on the SDG&E system incrementally increase the system line pack to greater or lesser extents. Line pack simply provides an operational buffer to changes in customer demand, and any incremental benefit that line pack provides is implicitly captured by the potential increases in system capacity provided in Section D above.

F. Reductions in Gas Price for Ratepayers

Reduction in gas prices to ratepayers is not expected for any of the project options and under two projects there is a potential for increases to ratepayer gas prices as discussed below.

- 6.1 Reduction in gas prices to ratepayers: Reduction in gas prices to ratepayers is not expected for any of the options being discussed presently and for two of the Alternatives (Otay Mesa and LNG Storage) there is a potential for an increase in gas prices to ratepayers owing to transportation costs to fill LNG tanks and the incremental transportation costs for supply from Otay Mesa.

This benefit was scored as follows:¹⁰⁶

1. Increase in gas prices to ratepayers expected
2. N/A
3. No change in gas prices to ratepayers expected
4. N/A
5. Potential reduction in gas prices to ratepayers

Table 23 - Reduction in Gas Prices to Ratepayers Benefit Scores

Gas Prices to Ratepayers	Proposed Project - 36"	Hydrotest	Alt Diameter - 10"	Alt Diameter - 12"	Alt Diameter - 16"	Alt Diameter - 20"	Alt Diameter - 24"	Alt Diameter - 30"	Alt Diameter - 42"	Replace Line 1600 In-Place	Otay Mesa Alternatives	LNG Storage	Alt Energy – Grid Scale	Alt Energy – Smaller Scale	Offshore Route	Blythe to Santee Alt 1	Blythe to Santee Alt 2	Cactus City to SD	2nd Pipeline Along Line 3010
6.1 Reduction in gas prices to ratepayers	3	3	3	3	3	3	3	3	3	3	1	1	3	3	3	3	3	3	3

(1 is the lowest (worst) score and 5 is the highest (best) score)

¹⁰⁶ See Prepared Direct Testimony of Gwen Marelli (March 21, 2016) for further details.

G. Other Benefits

Other benefits assessed in this study include environmental and other external or societal impacts as a result of any of the project options. The primary topics evaluate emissions reductions, air quality improvements, and the environmental and jurisdictional zoning impacts of route or site selection. Of these, net emissions reductions as a benefit is scored below.

1. Evaluating Benefits using the Benefits Evaluation Model

Other benefits have been assessed by evaluating and scoring the different aspects of benefits generated by the Proposed Project and Alternatives using the benefits evaluation model described above.

The other benefits and their respective scoring criteria are described below.

- 7.1 Emissions reductions due to reduced operating hours at Moreno Compressor Station:¹⁰⁷
The ability to manage excess capacity or load demand with minimal compression can lead to significant reductions in emissions at Moreno Compressor Station and a consequential reduction in combustion emissions of GHGs such as carbon dioxide, as well as a reduction in emissions of other pollutants such as nitrous oxides.

The scale for scoring the projects against this benefit is:

1. Potential increase in net emissions at Moreno Compressor Station
2. N/A
3. 0% reduction in net emissions at Moreno Compressor Station
4. 0% to 75% reduction in net emissions at Moreno Compressor Station
5. 75% or greater reduction in net emissions at Moreno Compressor Station

¹⁰⁷ Based on the figures provided within the Moreno Compressor Station – PSRP Report. *See* Prepared Direct Testimony of Neil Navin (March 21, 2016), Attachment A – PSRP Report at Attachment XII.

2. Results of Analyses

Table 24 - Summary of Other Benefits Scores

Other benefits	Proposed Project - 36"	Hydrotest	Alt Diameter - 10"	Alt Diameter - 12"	Alt Diameter - 16"	Alt Diameter - 20"	Alt Diameter - 24"	Alt Diameter - 30"	Alt Diameter - 42"	Replace Line 1600 In-Place	Otay Mesa Alternatives	LNG Storage	Alt Energy – Grid Scale	Alt Energy – Smaller Scale	Offshore Route	Blythe to Santee Alt 1	Blythe to Santee Alt 2	Cactus City to SD	2nd Pipeline Along Line 3010
7.1 Emissions reductions due to reduced operating hours at compressor stations	5	3	1	1	3	4	4	4	5	3	5	5	1	1	5	5	5	5	5

(1 is the lowest (worst) score and 5 is the highest (best) score)

Results of the other benefits evaluation are discussed below.

a) *Proposed Project*

The Proposed Project will reduce net emissions at the Moreno Compressor Station by 75% or greater.¹⁰⁸ The reduced operating hours at Moreno Compressor Station will result in a net reduction in emissions of GHGs such as carbon dioxide and methane, as well as a reduction in emissions of other pollutants such as nitrous oxides.

b) *Hydrotest*

A hydrotested Line 1600 is not expected to change the current level of emissions at Moreno Compressor Station as a result of no incremental redundancy or capacity offered by this option.

¹⁰⁸ It is assumed that the Moreno Compressor Station would only require reduced operations to function minimally as a safeguard during extreme or unplanned capacity interruption scenarios. The Moreno Compressor Station PSRP Report uses a high case of reduced operations by 95%. See Prepared Direct Testimony of Neil Navin (March 21, 2016), Attachment A – PSRP Report at Attachment XII.

c) *Alternative Diameter Pipelines*

Table 25 - Other Benefits of Alternative Diameter Pipelines

Project	Net Emissions at Moreno Compressor Station
Alternative diameter 10" through 12" (with a de-rated Line 1600 at distribution pressure)	Potential increase in net emissions at Moreno Compressor Station.
Alternative diameter 16" (with a de-rated Line 1600 at distribution pressure)	0% reduction in net emissions at Moreno Compressor Station.
Alternative diameter 20" through 30" (with a de-rated Line 1600 at distribution pressure)	0% to 75% reduction in net emissions at Moreno Compressor Station.
Alternative diameter 42" (with a de-rated Line 1600 at distribution pressure)	75% or greater reduction in net emissions at Moreno Compressor Station.

d) *Other Alternatives*

Table 26 - Other Benefits of Other Alternatives

Project	Net Emissions at Moreno Compressor Station
Replace Line 1600 In-Place with a New 16-ince Transmission Pipeline Alternative (no Line 1600)	0% reduction in net emissions at Moreno Compressor Station.
Otay Mesa Alternatives (with a de-rated Line 1600 at distribution pressure)	75% or greater reduction in net emissions at Moreno Compressor Station.
Alternative pipelines ¹⁰⁹ : <ul style="list-style-type: none"> • Blythe to Santee Alt 1 • Blythe to Santee Alt 2 • Cactus City to SD • 2nd Pipeline Along Line 3010 • Offshore Route (with a de-rated Line 1600 at distribution pressure for cases above)	75% or greater reduction in net emissions at Moreno Compressor Station.
<ul style="list-style-type: none"> • LNG Storage • Alternate Energy (with a de-rated Line 1600 at distribution pressure for cases above)	75% or greater reduction in net emissions at Moreno Compressor Station for the LNG Storage Alternative. Potential increase in net emissions at Moreno Compressor Station for the Alternate Energy solutions owing to the de-rating of Line 1600 and no addition of new transmission pipeline under this Alternative.

¹⁰⁹ The Cross County lines (J1, J2 and J3) are not directly connected to the Moreno Compressor Station, but are assumed to provide similar benefits with regards to avoided costs as the Proposed Project, due to the additional capacity inherent to a 36" pipeline. Due to the length of these lines, it is possible that additional compression may be needed to balance the gas flow in the system. However, at this stage in the design, it is not known whether this additional compression will be required.

H. Supporting Analysis

This section describes the approach and methodology used to estimate the impact of the various project options on overall system reliability introduced in Section VI.B above.

1. Pipeline Failure Analysis

Davies Consulting, LLC, with input and data from the Applicants, analyzed the potential failure rates for the existing Line 1600, the Proposed Project, and two proposed Alternatives: the 30" diameter pipeline (Alternative C5) and the 42" diameter pipeline (Alternative C6).

The Applicants' method for comparing alternatives is by calculating the likelihood of an incident in an HCA mile as represented by the risk score in the equation below:

$$\text{Risk} = \text{Likelihood of Incident} \times \text{HCA Miles}$$

Where in accordance with Title 49 of the Code of Federal Regulations (49 CFR) Part 191.3, an "incident" is currently defined as any of the following events:

1. An event that involves a release of gas from a pipeline and
 - a) A death, or personal injury necessitating in-patient hospitalization; or
 - b) Estimated property damage, including cost of gas lost, of the operator or others, or both, of \$50,000 or more.
2. An event that is significant, in the judgment of the operator, even though it did not meet the criteria of paragraph.

a) *Likelihood of Pipeline Incidents*

To calculate the likelihood of pipeline incidents, the Applicants used historical pipeline incident and mileage data from PHMSA.¹¹⁰ The Applicants downloaded PHMSA's Gas Transmission and Gathering Incident Data from 1970-1984, 1984-2001, 2002-2009, and 2010-present (filtering 2010 to present to only show incidents up to 2014, as all 2015 incidents may not yet be included). For each data set, the Applicants filtered the data to exclude gathering pipelines, offshore incidents,¹¹¹ and incidents attributable to a compressor or compressor station, all of which were not relevant to this analysis.

To analyze the risk of an incident on a pipeline like Line 1600, the Applicants filtered the data to remove any pipelines constructed after 1960 or having a diameter other than 16 inches. The year

¹¹⁰ <http://www.phmsa.dot.gov/pipeline/library/data-stats/raw-data>

¹¹¹ Prior to 1984, the incident data did not include a flag by which to identify offshore versus onshore incidents so the filtering of offshore incidents was only applicable to 1984 and beyond.

1960 was chosen based on “Integrity Characteristics of Vintage Pipelines,” which identifies 1960 as approximately the cutoff date for “historic” versus “modern” pipeline manufacturing.¹¹² More specifically, the report indicates that between 1950 and 1970, modern manufacturing techniques for pipelines were introduced, and “historic” practices were phased out. The report indicates that the use of flash welding, which was used in constructing Line 1600, peaked in 1950 and was phased out by 1970. To calculate the number of incidents on historic pipelines similar to Line 1600, the Applicants used all of the remaining unfiltered records for each dataset. The total remaining incidents, for the period 1970 to 2014, on onshore transmission pipelines constructed prior to 1960, is 125.

The PHMSA annual mileage report provides the total miles of pipeline by decade of installation and, separately, by diameter. The incident rate for pre-1960 16-inch pipelines was determined using the PHMSA reported information.¹¹³ Eight percent of all installed pipe has a diameter of 16 inches. The Applicants multiplied the total number of pre-1960 vintage pipeline miles by 8% to determine the number of mile-years needed to calculate the incident rate. The incident rate was then calculated to be **35.4E-05, or about 0.354 per thousand mile-years.**

To determine the incident rate on a new/modern pipeline, similar to the Proposed Project, the Applicants relied on a similar methodology to that described above. The team selected an incident and installation mileage date range of 2000 to 2014. Applying this filter to 36-inch pipe resulted in the identification of one incident. In order to increase the sample size to provide a more meaningful result, the Applicants expanded the diameter filter to include pipelines between 30-inches and 42-inches. The PHMSA incident data, reported 6 incidents that occurred on pipelines with diameters between 30-inch to 42-inch installed between 2000 and 2014. It should be noted, however, that one of these incidents was attributable to stripped threads, and the Proposed Project will not be subject to such failures by design. Thus, the comparable number of incidents of pipelines similar to the Proposed Project would be 5.

To determine the mile-years needed in the calculation of incident rate, the team collected the miles of 30-inch to 42-inch pipeline constructed between 2000 and 2009 and the miles constructed between 2010 and 2014. The share of 30-inch to 42-inch pipeline in the system is approximately 25%. Thus, the incident rate for onshore transmission 30-inch to 42-inch pipelines installed between 2000 and 2014 is **6.4 E-05, or 0.064 per thousand mile-years.**

Between the historic period in which Line 1600 was installed and the current modern period in which the proposed pipeline (Line 3602) will be installed, many improvements have been made in terms of testing, maintenance, and operations. These improvements, in addition to the new material and design, may have further reduced the likelihood of an incident on newly installed pipelines. Thus, to be conservative, it may be better to compare the incident rate over the same time period of 2000 to 2014.

¹¹² Clark, E. B., B. N. Leis, and R. J. Eiber. “Integrity Characteristics of Vintage Pipelines.” 2010. P7.

¹¹³ The PHMSA definition of incident was used for the Applicants’ analysis.

Once again, when identifying onshore transmission line incidents during the period between 2000 and 2014, there was insufficient data to use pipelines exactly 16 inches in diameter. Thus, the Applicants expanded the consideration to include pipelines with diameters between 12 and 20 inches. The share of pipelines between 12 and 20 inches is approximately 28%. Thus, the incident rate for onshore transmission 12-inch to 20-inch pipelines installed between 2000 and 2014 is **9.15E-05, or 0.0915 per thousand mile-years**.

As illustrated in Table 27, pipelines similar to Line 1600 have higher incident rates as compared to lines similar to the Proposed Project (Line 3602).

Table 27 - Incident Rates

Line	Incident Period	Incident Rate per Thousand Mile Years
Line similar to 1600	1970 – 2014	0.354
Line similar to 1600	2000 – 2014	0.0915
Line similar to 3602 ¹¹⁴	2000 - 2014	0.064

b) Consideration of Cause-Specific Incidents

In addition to a decrease in the probability of an incident based on year of installation, the Proposed Project will also have a reduced likelihood of an incident compared to Line 1600 because it will be less susceptible to corrosion, will be installed with features that reduce the likelihood of third-party damage (e.g., mesh and intrusion detection monitoring), and thicker pipe wall necessarily implies much greater puncture resistance.¹¹⁵ The European Gas Pipeline Incident Data Group (EGIG)¹¹⁶ has collected data on 1,060 incidents on over 100,000 kilometers of natural gas pipeline. This data shows that “[f]or pipelines having a wall thickness of 15 millimeters or thicker, there have been no corrosion or third-party damage incidents reported.”¹¹⁷ Because the Proposed Project will have a minimum thickness of 0.625 inches (15.875 millimeter), the EGIG data suggests that the likelihood of corrosion and third party damage is negligible.¹¹⁸

¹¹⁴ The Proposed Project, because of its modern construction and safety practices, is likely to have a lower incident rate.

¹¹⁵ For a detailed list of additional safety-enhancing features of the Proposed Project, see Prepared Direct Testimony of Deanna Haines (March 21, 2016).

¹¹⁶ Horalek V., Bolt R, EGIG Pipeline Incident Database: Safety Performances Determines the Acceptability of Cross Country Gas Transmission Systems

¹¹⁷ Horalek V., Bolt R, EGIG Pipeline Incident Database: Safety Performances Determines the Acceptability of Cross Country Gas Transmission Systems

¹¹⁸ See Prepared Direct Testimony of Neil Navin (March 21, 2016), for the physical specifications of the Proposed Project.

As shown in Figure 4 below, nationwide 39% (and in California, 43%) of all incidents are a result of corrosion or third party damage.¹¹⁹ According to EGIG data, no incidents caused by corrosion or third parties have been reported on a pipeline with a wall thickness greater than 15 millimeters. Assuming that this data is accurate for future incidents in California, the incident rate for pipelines with a wall thickness greater than 15 millimeters should be 43% lower.

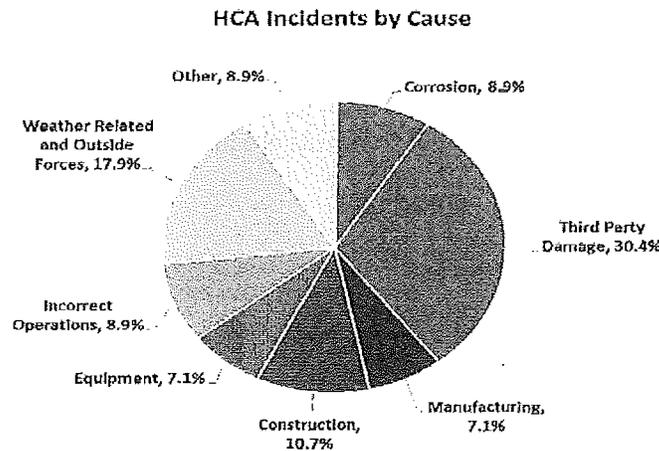


Figure 4 - HCA Incidents by Cause

A 43% reduction, however, is larger than the difference in incident rates calculated for Lines 1600 and the Proposed Project from the PHMSA database. The calculated incident rates of 9.15E-05 for thinner pipelines like Line 1600 and 6.4 E-05 for thicker pipelines like the Proposed Project results in a decrease of 29%. The Applicants' analysis uses the more conservative 29% decrease rate.

c) *Additional Considerations*

There are several other factors that support the finding that the Proposed Project will have a reduced likelihood of incident than a pipeline like Line 1600. They are presented here for consideration, but are not used in the risk score calculation as they are not quantifiable due to data limitations.

Modern steels have greatly improved fracture toughness which also diminishes the likelihood of puncture and the tendency for burst.¹²⁰ In other words, modern pipes are much more likely to leak than to rupture.

¹¹⁹ Information compiled at the federal level by PHMSA and published at location <http://primis.phmsa.dot.gov/gasimp/performanceasures.htm>

¹²⁰ See B.N. Leis, O.C. Chang, T.A. Bubenik. "Leak versus Rupture Considerations for Steel Low-Stress Pipelines, GRI Report-00/0232." 2001. P11. See B.N. Leis and X.K. Zhu. "Leak vs. Rupture Boundary for Pipes with a Focus on Low Toughness and/or Ductility, PRCI Report PR-003-063526." 2012. A-3, A-8.

Modern manufacturing techniques may also further reduce the likelihood of an incident. The EGIG report finds that “the observed failure frequencies for pipelines constructed before 1964 are significantly higher than pipelines constructed after 1964.”¹²¹ According to Figure 4, better manufacturing of the new pipe would potentially eliminate the likelihood by an additional 7.1% of incidents, as the incidents attributable to non-state-of-the-art manufacturing and construction would be eliminated.

In addition, A.O. Smith, the company that manufactured the pipe for Line 1600, was the manufacturer for pipe involved in 415 incidents due to manufacturing, according to the PHMSA incident records. Most of the causes of these incidents are attributed to either corrosion or to manufacturing defects.

d) HCA Miles of Proposed Alternatives

The impact of an incident depends on whether the incident occurs in a high consequence area (HCA). Comparing potential impacts of an incident on each of the Alternatives requires a calculation of number of HCA miles affected by the incident. The HCA for a pipeline is a function of the proximity of structures to the pipeline, the size of the pipeline, and the pressure at which the pipeline is operating. For Line 1600, which operates at a transmission pressure of 640 psi, the HCA is 32.7 miles. Operating at distribution pressure of 320 psi, the HCA for Line 1600 is 2.3 miles.¹²² The Proposed Project, operating at 800 psi, has an HCA of 32.1 miles.¹²³

Table 28 - HCA Miles

Pipeline Option	HCA Miles
Line 1600 Transmission Pressure	32.7
Line 1600 De-rated at 320 psi.	2.3
Proposed Line 3602	32.1

e) Risk Score of Proposed Alternatives

The risk score of the Alternatives is calculated as the product of the likelihood of an incident (incident rate) on the pipeline and the HCA mileage of the pipeline. Table presents the risk scores for each component of the Alternatives analyzed.

¹²¹ Horalek V., Bolt R, EGIG Pipeline Incident Database: Safety Performances Determines the Acceptability of Cross Country Gas Transmission Systems, p.8.

¹²² Line 1600, once de-rated, will be a distribution line and will therefore not be subject to Subpart O and TIMP regulations. Using HCA comparison for a de-rated Line 1600 is shown for comparability purposes only.

¹²³ Calculated pursuant to 49 CFR 192.903.

Table 29 - Risk Scores

Pipeline Option	Likelihood of Incident	HCA Miles	Risk Score
Line 1600 Transmission Pressure	0.0915	32.7	2.99
Line 1600 De-rated	0.0915	2.3	0.21
Proposed Project 3602	0.064	32.1	2.05

Note that even without accounting for the potential incident rate reduction of derating Line 1600, the risk score of the de-rated line is only 7% of the line at transmission pressure. Combining the risk scores of the Proposed Project and the de-rated Line 1600 results in:

$$\text{Risk Score of Proposed Alternative} = \sqrt{0.21^2 + 2.05^2} = 2.06$$

The risk score for the Hydrotest Alternative is:

$$\text{Risk Score of (Hydrotest) Alternative} = 2.99$$

The Proposed Project – a new 36-inch pipeline plus a de-rated Line 1600 operating at distribution-level operating pressure – has a total risk score of 2.06. Line 1600, operating at transmission-level operating pressure, has a risk score of 2.99. Therefore, the Proposed Project has a reduced incident rate of 31% in HCA miles, while increasing the capacity of the transmission pipeline serving SDG&E’s service territory.

2. Scenario Analysis

a) Analysis Overview

One of the primary drivers for the Proposed Project is to alleviate the current reliance on Line 3010 for transmission duties on the SDG&E gas system. To more clearly delineate the implications of this current reliance and the value of the proposed system redundancy, an analysis has been performed on scenarios where Line 3010 is operational in combination with the Proposed Project and each of the Alternatives. The objectives of the analysis are to assess the gas and electric curtailment impacts associated with an outage or reduction in pressure of Line 3010 if each of the Alternatives is also in place.

The analysis identifies impacts under various demand conditions and for a variety of available supply combinations. The basis of the analysis is explained in more detail below, and the results are discussed at the close of this section.

It is important to note, the Applicants' gas transmission system is designed to meet a 1 in 10 design criterion. The Ruling, however, requires the Applicants to "apply quantifiable data to define the relative [reliability benefits]" of the Proposed Project. For purposes of identifying and quantifying the potential reliability benefits of the Proposed Project, PwC, with input from Applicants, generated a series of plausible scenarios in addition to the 1-in-10 design criterion. The assumptions used to generate these scenarios reflect engineering judgment and historical experience operating the gas transmission system. These scenarios were generated for the limited purpose of complying with the Ruling within a short timeframe and do not constitute the basis of new design criteria.

b) Assumptions, Parameters, and Variables

The scenario analysis is performed for a variety of cases, but the following assumptions apply universally.

Table 30 - Base Assumptions for Scenario Analysis

Base Assumptions
The impact is based on a 1-day outage or reduction in pressure of Line 3010, which can be extrapolated as needed
Moreno Compressor Station is functioning
An impact to Line 3010 has occurred in the northern section of the pipeline

The scenario analysis is performed across 3 main parameter sets as indicated in the table below.

Table 31 - Parameter Sets for Scenario Analysis

Project Alternatives Parameter Set	Line 3010 Parameter Set	Otay Mesa Supply Parameter Set
Line 1600 (Pre/Post Hydrotesting)	Line 3010 Complete Outage	Otay Mesa Full Supply
Line 1600 (During Hydrotesting)	Line 3010 at 80%	Otay Mesa Medium Supply
Line 3602 (Proposed Project)		Otay Mesa Low Supply
Alternate Diameter Pipeline 10"		Otay Mesa No Supply
Alternate Diameter Pipeline 12"		
Alternate Diameter Pipeline 16"		
Alternate Diameter Pipeline 20"		
Alternate Diameter Pipeline 24"		
Alternate Diameter Pipeline 30"		
Alternate Diameter Pipeline 42"		
Replace L1600 In-Place Alternative		
Otay Mesa Alternatives		
LNG Storage Alternative		
Alt Energy Alternative (Grid-Scale)		
Alt Energy Alternative (Smaller-Scale)		
Offshore Route		
Blythe to Santee Alternative 1		
Blythe to Santee Alternative 2		
Cactus City to San Diego Alternative		
Second Pipeline Along L3010 Alternative		

Each scenario has variables applied related to the time of year under which the scenario occurs and the supply available from Otay Mesa.

Table 32 - Seasonal Demand Variables for Scenario Analysis

Seasonal Demand Variables		
	Natural Gas Demand	Electric Demand
Example Summer Day With Low Electrical Generation	Example Summer day for Core, Electric Generation and Non-Core, Non-EG customers with low Natural Gas demand for Electrical Generation.	Example Summer day with low electric demand.
Example Summer Day With High Electrical Generation	Example Summer day for Core, Electric Generation and Non-Core, Non-EG customers with high Natural Gas demand for Electrical Generation.	Example Summer day with high electric demand.
Example Winter Day	Example Winter day for Core, Electric Generation and Non-Core, Non-EG customers.	Example Winter day for electric demand.
Winter 1 in 10 Year Day	Example Winter 1 in 10 Year day for Core, Electric Generation and Non-Core, Non-EG customers.	Example Winter 1 in 10 Year day for electric demand.
Example Spring Day	Example Spring day for Core, Electric Generation and Non-Core, Non-EG customers.	Example Spring day for electric demand.
Example Fall Day	Example Fall day for Core, Electric Generation and Non-Core, Non-EG customers.	Example Fall day for electric demand.

The base assumptions and variables result in 48 unique scenarios for each of the 20 identified situations: Line 1600 Pre or Post Hydrotesting, Line 1600 During Hydrotesting, the Proposed Project (Line 3602), and the 17 Project Alternatives. This results in a total of 960 unique scenarios for analysis.

Illustrated in Table 33 below is an example of the unique 48 scenarios for one Alternative (Alternate Diameter Pipeline 12"), which is replicated against each of the Alternatives.

Table 33 - Example of 48 Scenarios Analyzed for Alternate Diameter Pipeline 12"

		1. Example Summer Low-EG Day								2. Example Summer High-EG Day								3. Example Winter Day							
Scenario ID		4.1.1.1	4.2.1.1	4.1.2.1	4.2.2.1	4.1.3.1	4.2.3.1	4.1.4.1	4.2.4.1	4.1.1.2	4.2.1.2	4.1.2.2	4.2.2.2	4.1.3.2	4.2.3.2	4.1.4.2	4.2.4.2	4.1.1.3	4.2.1.3	4.1.2.3	4.2.2.3	4.1.3.3	4.2.3.3	4.1.4.3	4.2.4.3
Project Alternate	Alt. 12"	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Line 3010	80%	✓		✓		✓		✓		✓		✓		✓		✓		✓		✓		✓		✓	
	0%		✓		✓		✓		✓		✓		✓		✓		✓		✓		✓		✓		✓
Otay Mesa Supply	High	✓	✓							✓	✓							✓	✓						
	Medium			✓	✓							✓	✓							✓	✓				
	Low					✓	✓							✓	✓							✓	✓		
	None							✓	✓							✓	✓							✓	✓

		4. Winter 1-in-10 Year Day								5. Example Spring Day								6. Example Fall Day							
Scenario ID		4.1.1.4	4.2.1.4	4.1.2.4	4.2.2.4	4.1.3.4	4.2.3.4	4.1.4.4	4.2.4.4	4.1.1.5	4.2.1.5	4.1.2.5	4.2.2.5	4.1.3.5	4.2.3.5	4.1.4.5	4.2.4.5	4.1.1.6	4.2.1.6	4.1.2.6	4.2.2.6	4.1.3.6	4.2.3.6	4.1.4.6	4.2.4.6
Project Alternate	Alt. 12"	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Line 3010	80%	✓		✓		✓		✓		✓		✓		✓		✓		✓		✓		✓		✓	
	0%		✓		✓		✓		✓		✓		✓		✓		✓		✓		✓		✓		✓
Otay Mesa Supply	High	✓	✓							✓	✓							✓	✓						
	Medium			✓	✓							✓	✓							✓	✓				
	Low					✓	✓							✓	✓							✓	✓		
	None							✓	✓							✓	✓							✓	✓

c) *Summary Methodology*

A first step in the analysis involved a comparison of SDG&E’s natural gas supply and customer demand under each of the six seasonal demand conditions. The table below presents SDG&E’s customer natural gas demand data, as well as the various natural gas supply combinations analyzed in the study.¹²⁴

Table 34 - Natural gas customer demand and supply combinations under each seasonal demand conditions¹²⁵

	1. Example Summer Low-EG Day MMcfd	2. Example Summer High-EG Day MMcfd	3. Example Winter Day MMcfd	4. Winter 1- in-10 Year Day MMcfd	5. Example Spring Day MMcfd	6. Example Fall Day MMcfd
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Natural Gas Demand [MMcfd]						
Core Demand	100	100	310	350	170	180
Electric Generation (EG) Demand	100	300	165	165	220	270
Non-Core, Non-EG Demand	75	75	62	62	75	75
Total Demand	275	475	537	577	465	525

Natural Gas Supply Combinations [MMcfd]						
Project Alternatives Capacity						
Line 1600 (Pre/Post Hydrotesting)	150	150	150	150	150	150
Line 1600 (During Hydrotesting)	0	0	0	0	0	0
Line 3602 (Proposed Project)	680	680	680	680	680	680
Alternate Diameter Pipeline 10"	50	50	50	50	50	50
Alternate Diameter Pipeline 12"	70	70	70	70	70	70
Alternate Diameter Pipeline 16" ¹²⁶	160	160	160	160	160	160
Alternate Diameter Pipeline 20"	250	250	250	250	250	250
Alternate Diameter Pipeline 24"	400	400	400	400	400	400

¹²⁴ Natural gas supply from Otay Mesa Receipt Point was determined through an analysis of 2014-2015 flow data from the Gasoducto Rosarito pipeline that feeds into it.

¹²⁵ The gas transmission system is designed to meet a 1 in 10 design criterion. The Ruling, however, requires the Applicants to “apply quantifiable data to define the relative [reliability benefits]” of the Proposed Project. For purposes of identifying and quantifying the potential reliability benefits of the Proposed Project, PwC, with input from the Applicants, generated a series of plausible scenarios in addition to the 1 in 10 design criterion. The assumptions used to generate these scenarios reflect engineering judgment and historical experience operating the gas transmission system. These scenarios were generated for the limited purpose of complying with the Ruling within a short timeframe and do not constitute the basis of new design criteria.

¹²⁶ This scenario analysis uses 160 MMcfd and reflects the capacity of a new 16-inch pipeline operating at 800 psi. The remainder of the Cost-Effectiveness Analysis assumes 150 MMcfd for all 16-inch pipelines. The capacity difference between a 16-inch pipeline at 640 psi and 800 psi is considered negligible and does not significantly impact the outcome of this analysis.

	1. Example Summer Low-EG Day MMcfd	2. Example Summer High-EG Day MMcfd	3. Example Winter Day MMcfd	4. Winter 1- in-10 Year Day MMcfd	5. Example Spring Day MMcfd	6. Example Fall Day MMcfd
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Natural Gas Demand [MMcfd]						
Alternate Diameter Pipeline 30"	600	600	600	600	600	600
Alternate Diameter Pipeline 42"	710	710	710	710	710	710
Replace Line 1600 In-Place Alternative	160	160	160	160	160	160
Otay Mesa Alternatives	400	400	400	400	400	400
LNG Storage Alternative	0	0	0	0	0	0
Alt Energy Alternative (Grid-Scale)	0	0	0	0	0	0
Alt Energy Alternative (Smaller-Scale)	0	0	0	0	0	0
Offshore Route	680	680	680	680	680	680
Blythe to Santee Alternative 1	680	680	680	680	680	680
Blythe to Santee Alternative 2	680	680	680	680	680	680
Cactus City to San Diego Alternative	680	680	680	680	680	680
Second Pipeline Along Line 3010 Alternative	680	680	680	680	680	680

Line 3010 Parameter						
Line 3010 Complete Outage	0	0	0	0	0	0
Line 3010 at 80%	380	380	380	380	380	380

Otay Mesa Supply¹²⁷						
Otay Mesa Full Supply	295	86	313	313	329	324
Otay Mesa Medium Supply	156	60	230	230	244	247
Otay Mesa Low Supply	33	33	148	148	130	168
Otay Mesa No Supply	0	0	0	0	0	0

Table 35 - Electric customer demand and supply combinations under each seasonal demand conditions

	1. Example Summer Low-EG Day MW	2. Example Summer High-EG Day MW	3. Example Winter Day MW	4. Winter 1- in-10 Year Day MW	5. Example Spring Day MW	6. Example Fall Day MW
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Electric Demand (MW)¹²⁸						
Peak Electric Demand	3,062	3,723	2,969	3,328	2,693	3,019

Electric Supply Combinations (MW)						
Natural Gas Fired Electric Generation	562	1,686	1,124	1,124	1,236	1,517
Renewable Electric Generation	70	70	70	70	70	70
Electric Import Capacity	2,500	2,500	2,500	2,500	2,500	2,500

Subsequently, supply combinations are established for each of the 960 scenarios, and then analyzed against the customer demand under those conditions. The following key outputs are gathered.

Table 36 - Outputs of Assessed Impacts

Outputs of Assessed Impacts	
General Impacts	<ul style="list-style-type: none"> • Is immediate curtailment at Electrical Generation stations required? • Overall capacity shortfalls in MMcfd
Curtailment to Gas Customers ¹²⁹	<ul style="list-style-type: none"> • Curtailment for Core Customers (% of service impacted, # of customers affected)¹³⁰ • Curtailment for Electric Generation (EG) Customers (% of service impacted) • Curtailment for Non-Core, Non-EG Customers (% of service impacted)
Curtailment to Electric Meters	<ul style="list-style-type: none"> • Curtailment to Electric Meters (% of service impacted, # of meters affected)

d) Summary Results

Outcomes of the 960 scenarios analyzed have been summarized in Figure 5 below. The graph presents the average percentage of curtailment for each gas customer class and outages to electric customers for the 20 situations.

¹²⁹ The Scenario Analysis applies the order of gas customer curtailments as described in the Prepared Direct Testimony of Gwen Marelli (March 21, 2016), page 2.

¹³⁰ Operational activities related to an outage are not factored in determining the number of core customers affected.

Figure 5 - Scenario Analysis Summary Results

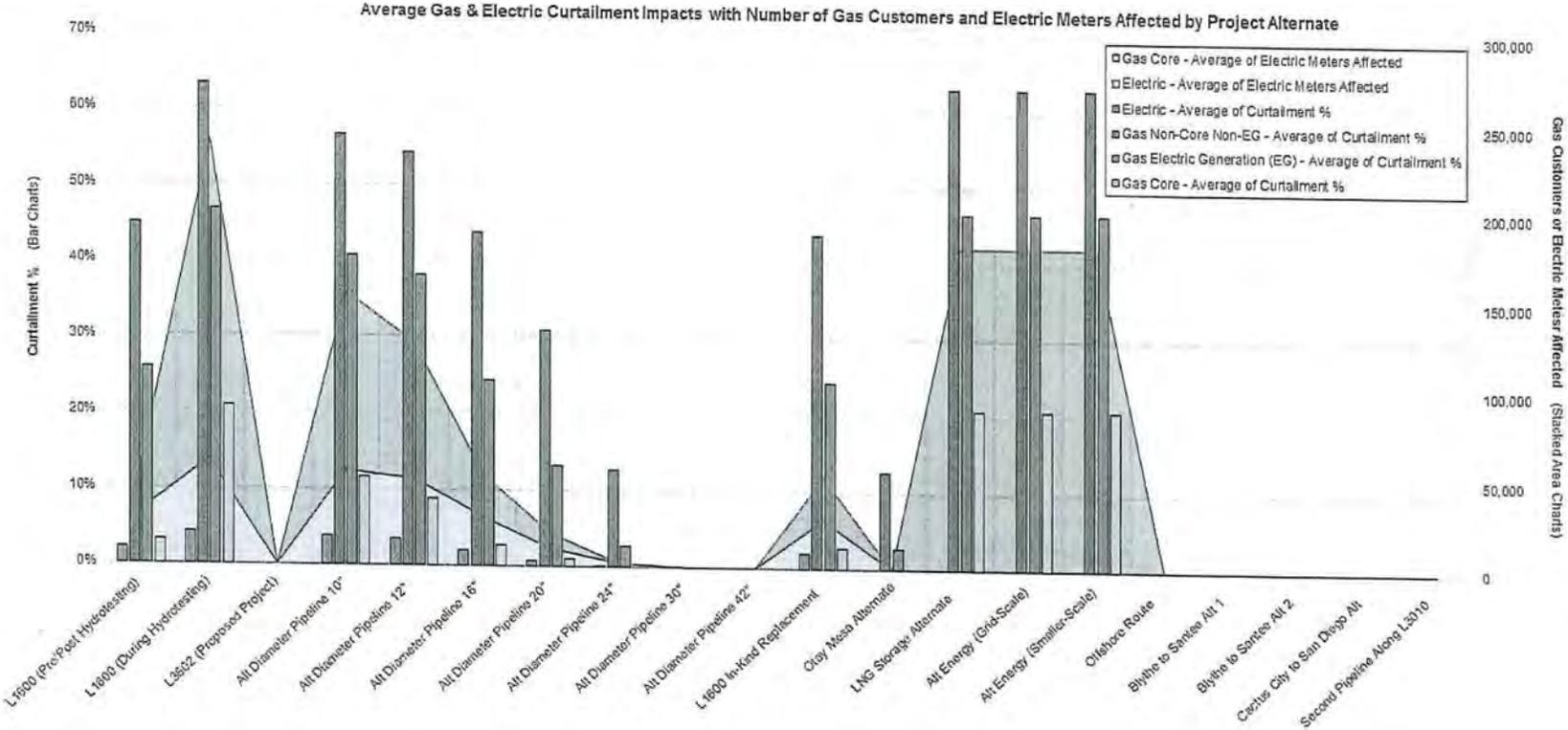


Table 37 - Ranking of Project Alternatives by Average Curtailment

Project Alternative	Scoring of Average Curtailment Severity (Relative to other Project Alternatives, with range 1-Worst to 5-Best)			
	Gas Non-Core, Non-EG Customers	Gas Electric Generation (EG) Customers	Gas Core Customers	Electric
Line 1600 (Pre/Post Hydrotesting)	2	3	5	3
Line 1600 (During Hydrotesting)	1	1	1	1
Line 3602 (Proposed Project)	5	5	5	5
Alt Diameter Pipeline 10"	1	1	3	1
Alt Diameter Pipeline 12"	1	1	3	1
Alt Diameter Pipeline 16"	2	3	5	3
Alt Diameter Pipeline 20"	3	4	5	5
Alt Diameter Pipeline 24"	4	5	5	5
Alt Diameter Pipeline 30"	5	5	5	5
Alt Diameter Pipeline 42"	5	5	5	5
Replace Line 1600 in Place with a New 16" Transmission Pipeline	2	3	5	3
Otay Mesa Alternatives	4	5	5	5
LNG Storage Alternative	1	1	1	5
Alt Energy (Grid-Scale)	1	1	1	5
Alt Energy (Smaller-Scale)	1	1	1	5
Offshore Route	5	5	5	5
Blythe to Santee Alt 1	5	5	5	5
Blythe to Santee Alt 2	5	5	5	5
Cactus City to San Diego Alt	5	5	5	5
Second Pipeline Along Line 3010	5	5	5	5

From the graph and table above, it is evident that the highest and lowest reliability impacts were observed as follows.

Table 38 - Best and Worst Performing Alternatives

Best Performing	Worst Performing
Line 3602 (Proposed Project)	Line 1600 (Pre/Post Hydrotesting)
Alternate Diameter Pipeline 24"	Line 1600 (During Hydrotesting)
Alternate Diameter Pipeline 30"	Alt Diameter Pipeline 10"
Otay Mesa Alternatives	Alt Diameter Pipeline 12"
Offshore Route	Alt Diameter Pipeline 16"
Blythe to Santee Alternative 1	Replace Line 1600 in Place with a New 16" Transmission Pipeline
Blythe to Santee Alternative 2	LNG Storage Alternative
Cactus City to San Diego Alternative	Alt Energy (Grid-Scale)
Second Pipeline Along Line 3010 Alternative	Alt Energy (Smaller-Scale)

I. Benefits Analysis Summary

The following table provides the relative rank of the Proposed Project and Alternatives.

Table 39 - Relative Benefits of Proposed Project and Alternatives from Greatest to Least Benefits

Alt No.	Project Name	Benefits Rank
A	Proposed Project (36" Diameter)	1
C7	Alt Diameter Pipeline 42"	1
J1	Blythe to Santee Alternative 1	3
J2	Blythe to Santee Alternative 2	3
J3	Cactus City to San Diego Alternative	3
K	Second Pipeline Along Line 3010 Alternative	3
I	Offshore Route Alternative	7
C6	Alt Diameter Pipeline 30"	8
C5	Alt Diameter Pipeline 24"	9
C4	Alt Diameter Pipeline 20"	10
C3	Alt Diameter Pipeline 16"	11
D	Replace Line 1600 In Place with a New 16-inch Transmission Pipeline	12
E/F	Otay Mesa Alternatives	13
G	LNG Storage Alternative	14
B	Hydrotest	15
H1	Alternative Energy Alternative: Grid Scale Battery	16
H2	Alternate Energy Alternative: Smaller Scale Batteries	16
C1	Alt Diameter Pipeline 10"	18
C2	Alt Diameter Pipeline 12"	18

The results of the benefits analysis show that the Proposed Project and 42-inch Alternative Diameter Pipeline offer the most benefits. Four Alternatives comprise the next highest-ranked

group, the Cross-Country Pipeline Route Alternatives (Blythe to Santee Pipeline Routes, Alternatives 1 and 2; Cactus City to San Diego Alternative) and the Second Pipeline Along Line 3010 Alternative. The Off-Shore Route offers the third-most benefits, followed in descending order by several Alternative Diameter Pipelines (30-, 24-, 20-, and 16-inches), Replace Line 1600 In Place with a New 16-inch Alternative, the Otay Mesa Alternatives. The LNG Storage Alternative ranked 14th in terms of benefits, followed by the Hydrotest Alternative and the Alternative Energy Alternatives. The Alternative Diameter Pipelines of 10- and 12-inches offer the least benefits of all the Alternatives.

New, larger diameter pipelines outperform the “least-cost” (Hydrotest Alternative) in six out of the seven categories (safety, reliability, operational flexibility, system capacity, gas storage through line pack, and other benefits) and receive the same score for the category of reduction in gas price for ratepayers. As compared to other larger diameter pipelines, the Proposed Project provides additional reliability, operational flexibility, system capacity, gas storage through line pack, and other benefits.

VI. CONCLUSION

With data and input from the Applicants, PwC prepared this Cost-Effectiveness Analysis to comply with the Ruling. The analysis applies quantifiable data to define the relative costs and benefits of the Proposed Project and the range of Alternatives identified in the Ruling. The relative costs and benefits of the Proposed Project and Alternatives are set forth in the following table.

Table 40 - Proposed Project and Alternatives Relative Benefit Ranking and Net Costs

	Description	Benefit Rank	Net Cost (\$M)
A	Proposed Project (Rainbow to Line 2010 Route)	1	\$256.2
B	Hydrotest Alternative	15	\$118.7
C1	Alt Diameter Pipeline, Proposed Route (10")	18	\$302.7
C2	Alt Diameter Pipeline, Proposed Route (12")	18	\$291.6
C3	Alt Diameter Pipeline, Proposed Route (16")	11	\$241.4
C4	Alt Diameter Pipeline, Proposed Route (20")	10	\$239.2
C5	Alt Diameter Pipeline, Proposed Route (24")	9	\$229.6
C6	Alt Diameter Pipeline, Proposed Route (30")	8	\$233.5
C7	Alt Diameter Pipeline, Proposed Route (42")	1	\$341.9
D	Replace Line 1600 in Place with a New 16" Transmission Pipeline	12	\$560.4
E/F	Otay Mesa Alternatives	13	\$876.8
G	LNG Storage (Peak-Shaver) Alternative AKA (United States – LNG Alternative)	14	\$2,584.7
H1	Alternate Energy (Battery) Alternative – Grid Scale	16	\$8,330.1
H2	Alternate Energy (Battery) Alternative – Smaller Scale	16	\$10,010.1
I	Offshore Route Alternative	7	\$1,295.5
J1	Blythe to Santee Alternative 1	3	\$1,219.3
J2	Blythe to Santee Alternative 2	3	\$1,157.3
J3	Cactus City to San Diego Alternative	3	\$981.1
K	Second Pipeline Along Line 3010 Alternative	3	\$427.1

When considering both net project costs and benefits, the Proposed Project is the most cost-effective, prudent Alternative, as it provides more benefits than any of the Alternatives except for the 42-inch diameter pipeline, which provides the same level of benefits but costs \$86 million more (on a net cost basis) than the Proposed Project.

Although the costs analysis concludes that the “least-cost” alternative is the Hydrotest Alternative, which is estimated to cost \$118.7 million on a net cost basis, the group of “second least-cost” alternatives ranges from \$225 million to \$260 million and includes the Proposed Project. The third least-cost group has a larger range, from \$290 million to \$430 million, and the remaining two groups of Alternatives far exceed the net costs of the Proposed Project. These two “greatest cost” categories include Alternatives whose net costs range from \$500 million to

\$1 billion (Replace Line 1600 In-Place with a New 16-inch Transmission Pipeline Alternative, Otay Mesa Alternatives, Cactus City to San Diego Alternative) and more than \$1 billion (Blythe to Santee Pipeline Routes, Alternatives 1 and 2, Off-Shore, LNG Storage, and Alternative Energy Alternatives).

In terms of benefits, the Proposed Project and 42-inch diameter pipeline ranked highest. Four Alternatives comprise the next highest-ranked group, the Cross-Country Pipeline Route Alternatives (Blythe to Santee Pipeline Routes, Alternatives 1 and 2; Cactus City to San Diego Alternative) and the Second Pipeline Along Line 3010 Alternative. The remaining projects are ranked in descending order, with the 10- and 12-inch Alternative Diameter Pipelines ranking lowest in terms of benefits. The “least-cost” Hydrotest Alternative ranked 15th out of 19.

New, larger diameter pipelines outperform the “least-cost” (Hydrotest Alternative) in six out of the seven benefits categories (safety, reliability, operational flexibility, system capacity, gas storage through line pack, and other benefits) and receive the same score for the category of reduction in gas price for ratepayers. As compared to other larger diameter pipelines, the Proposed Project provides additional reliability, operational flexibility, system capacity, gas storage through line pack, and other benefits.

The Proposed Project would provide more benefits than the 16-, 20-, 24- and 30-inch Alternate Diameter Pipelines without adding significantly higher costs. By contrast, the 42-inch Alternate Diameter Pipeline offers the same benefits as the Proposed Project but costs approximately \$86 million more. For these reasons, the Proposed Project is identified as the overall most cost-effective alternative.

EXHIBIT C

Application No.: A.15-09-013
Exhibit No.: SDGE-13
Witnesses: Douglas M. Schneider
David M. Bisi
Sharim B. Chaudhury
Paul Borkovich
S. Ali Yari
Allison Smith
Deanna Haines
Travis Sera
Norm G. Kohls

REBUTTAL TESTIMONY

OF

SAN DIEGO GAS & ELECTRIC COMPANY

AND

SOUTHERN CALIFORNIA GAS COMPANY

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

June 12, 2017

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ATTACHMENT B.1 to B.16:	Utilities’ Responses to ORA Data Requests
ATTACHMENT C.1 to C.7:	ORA’s Responses to Utilities’ Data Requests
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ATTACHMENT O:	Peak RC's SOL Methodology for Operations Horizon
ATTACHMENT P.1 to P.2:	IID Energy Consumers Advisory Committee Meeting Minutes
ATTACHMENT Q:	ECA Terms and Conditions
ATTACHMENT R.1 to R.3:	LNG Studies
ATTACHMENT S:	Confidentiality Declaration

The following Attachments have confidential versions, which will be served on parties who may receive confidential material in this proceeding.

ATTACHMENT A-C
ATTACHMENT B.1-C
ATTACHMENT B.2-C
ATTACHMENT B.3-C
ATTACHMENT B.4-C
ATTACHMENT B.5-C
ATTACHMENT B.9-C
ATTACHMENT F.1-C

1 **CHAPTER 5. INTERVENORS HAVE NOT IDENTIFIED ANY VIABLE OTAY MESA**
2 **ALTERNATIVE (Witness: Paul Borkovich)**

3 ORA and SCGC suggest that delivery of natural gas to SDG&E's Otay Mesa receipt
4 point would meet the reliability and resiliency purpose of the Utilities' Proposed Project at less
5 cost.³⁰³ Neither submits persuasive evidence to support that claim.

6 ORA simply attempts to defer addressing the critical questions regarding potential Otay
7 Mesa alternatives. Although ORA admits that defining the need to be met, *i.e.*, the level of
8 reliability that the Commission wishes to provide SDG&E's customers, is critical to determining
9 whether a viable Otay Mesa alternative exists, ORA suggests that question be deferred until
10 more information is gathered.³⁰⁴ Yet, without a Commission determination regarding the need to
11 be met, it is unknown what volume of gas delivery is sought under what terms. Although ORA
12 recommends that the Commission grant the Utilities authority to issue a Request for Offers
13 (RFO), ORA has declined to answer the Utilities' questions regarding the terms of such an
14 RFO.³⁰⁵ While ORA testifies that it "anticipates" that gas deliveries at Otay Mesa would be less
15 expensive than the Proposed Project, to-date ORA refuses to identify any basis for this assertion,
16 instead ORA recommends "that SoCalGas/SDG&E's Gas Acquisitions Group would propose a
17 package."³⁰⁶ As previously stated, the Utilities would need to know the Commission's position
18 on the need to be met to determine whether an RFO is feasible and on what terms.

19 SCGC takes a different approach. SCGC identifies that various problems that the
20 Proposed Project seeks to address, and then proffers its potential solutions. SCGC recognizes the
21 Utilities' concern that, following de-rating of Line 1600, an outage of Line 3010 or the Moreno

³⁰³ ORA-01 at 25-31; SCGC-01 at 18-20.

³⁰⁴ ORA-01 at 2.

³⁰⁵ Attachment C.7 (ORA Updated Response to Utilities DR-7, Q12).

³⁰⁶ Attachment C.5 (ORA Updated Response to Utilities DR-4, Q6).

1 Compressor Station could result in: (1) a loss of service to SDG&E's gas customers and (2) a
2 loss of electric service to SDG&E's electric customers if gas service to gas-fired electric
3 generation in San Diego is curtailed.³⁰⁷ SCGC proposes receipt of gas at Otay Mesa as part of its
4 potential alternative solutions.³⁰⁸ However, for the reasons outlined below, SCGC's Otay Mesa
5 options are either inadequate to address the Utilities' concerns or are more expensive than the
6 Proposed Project.

7 **Section 1. ORA Raises Issues But Proffers No Facts to Support an Otay Mesa**
8 **Alternative**

9 **A. ORA Declines to Discuss the Need to be Met, and Thus Whether an**
10 **Otay Mesa Alternative Can Meet the Need**

11 ORA recognizes that, to determine whether an Otay Mesa alternative can meet the need
12 of SDG&E's customers for reliable gas service, the Commission must determine that need, *i.e.*,
13 the appropriate level of reliability. ORA testifies:

14 In attempting to answer Scoping Memo Question 3, the Commission could
15 be drawn back to the ultimate question of need determination. This is
16 because a typical estimate of cost (i.e., Price x Quantity) depends in part
17 on the quantities required to fulfill the need to be met. The Supplemental
18 Testimony of Mr. Borkovich regarding the Otay Mesa alternatives
19 suggests that the Otay Mesa alternatives could have a range of costs
20 depending on the determination of need to be met established by the
21 Commission for which publicly verifiable information may or may not be
22 obtained...³⁰⁹

23 ORA then explains why a Commission determination of need is relevant:

24 For instance, at a minimum, the need to be met could range from the level
25 required to meet the current reliability standard up to some unverified
26 higher level of capacity deemed necessary to meet emergency events such

³⁰⁷ SCGC-01 at 20-25.

³⁰⁸ SCGC-01 at 25-27.

³⁰⁹ ORA-01 at 2 (emphasis added).

1 as the Line 3010 or Moreno Compressor Station outage scenarios outlined
2 in the Applicants' testimony.³¹⁰

3 Nonetheless, ORA declines to address the need to be met, stating: "At this time, the
4 Commission should not make the need determination because of the substantial amount of
5 information that is yet to be gathered and verified."³¹¹ To the contrary, the Commission must
6 determine the need to be met before further evaluation of Otay Mesa alternatives is useful. As
7 explained in Supplemental Testimony, the Commission should decide whether to maintain the
8 Utilities' current system capacity after Line 1600 is de-rated, whether the Utilities should be able
9 to serve some or all of SDG&E's customers in the event of outages on Line 3010 or at the
10 Moreno Compressor Station, and whether the Utilities should be required to obtain firm capacity
11 rights or be allowed to rely on interruptible capacity that may or may not be available when
12 needed.³¹² The Commission's determinations will inform the volume and nature of gas delivery
13 rights under an Otay Mesa alternative, and thus whether such an alternative is viable.

14 ORA contends that the Utilities "should strive to serve" all customers in the event of a
15 Line 3010 outage or Moreno Compressor Station outage, but then notes such outages are rare.

16 Q. Does ORA consider it prudent to be able to serve all SDG&E gas
17 customers (including core, non-core and electric generation) in the event
18 of a Line 3010 outage, less than all SDG&E gas customers, or none of
19 SDG&E gas customers? ...

20 A. ORA maintains that SDG&E should strive to serve all its customers in
21 the event of a Line 3010 outage, pursuant to its obligation to serve
22 mandate. However, Exhibit ORA-03 concludes and provides data
23 supporting its conclusion that "Recent historic data show that the
24 occurrence of unplanned outages on Line 3010 and at Moreno Compressor
25 Station has been rare." Pages 2 through 6 of that exhibit provide the data
26 in support of that statement. ORA reserves the right to take a position on

³¹⁰ ORA-01 at 3.

³¹¹ ORA-01 at 3.

³¹² SDGE-12 at Chapter 4.

1 this issue based upon responses to discovery or testimony from other
2 parties.³¹³

3 To determine whether any Otay Mesa alternative is viable or cost-effective, the Commission
4 must decide whether the Utilities should be able to serve some or all of its customers in the event
5 of a Line 3010 outage or Moreno Compressor Station outage, or whether it is prudent to accept
6 the risk of serving none.

7 **B. ORA Recommends an RFO, But Provides No Proposed Terms**
8 **Because It Takes No Position on the Need to be Met**

9 ORA requests that the Commission direct the Utilities to issue an RFO, stating:

10 Given Applicants' reticence...to issue a RFO's without Commission
11 instruction, the Commission should order Applicants to issue enough
12 RFO's to discern how owners of pipeline and/or storage capacity and
13 sellers of gas to the Otay Mesa receipt point might respond.³¹⁴

14 In order to obtain the "additional information" that ORA claims is needed to fully analyze the
15 Otay Mesa alternatives, an RFO must be sufficiently tailored to solicit useful and relevant
16 information (as well as have Commission authorization to be considered credible in the market).
17 Specifically, the RFO terms must be based on what the need is. In Supplemental Testimony, the
18 Utilities provided the Commission with a "road map" to assist in their determination of the need
19 to be met.³¹⁵

20 Throughout its testimony, ORA advocates for an RFO without providing proposed terms
21 or stating a position on the need to be met. When pressed for their input on RFO terms, ORA
22 acknowledged that they have not developed any specific terms for an RFO.

³¹³ Attachment C.7 (ORA Response to Utilities' DR-7, Q17 (Line 3010) & Q18 (Moreno Compressor Station).

³¹⁴ ORA-01 at 19.

³¹⁵ SDGE-12 at 40-42.

1 In ORA-1 at 2, ORA states that it recommends: “The Commission
2 authorizes the conduct of an Request for Offer (RFO) regarding the Otay
3 Mesa Alternatives....” With respect to such testimony:

4 a. State whether such RFO should seek delivery of gas to SDG&E’s Otay
5 Mesa receipt point. If so, state all material terms of such RFO, including
6 but not limited to the volume of gas sought, how often such gas would be
7 delivered, and the duration of the proposed Contract.

8 b. State whether such RFO should seek firm capacity on each of the North
9 Baja Pipeline, Gasoducto Rosarito and TGN. If so, state all material terms
10 of such RFO, including but not limited to the volume of firm capacity
11 sought on each pipeline, and the duration of the proposed contract.

12 c. State whether such RFO should seek storage capacity at the ECA
13 storage facility. If so, state all material terms of such RFO, including but
14 not limited to the volume of storage capacity sought, rights to re-
15 gasification and delivery to SDG&E’s Otay Mesa receipt point, and the
16 duration of the proposed contract.

17 Response No.12a:

18 Because of the need for additional information related to the Otay Mesa
19 Alternatives discussed in Exhibit ORA-01, ORA has not developed the
20 specific material terms of such RFO which will have the objective of
21 seeking reliable delivery of gas to SDG&E’s Otay Mesa receipt point at
22 this time.

23 Response No.12b:

24 Please refer to the above response 12a.

25 Response No.12c:

26 Please refer to the above response 12a.³¹⁶

27 The Utilities previously prepared a draft RFO for binding offers for firm delivery rights
28 to the Otay Mesa receipt point and provided it to Energy Division for review in July 2016. The
29 Utilities indicated that, because their affiliates owned some of the pipelines located in Mexico
30 that would deliver gas to Otay Mesa as well as ECA, the Commission would need to authorize

³¹⁶ Attachment C.7 (ORA Response to Utilities’ DR 7, Q.12) (emphasis added).

1 the RFO. It has been nearly a year since the Utilities presented the draft RFO to the Energy
2 Division, and the Commission has yet to provide comment on or authorization for it.

3 Even if the Commission were to authorize an RFO now, they would need to make a
4 determination of the need to be met, which would dictate the terms (*i.e.*, quantity and term) of
5 the RFO. ORA fails to take a position on the need to be met or provide meaningful
6 recommendations for potential RFO terms.

7 Moreover, it is unclear whether the Commission will direct the Utilities to issue an RFO.
8 During the prehearing conference (PHC) on September 22, 2016, when discussing a potential
9 RFO, Administrative Law Judge Kersten acknowledged that “an [RFO] to explore multiyear
10 firm capacity...[is] probably premature and tampering with the market. By going out there and
11 asking for feedback is a way of influencing the market, and anything that may come back may
12 not even be real because it’s nonbinding.”³¹⁷ The Utilities agree that an RFO will elicit serious
13 offers only if it is binding upon the bidder and is issued under Commission authority.

14 **C. ORA Provides No Support for Its Vague Assertions About an Otay**
15 **Mesa Alternative**

16 Despite asserting elsewhere that more information must be gathered, ORA asserts: “ORA
17 anticipates that purchasing gas through Otay Mesa receipt point (Alternative E), would be
18 immensely less expensive than constructing a new pipeline....”³¹⁸ However, when the Utilities
19 asked ORA to explain the basis for this assertion, ORA declined to provide information about the
20 nature of the assumed contract, the source of gas, or the material terms of the assumed contract,

³¹⁷ PHC Transcript at 98:10-16.

³¹⁸ ORA-03 at 6 (footnote omitted).

1 including the price of gas or delivery rights.³¹⁹ Instead, ORA suggested that this is a Phase 2
2 issue and that the Utilities should “propose a package” that addresses these issues.

3 ORA objects to this question as outside the scope of Phase I of this
4 proceeding, and of ORA’s testimony. The evaluation of long-term
5 contracts and spot market purchases are within the scope of Phase II of
6 this proceeding, including questions 24, 25, 27, 28. ORA is considering
7 both long-term contract and spot market basis and intends at this time to
8 consider long-term and spot market purchases as part of the second phase
9 of this proceeding. ORA reserves the right to make future objections if
10 this question is asked as part of Phase II. As part of Phase II of this
11 proceeding, ORA would recommend that SoCalGas/SDG&E’s Gas
12 Acquisitions Group would propose a package that addresses all elements
13 of data request 6, and that it recommends is in the best interests of core
14 ratepayers.³²⁰

15 The Utilities have determined that the Proposed Project is in the best interests of its customers
16 for the safety, reliability, and operational flexibility reasons set forth in its testimony, and that the
17 Otay Mesa alternatives do not provide the same benefits and are not cost-effective.³²¹

18 In sum, ORA has presented no evidence that any Otay Mesa alternative is viable or cost-
19 effective,³²² or even addressed the critical question that would need to be answered to make that
20 determination, *i.e.*, what is the need to be met.

21 In Supplemental Testimony, the Utilities presented four outage scenarios and the
22 corresponding Otay Mesa deliveries required to cover the effect of the outage.³²³ ORA did not
23 address any of these scenarios in their testimony.

³¹⁹ Attachment C.5 (ORA Updated Response to Utilities’ DR-4, Q6).

³²⁰ Attachment C.5 (ORA Updated Response to Utilities’ DR-4, Q6.a). (emphasis added).

³²¹ See generally CEA.

³²² ORA wonders whether Shell, Gazprom, and IEnova LNG (the owners of the ECA LNG storage capacity) have “any interest” in making “productive use of the idle ECA storage capacity.” ORA-01 at 13. ORA, however, did not contact any of them to determine whether they had an interest. Attachment C.7 (ORA Response to Utilities’ DR-07, Q5).

³²³ SDGE-12 at 41.

1 **Section 2. SCGC Identifies Problems and Offers Solutions Utilizing the Otay**
2 **Mesa Alternatives That Do Not Work**

3 SCGC acknowledges the Utilities' concerns regarding the reliability and resiliency of
4 SDG&E's Gas System if Line 1600 is de-rated to distribution service, framing the concerns as
5 three "problems" as follows: (1) "the threat of insufficient transmission capacity to meet 1-in-10
6 year cold day demand if Line 1600 is reduced to distribution pressure for safety reasons as
7 proposed by the Applicants"; (2) "the threat of insufficient transmission capacity to meet core
8 customer needs in the event of an outage on Line 3010"; and (3) "the threat of curtailments to
9 electric generators in the event of a partial or full outage on Line 3010 that would adversely
10 affect electric reliability."³²⁴

11 For each "problem," SCGC offers as a complete or partial solution the delivery of gas at
12 Otay Mesa as an allegedly viable and more cost-effective solution than construction of a new gas
13 transmission pipeline, as the Utilities propose here. The issues with gas delivery at Otay Mesa
14 are roughly the same regardless of the "problem" it is meant to address.

15 As explained in both the updated prepared direct and supplemental testimony of Mr.
16 Borkovich, there are only two Otay Mesa alternatives: (1) obtaining capacity on the North Baja
17 California (BC) Pipeline System, which consists of three pipelines – North Baja Pipeline,
18 Gasoducto Rosarito, and Transportadora de Gas Natural (TGN) – to transport gas supply from
19 the El Paso Natural Gas (EPNG) South Mainline system to the SDG&E system at Otay Mesa
20 (North BC Pipeline System Alternative), and (2) obtaining LNG from the Energia Costa Azul
21 (ECA) LNG Storage Terminal that is vaporized and transported on the Gasoducto Rosarito LNG
22 Lateral and TGN system for delivery at Otay Mesa (ECA LNG Alternative).

³²⁴ SCGC-01 at 14, 20 and 38.

1 While the two Otay Mesa Alternatives may appear potentially viable on the surface,
2 given the existing infrastructure, the reality is that neither is viable unless the Commission
3 determines that it is acceptable to rely on “as-available” gas supplies for SDG&E’s customers
4 (core, non-core and electric generation) in the event of a Line 3010 forced outage. In such an
5 event, the Utilities would strive to obtain enough gas through Otay Mesa to supply at least the
6 core, but would have no contractual rights to obtain delivery of gas at Otay Mesa (and would not
7 have a redundant transmission pipeline to deliver it from Rainbow Metering Station). If the
8 Utilities could not obtain sufficient gas on an “as-available” basis in such an event, the
9 consequences could be severe, depending how much gas is available. The Utilities’ Proposed
10 Project provides assurance that sufficient gas will be available during a forced or planned Line
11 3010 outage (as well as a Moreno Compressor Station outage), and, at a minimum, firm contract
12 transportation rights from Ehrenberg to Otay Mesa would be needed to provide an approximate
13 similar assurance to SDG&E’s customers.

14 As discussed below, the North BC Pipeline System Alternative has very little firm
15 capacity available, almost certainly less than SDG&E’s customers would need in the event of a
16 forced outage of Line 3010. The Utilities do not recommend relying on the “interruptible
17 capacity” of the North BC Pipeline System, which is subject to the capacity holders’ needs to
18 serve other customers in Mexico and Arizona on a more regular basis.

19 As also discussed below, the ECA LNG Alternative should be dismissed as not viable or
20 cost-effective. The market already has determined that reliance on imported LNG is not cost-
21 effective, which is why the ECA facility is unused other than the owner’s delivery of sufficient
22 LNG to keep the facility in operation so that ECA can continue to collect storage charges due
23 under long-term contracts from the capacity holders (Shell, Gazprom, and IEnova LNG).

1 Because of the nature of LNG and ECA operations, the ECA facility effectively serves as a “way
2 station.” LNG is delivered by tanker to ECA and off-loaded into storage tanks. Because some
3 LNG must be sent out every day (as “boil off,” to maintain LNG quality, and for fuel to run plant
4 operations), long-term storage of LNG at ECA is not possible without periodic tanker deliveries
5 to maintain inventory to meet a specified demand. Ensuring that ECA would be able to deliver
6 gasified LNG when needed to respond to a forced Line 3010 outage would not be cost-effective.

7 **A. SCGC Does Not Identify a Viable Solution Utilizing the North BC**
8 **Pipeline System**

9 **1. Firm capacity on the North BC Pipeline System is insufficient**

10 To protect customers in the event of an outage on Line 3010, SCGC suggests the Utilities
11 “acquire firm capacity rights on one or more of the [North BC Pipeline System] pipelines.”³²⁵
12 SCGC’s solution seems like an easy fix, however, the Utilities understand that there are capacity
13 constraints on the North BC Pipeline System pathway. As mentioned above, the North BC
14 Pipeline System consists of three separate, interconnected pipelines to carry gas supply from the
15 east. The gas supply would originate from the EPNG South Mainline system east of Ehrenberg,
16 Arizona and enter the North Baja Pipeline traveling south through California to the international
17 border at Los Algodones, into Gasoducto Rosarito. The gas would then head west through
18 Mexico on Gasoducto Rosarito to TGN where it would head north and interconnect with the
19 Utilities’ system at the Otay Mesa receipt point.

20 As previously discussed in the updated prepared direct and supplemental testimony of
21 Mr. Borkovich, while some available firm capacity exists on the North Baja Pipeline, as of
22 February 2016 Gasoducto Rosarito has indicated that only 20 MMcfd of firm service is available

³²⁵ SCGC-01 at 29.

1 on their system from the North Baja Pipeline to the TGN system.³²⁶ This available firm capacity
 2 on the North BC Pipeline System is insufficient to cover the predicted 1-in-10 year cold day
 3 forecast of 548 MMcf/d in 2025/26,³²⁷ as well as gas demand of the SDG&E core at any time
 4 during the year as shown in SCGC's Table 6.³²⁸

5 Table 3 below summarizes the current rates and capacity that the Utilities understand is
 6 available on the North BC Pipeline System (North Baja Pipeline, Gasoducto Rosarito and TGN).

7 **TABLE 3**
 8 **AVAILABLE FIRM CAPACITY FOR NORTH BC PIPELINE SYSTEM**

Pipeline	Reservation Charge	Volumetric Charge	Fuel Charge	Available Firm Capacity (Dth)
North Baja	\$0.13145	\$0.00066	\$0.0234	166,670
Gasoducto Rosarito	\$0.03724	\$0.00485	\$0.0083	15,000
TGN	\$0.029200	\$0.00169	\$0.0055	0

9 While the Utilities could issue an RFO for firm capacity on the North BC Pipeline
 10 System sufficient to supply expected core gas demand, if the Commission agrees that is the need
 11 to be met, the Utilities would expect the cost to be very significant. As discussed in the updated
 12 prepared direct testimony of Mr. Borkovich, capacity releases from existing customers would
 13 only be feasible if it were done on a long-term, permanent basis.³²⁹ This would require the
 14 releasing shippers to agree to take interruptible service rather than the firm service they
 15 originally negotiated for. Further, as set forth in Supplemental Testimony, the more likely result
 16 would be that existing customers would opt to retain their firm capacity while those interested in
 17 responding to the RFO would instead propose to construct a new pipeline in Mexico in order to

³²⁶ SDGE-12 at 50.

³²⁷ SDGE-12 at 41.

³²⁸ SCGC-01 at 21 (Table 6).

³²⁹ SDGE-06-R at 8.

1 increase capacity on the path from Ehrenberg to Otay Mesa and seek recovery of that cost plus
2 profit in a 15 to 20-year contract.³³⁰

3 **2. SCGC shows a lack of understanding of gas transportation service**
4 **scheduling**

5 Based on Mr. Borkovich's understanding of scheduling processes, SCGC's speculation
6 that firm transportation service rights on North Baja Pipeline could be used by an interruptible
7 shipper on Gasoducto Rosarito to displace firm Gasoducto Rosarito shippers is incorrect. The
8 scheduling of gas transportation service across interconnecting pipelines requires the nomination
9 of gas transportation for a specific quantity on each pipeline that is confirmed by each pipeline
10 based upon a number of factors including the priority of the shipper's transportation service
11 agreement (TSA). A downstream pipeline, in this case Gasoducto Rosarito, would normally
12 confirm nominations based on the priority of the Shipper's TSA on the Gasoducto Rosarito
13 system, and not on their priority status on the upstream pipeline, when the Gasoducto Rosarito
14 System is constrained.

15 **3. Interruptible capacity is too risky**

16 As explained in updated prepared direct testimony, interruptible service to Otay Mesa is
17 not readily available during periods of high sendout during the peak summer months in the North
18 Baja region.³³¹ At other times up to 150 MMcfd has been available to the Operational Hub for
19 use in support of recently scheduled maintenance activities. Contrary to SCGC's suggestion,³³²
20 relying on interruptible capacity is not prudent or remotely comparable to the Proposed Project.
21 The Utilities do not expect this capacity to be available if it is being utilized by firm customers.

³³⁰ SDGE-12 at 46-48.

³³¹ SDGE-06-R at 11.

³³² SCGC-01 at 27-28 and 61-62.

1 The availability of this slack capacity is expected to decline over time as domestic demand for
2 natural gas increases in the region.

3 **B. SCGC Does Not Identify a Viable Otay Mesa Alternative Utilizing the**
4 **ECA LNG Facility**

5 SCGC's proposed solutions include both: (1) purchasing gasified LNG from ECA on an
6 "as-available" basis (in conjunction with utilizing any interruptible capacity available on the
7 North BC Pipeline System)³³³ and (2) contracting to maintain LNG in storage at ECA that can be
8 called upon when needed to supply SDG&E's customers, treating the LNG storage cost as
9 "insurance" to ensure it is available when needed.³³⁴ SCGC claims that such "insurance" would
10 be far less expensive than the Proposed Project. Based on market conditions, statements made
11 by IEnova in successive annual reports, and ECA's tariff terms and conditions, the Utilities
12 believe SCGC's claims are likely incorrect due to the high cost of LNG service and the
13 continuing availability of slack pipeline capacity to firm shippers who reserved this capacity to
14 serve growing loads on the North BC Pipeline System.

15 **1. ECA terms and conditions**

16 Currently, the ECA LNG facility is not competitive because the market has determined
17 that importing LNG costs more and represents more hassle than buying pipeline gas produced in
18 the United States. The reasons that importing LNG is so expensive also reveals why SCGC's
19 proposals are not viable or cost-effective options for potential Otay Mesa service providers.
20 Some of those reasons are set forth in ECA's terms and conditions.

21 Any bidder offering to supply regasified LNG from ECA to the Utilities at Otay Mesa
22 (whether an RFP process from both existing ECA shipper or an entity with the financial ability

³³³ SCGC-01 at 27.

³³⁴ SCGC-01 at 32-36 and 61-64.

1 and expertise to become an ECA shipper) would need to obtain rights to import LNG through
2 ECA.

3 In order to gain a better understanding of the rates, terms and conditions applicable to
4 potential service providers under the ECA LNG alternative, the Utilities reviewed public copies
5 of ECA's current rates and ECA's Terminos y Condiciones para la Prestacion del Servicio de
6 Almaciento de Gas Natural Licuado (ECA Terms and Conditions).³³⁵ These documents bolster
7 the Utilities' belief, set forth in both Updated Prepared Direct and Supplemental Testimony, that
8 the cost of purchasing LNG from ECA is higher than the purchase of U.S. domestic supply.³³⁶
9 Further, the cost to reserve firm storage capacity and maintain inventory at ECA, sufficient to
10 meet a flowing supply requirement, do not make those costs any more reasonable in today's
11 market.

12 ECA's Terms and Conditions provides five requirements for Shippers contracting for
13 storage service at their facility. They are:

- 14 1. A maximum volume for the purpose of unloading the Shipper's Vessel;
- 15 2. Maximum Monthly Throughput;
- 16 3. Maximum Daily Deliver Quantity (MaxDDQ)
- 17 4. Minimum Daily Delivery Quantity (MinDDQ)
- 18 5. Maximum Storage Quantity (MSQ)

19 Shippers contract for a MSQ that specifies the quantity of LNG that ECA is obliged to
20 store on behalf of the Shipper during a specified period of time. The MaxDDQ is the maximum
21 quantity of vaporized gas that shippers can request for delivery to the Gasoducto LNG Lateral on

³³⁵ Relevant portions of the ECA Terms & Conditions are attached hereto as Attachment Q.

³³⁶ SDGE-12 at 49.

1 any Gas Day. The MaxDDQ is currently limited to 18.86% of MSQ in the ECA Terms and
2 Conditions.

3 The MinDDQ is a minimum daily withdrawal requirement imposed on shippers when
4 they store LNG at ECA. ECA requires a Shipper to withdraw stored quantities at or above its
5 MinDDQ each day until its stored quantity is reduced to zero or refreshed with a new LNG
6 delivery. A specific MinDDQ factor is not specified in the ECA Terms and Conditions, but it
7 appears that it needs to be sufficiently large to cover the boil off of the Shipper's stored quantity
8 and fuel required to maintain the operation of the ECA facility.³³⁷ Further as discussed below,
9 the physics of LNG result in boil off that alters the nature of the remaining stored LNG, such that
10 it must be vaporized and shipped out before it is no longer usable as natural gas.³³⁸ Thus, there is
11 need for the constant turnover of stored LNG at ECA.

12 In addition to the cost of purchasing LNG, ECA shippers must pay various charges to
13 ECA for use of the ECA facility. The rates currently applicable to ECA Shippers are translated
14 and converted to U.S. dollars and energy units in Table 4 below.

³³⁷ Attachment Q (ECA Terms & Conditions, § 1.6) (“Boil-Off of LNG’ gas shall refer to the low-pressure gas that (i) boils off from ECA's storage tanks and other System installations ...”); (ECA Terms & Conditions, § 5.3(A)) (“There may be occasions in which Shippers may not be able to withdraw their MinDDQs. In these cases, ECA may have to dispose of the LNG by venting. The Available Stored Quantity of affected the Shipper shall be reduced in proportion to the portion of the LNG vented applicable to the Shipper.”); (ECA Terms & Conditions, § 16) (“Therefore, ECA shall be entitled to withhold and use, at no cost or charge from Shipper’s Available Stored Quantity, a quantity of gas equal to the result of multiplying said Shipper's Available Stored Quantity by the percentage of gas required to operate the System.”).

³³⁸ Attachment Q (ECA Terms & Conditions, § 5.1(C) (“If the Shipper has delivered LNG that meets the requirements of Section 11.1, and provided that said Shipper has complied with its obligation to withdraw Gas or LNG before its quality falls below a non-condition level pursuant to the provisions of Section 5.3(C), ECA shall be required to deliver Natural Gas or LNG that can be sold commercially in accordance with the provisions of Section 11.1.”); (ECA Terms & Conditions, § 5.3(C) (“The Shipper shall be responsible for the withdrawal of its LNG from the System before its quality deteriorates to a level that cannot be traded in accordance with Section 11.1 of these General Terms and Conditions.”). (Emphasis added).

1
2

TABLE 4
CURRENT RATES FOR ECA SHIPPERS

Service	Units	Charge
Firm Base (FB)	Dollars/Dth/Day	0.07050
Interruptible Base (IB)	Dollars/Dth/Day	0.07043
Excess Storage Charge (ESC)	Dollars/Dth/Day	0.03173
Excess Storage Withdrawal Charge (ESWC)	Dollars/Dth	0.26730
Interruptible Sendout	Dollars/Dth	0.26703
Gas Reimbursement	%	1.25
Title Transfer	Dollars/Dth	0.00961

3 As used in Table 4 above, the following terms are defined as: Firm Base (FB) is firm
4 storage service that is not subject to restrictions, reductions and interruptions except as provided
5 for in the ECA General Terms and Conditions. Interruptible Base (IB) is interruptible storage
6 service that is subject to restrictions, reductions and interruptions in order to provide FB storage
7 service. The Excess Storage Charge (ESC) applies to LNG delivered by the Shipper that exceeds
8 their MSQ. The Excess Storage Withdrawal Charge applies to shipper withdrawals from LNG
9 storage that exceed their MaxDDQ. The Gas Reimbursement charge is a physical charge
10 applicable to gas nominated for withdrawal from storage to cover boil-off gas and to provide fuel
11 to maintain operation of the ECA facility.

12 The estimated cost to reserve enough ECA FB storage capacity to meet a Commission-
13 approved flowing supply requirement at Otay Mesa can be calculated by dividing the FB
14 reservation charge by the MaxDDQ percentage of MSQ. Based on current rates the charge for
15 reserving FB storage capacity sufficient to meet an Otay Mesa firm delivery requirement is
16 approximately \$0.3734 per Dth per day. This does not include the cost of supply to maintain this
17 inventory at ECA. Table 5 below illustrates the cost to reserve firm capacity at ECA to supply

1 the capacity scenarios described in Supplemental Testimony (at 41) based on the ECA MaxDDQ
 2 percentage of MSQ limitation.³³⁹

3 **TABLE 5**
 4 **Cost to Reserve Firm Capacity at ECA**

Outage Scenario	Otay Mesa Delivery (MMcfd)	Required MSQ (MDth)	Daily Demand Charge (\$)	Annual Revenue Requirement (\$)
Line 1600 Replacement (replace capacity)	150	795	\$56,051	\$20,458,615
Moreno Station Outage (replace capacity)	290	1,538	\$108,404	\$39,567,460
Line 3010 Outage (replace capacity)	400 (lost capacity is 570, but Otay Mesa receipt capacity is 400)	2,121	\$149,523	\$54,575,895

5 The costs to purchase LNG and ship it to ECA, where it would cycle through the ECA
 6 facility in accordance with the ECA Terms and Conditions (including the MinDDQ), would be in
 7 addition to the storage reservation charges. The most recent LNG price reported by EIA for
 8 purchase at Sabine Pass for delivery to Mexico was \$5.25 per Dth for March 2017.³⁴⁰ This does
 9 not compare favorably to the EPNG South Mainline prices reported on the Intercontinental
 10 Exchange (ICE) for the same month that averaged \$2.63 per Dth.

11 Additional cost and shrinkage for tanker transportation from Sabine Pass to ECA would
 12 need to be added to the purchase cost to estimate a delivered LNG cost to ECA.

³³⁹ Please note that the current Otay Mesa receipt point capacity is 400 MMcfd.

³⁴⁰ https://www.eia.gov/dnav/ng/NG_MOVE_POE2_A_EPG0_PNG_DPMCF_M.htm

1 **2. SCGC's "as-available" proposal does not work**

2 SCGC believes the Utilities' core demand "could be supplemented as needed with
3 purchases of gas from ECA on an as-available basis."³⁴¹ Because of the cost disparity between
4 domestic gas at Ehrenberg and imported LNG delivered to ECA, IEnova has stated that shippers
5 are not delivering LNG to the ECA facility. They have reported in successive annual reports that
6 IEnova LNG is making deliveries sufficient to keep ECA operational. There are no indications
7 that any incremental deliveries were made for commercial purposes in either 2015 or 2016. As a
8 result, regasified LNG from ECA is probably not available to meet a sudden unplanned demand
9 from SDG&E at Otay Mesa.

10 In February 2011, the SoCalGas Operational Hub was able to purchase gas supply that
11 originated from ECA when gas supply at Ehrenberg was not available in sufficient quantities to
12 meet Southern System demand. Unfortunately, these as-available purchases were not available
13 in sufficient amounts to prevent a curtailment of the SoCalGas Southern System and SDG&E
14 that was ordered on February 2011.

15 At the time these purchases were made, the Utilities' backbone transportation service
16 (BTS) Shippers were making sporadic deliveries to Otay Mesa. This activity indicated that LNG
17 deliveries were being made to ECA in sufficient quantity to allow for the sale of gas that was
18 stored at the facility. However, that has not been the case since 2011.

19 The Utilities have not received a commercial gas delivery at Otay Mesa from a BTS
20 Shipper under normal operating conditions since 2011. All Otay Mesa receipts since then have
21 solely been made under orders from the System Operator to either the Operational Hub or Gas

³⁴¹ SCGC-01 at 27.

1 Acquisition. In all cases, the gas supply originated from the EPNG South Mainline and not
2 ECA.

3 More importantly, IEnova stated in their 2015 Annual Report and again in their 2016
4 Annual Report that ECA's LNG inventory is being maintained solely to keep the plant running.
5 IEnova asserts that continuing operation of the LNG terminal is required in order to collect firm
6 fixed storage charges under ECA's firm storage service agreements with Shell and Gazprom,
7 presumably until 2028 when these agreements both expire.

8 Given this situation, SCGC's suggestion that the Utilities could purchase as-available
9 supplies from ECA to offset either a planned outage or an emergency situation would only work
10 if regular tanker deliveries were scheduled to maintain storage inventory above current levels
11 that ECA requires to keep the plant operational. IEnova would need to retain enough LNG in the
12 tanks to avoid shutting down the plant when the Operational Hub requested delivery at Otay
13 Mesa to meet the demand requirements resulting from an unplanned outage on the SDG&E
14 system.

15 A recent real life example elsewhere in Mexico illustrates the steps needed and costs
16 incurred to obtain imported LNG for a planned outage.

17 On April 18, 2017, Reuters reported that Pemex started importing LNG from Cheniere
18 Energy's Sabine Pass export terminal in Louisiana to Mexico's Altamira import terminal earlier
19 that month in anticipation of a week-long maintenance outage on the NET Mexico pipeline in
20 Texas.³⁴² It was reported that three LNG tankers with respective cargo capacities of 3.6, 3.4 and
21 2.9 Bcf had or were waiting to make deliveries at Altamira to cover customer demand during the

³⁴² www.reuters.com/article/us-usa-mexico-natgas-lng-idUSKBN17K2HE

1 outage scheduled for April 9-15. It was also reported that two of the tankers had been diverted
2 north from the Panama Canal in order to make the deliveries.

3 Based on an average LNG cost of \$5.25 per Dth from the EIA website for Gulf Coast
4 LNG sold for Mexico delivery for March 2017,³⁴³ the costs of these tanker loads was in the
5 neighborhood of \$17 million apiece plus tanker transportation from Sabine Pass to Altamira.

6 Applying this real life example to an outage on the SDG&E system based on the current
7 situation at ECA would only work for a planned outage on the Utilities' system where: 1) prior
8 regulatory approval for the purchase of an LNG cargo at a gross cost in excess of \$17 million
9 (based on March 2017 LNG prices) was received; 2) the outage was scheduled far enough in
10 advance to purchase a cargo for delivery to ECA just prior to the start of the outage; and 3) it was
11 known in advance that either or both EPNG South Mainline supply and North Baja/Gasoducto
12 Rosarito/TGN capacity was insufficient to meet forecast demand during the outage period.

13 **3. SCGC's proposal for long-term LNG storage at ECA is not**
14 **practical based on the physics of LNG**

15 SCGC speculates that a yet to be explored option exists as an alternative to the Proposed
16 Project – the long term storage of LNG at ECA that would only be withdrawn when required to
17 address system outages.³⁴⁴ SCGC's proposal illustrates that it does not understand ECA, the
18 physics of LNG and its impact on the commercial operation of LNG storage facilities, and the
19 Utilities desire to avoid being inserted into an uneconomic LNG business proposition in lieu of
20 providing pipeline transportation service.

21 SCGC makes several unfounded claims regarding how a static storage proposal might
22 work. Getting into the details of an improbable standby agreement as suggested by SCGC is

³⁴³ https://www.eia.gov/dnav/ng/NG_MOVE_POE2_A_EPG0_PNG_DPMCF_M.htm

³⁴⁴ SCGC-01 at 32-36.

1 speculative at best and most likely physically impossible based on the operation of the ECA
2 facility as described below.

3 In theory, a standby service arrangement from ECA analogous to services provided by
4 unbundled storage shippers on the SoCalGas system sounds more appealing than buying
5 vaporized LNG every day to maintain reliability. Unfortunately, the physics of LNG and the
6 configuration of the ECA facility appear to make a long term storage alternative that SCGC
7 describes to be impractical.

8 (a) LNG physics and ECA's minimum daily requirement

9 LNG is a cryogenic liquid that is maintained at a temperature just below the boiling point
10 of natural gas at ambient pressure in insulated tanks designed for that purpose. The approximate
11 boiling point for natural gas at ambient pressure is -260 degrees C. LNG is constantly exposed
12 to heat and at times kinetic energy from the time it is liquefied and loaded into tankers to the
13 time it is vaporized and delivered to the receiving pipeline system. This added energy constantly
14 evaporates a portion of the LNG, referred to as boil-off gas (BOG), which continually changes
15 the quality of the remaining LNG over time. This process is referred to as ageing in the LNG
16 Industry.³⁴⁵

17 BOG primarily contains methane and nitrogen which are the more volatile (lower boiling
18 point) components of LNG. As this process continues, the stored LNG's specific gravity and
19 Btu value increases. As it ages, the risk that the LNG will no longer meet the gas quality

³⁴⁵ See, e.g., Attachment R.1 (*Weathering of stored Liquefied Natural Gas (LNG)*), 10th International Conference on Thermal Engineering: Theory and Applications, February 26-28, 2017, Muscat, Oman); Attachment R.2 (*Problem of Boil - off in LNG Supply Chain*, Trans. Marit. Science. 2013; 02: 91 – 100); Attachment R.3 (*Modelling of Boil-Off Gas in LNG Tanks: A Case Study*, E. Adom et al. / International Journal of Engineering and Technology Vol.2 (4), 2010, 292-296).

1 standards applicable to the pipeline systems destined to receive it must be managed by the
2 storage plant operator.

3 ECA does not have liquefaction facilities installed that can recover and liquefy BOG and
4 pipeline gas to maintain gas quality of stored LNG. This means the BOG has to be vented or
5 scheduled for delivery as part of the MinDDQ. Thus, ECA's Terms & Conditions, § 5.3(A)
6 provides: "There may be occasions in which Shippers may not be able to withdraw their
7 MinDDQs. In these cases, ECA may have to dispose of the LNG by venting. The Available
8 Stored Quantity of affected the Shipper shall be reduced in proportion to the portion of the LNG
9 vented applicable to the Shipper."³⁴⁶

10 LNG storage operators like ECA can adjust the quality of vaporized gas scheduled for
11 delivery to the SDG&E system by adding nitrogen to maintain its quality in order to meet the
12 Rule 30 standards. Use of this gas quality adjustment tool is limited by the ceiling on inert gas in
13 the gas quality specification. To avoid having non-marketable LNG in its storage tanks, ECA's
14 Terms & Conditions require a shipper to withdraw its LNG before the quality falls to that point.
15 Section 5.1(C) provides: "If the Shipper has delivered LNG that meets the requirements of
16 Section 11.1, and provided that said Shipper has complied with its obligation to withdraw Gas or
17 LNG before its quality falls below a non-condition level pursuant to the provisions of Section
18 5.3(C), ECA shall be required to deliver Natural Gas or LNG that can be sold commercially in
19 accordance with the provisions of Section 11.1."³⁴⁷ Similarly, § 5.3(C) provides: "The Shipper
20 shall be responsible for the withdrawal of its LNG from the System before its quality deteriorates

³⁴⁶ Attachment Q (ECA Terms & Conditions, § 5.3(A).

³⁴⁷ Attachment Q (ECA Terms & Conditions, § 5.1(C).

1 to a level that cannot be traded in accordance with Section 11.1 of these General Terms and
2 Conditions.”³⁴⁸

3 In order to maintain a stable operation, storage operators like ECA require their shippers
4 to withdraw a minimum quantity every day to: account for BOG; prevent the ageing of the gas
5 stored in the tanks; and to make gas available for the operator to maintain plant operation.

6 **(b) SCGC’s cost estimate is deeply flawed**

7 SCGC suggests that to ensure gas would be available in the event of a Line 3010 outage,
8 “Applicants would have to assure that LNG supplies would be held in storage at Costa Azul.”³⁴⁹
9 SCGC asserts that one ECA storage tank could store 3.39 Bcf volume of gas, which SCGC says
10 is “10 days of gas supply to core demand in the winter months and about 50 days of gas supply
11 to core demand in the summer months.”³⁵⁰ Speculating that a tanker with more LNG could be
12 sent to and arrive at ECA within five days, SCGC suggests “only half of one Costa Azul LNG
13 storage tank may be sufficient to cover core needs if Line 3010 were to go out of service during
14 the winter peak.”³⁵¹ Noting that the current ECA capacity holders are not importing LNG to
15 ECA other than enough to maintain it in operation, but yet owe storage fees under long term
16 contracts, SCGC suggests that they might be willing to offer LNG storage at a low cost. Finally,
17 SCGC proffers purported costs.³⁵²

18 SCGC’s assumptions and cost estimate are deeply flawed. First, SCGC fails to
19 understand the impact of the MinDDQ, discussed above. A load of LNG cannot remain in

³⁴⁸ Attachment Q (ECA Terms & Conditions, § 5.3(C).

³⁴⁹ SCGC-01 at 32.

³⁵⁰ SCGC-01 at 33.

³⁵¹ SCGC-01 at 33.

³⁵² SCGC-01 at 36.

1 storage for years until it is needed to serve SDG&E's customers. ECA requires that its shippers
2 cycle their stored quantity relatively quickly through the use of the MinDDQ.

3 SCGC recognizes that BOG must be removed from the storage tank every day, but
4 mistakenly states: "The LNG boil-off rate for LNG tanks is 0.005 percent," citing a technical
5 article.³⁵³ In fact, the article states: "As the operation pressure was dropped to 200mbar, all four
6 of the LNG tanks' BOG levels reached 0.05vol%/day."³⁵⁴

7 SCGC also ignores the LNG ageing arising from the BOG, and does not account for the
8 requirement to withdraw "LNG from the System before its quality deteriorates to a level that
9 cannot be traded."³⁵⁵ Nor does SCGC account for ECA's requirement that shippers provide gas
10 necessary to operate the facility. ECA Terms & Conditions, § 16 provides: "Therefore, ECA
11 shall be entitled to withhold and use, at no cost or charge from Shipper's Available Stored
12 Quantity, a quantity of gas equal to the result of multiplying said Shipper's Available Stored
13 Quantity by the percentage of gas required to operate the System."³⁵⁶ According to ECA's rate
14 sheet, the amount of gas taken for facility operations is 1.25% on the gas withdrawn.

15 In short, SCGC's proposal will require many shipments of LNG to ECA. Without
16 knowing exactly what the MinDDQ would be, the Utilities cannot determine how many times it
17 would be necessary to refill the storage amount each year. Clearly, SCGC's concept, that a load
18 of LNG could be stored indefinitely, with only a purported \$44,000 of boil-off gas replaced
19 yearly, is mistaken given the MinDDQ. As discussed above, based on an average LNG cost of

³⁵³ SCGC-01 at 36, fn.128 (citing to Modelling of Boil-Off Gas in LNG Tanks: A Case Study, E. Adom et al. / International Journal of Engineering and Technology Vol.2 (4), 2010, 292-296 at 294).

³⁵⁴ Attachment R.3 (Modelling of Boil-Off Gas in LNG Tanks: A Case Study, E. Adom et al. / International Journal of Engineering and Technology Vol.2 (4), 2010, at 292, 295).

³⁵⁵ Attachment Q (ECA Terms & Conditions, § 5.3(C)).

³⁵⁶ Attachment Q (ECA Terms & Conditions, § 16).

1 \$5.25 per Dth from the EIA website for Gulf Coast LNG sold for Mexico delivery for March
2 2017,³⁵⁷ a tanker load would cost around \$17 million apiece plus tanker transportation.

3 SCGC also speculates that the existing holders of ECA storage capacity (IEnova LNG,
4 Shell Mexico, and Gazprom Mexico) would be eager to provide discounted storage costs because
5 they currently must pay for storage under long term contracts whether or not they use ECA.³⁵⁸

6 SCGC notes: "At the previously posted 2011 rate for storage at Energia Costa Azul, a year's
7 worth of storage for one-half of a tank of LNG would cost \$58 million."³⁵⁹ SCGC's witness then
8 asserts, without any explanation: "I would expect that the storage costs for the one-half of a tank
9 of LNG would be on the order of \$6 million per year."³⁶⁰

10 As an initial matter, there is no basis for this speculation. SCGC did not contact any of
11 the capacity holders.³⁶¹ Contrary to SCGC's speculation, the capacity holders might consider
12 Commission interest in purchasing firm re-gasified LNG supplies delivered at Otay Mesa an
13 opportunity to make a profit. Moreover, the long-term contracts expire in 2028, so any incentive
14 to discount storage charges would be gone. If ECA otherwise would then shut down operations,
15 an entity bidding to supply the Utilities with this service would have to bear the entire cost of the
16 operation. If the cost disparity between LNG imports and domestic gas has disappeared, then
17 such an entity would face competition for storage. In short, SCGC has not supported its claim
18 that storage charges will be minimal.

19 Given the significant cost of LNG (currently, roughly \$17 million for a tanker load based
20 on March 2017 LNG prices), the MinDDQ that will require cycling LNG through ECA

³⁵⁷ https://www.eia.gov/dnav/ng/NG_MOVE_POE2_A_EPG0_PNG_DPMCF_M.htm

³⁵⁸ SCGC-01 at 36.

³⁵⁹ SCGC-01 at 36.

³⁶⁰ SCGC-01 at 36.

³⁶¹ Attachment H.3 (SCGC Response to Utilities' DR-04, Q26).

1 frequently to maintain an amount in storage desired to serve SDG&E when needed, shipping
2 costs, and storage charges, SCGC's LNG storage proposal does not appear economically viable.

3 **C. The Regulatory Framework for Development and Cost Recovery of**
4 **the Otay Mesa Alternatives Has Already Been Established by the**
5 **Commission**

6 ORA believes that the Otay Mesa Alternatives require further evaluation through an
7 undefined Request for Proposal (RFP) process. SCGC believes that the costs for these
8 alternatives somehow need to be imposed on core customers. Both are incorrect. The regulatory
9 framework for further development and evaluation of these tools including the use of RFPs was
10 established under Commission Orders D.97-12-088 and D.98-08-035 and is expressed in
11 SoCalGas Rule 41. All that is required to move forward on the Otay Mesa Alternatives is
12 Commission authorization for the Utilities to request offers for a specific quantity of firm
13 capacity or supply at Otay Mesa for a specified term.

14 Rule 41 allows the SoCalGas Operational Hub to use tools authorized by the Commission
15 to support the Southern System minimum flow requirement. The Southern System minimum
16 flow requirement is the amount of gas flow required each day from Southern Zone system
17 receipt points at Ehrenberg, Blythe and Otay Mesa to serve loads on the SoCalGas Southern
18 System and SDG&E. A long-term contract for capacity or supply delivery at Otay Mesa counts
19 as a tool to ensure the reliability of the SDG&E system as well as the SoCalGas Southern System
20 for both core and noncore customers.

21 The currently approved tools for use by the Operational Hub include the purchase and
22 sale of spot gas supply; the issuance of RFO's for proposals to enable SoCalGas to manage the
23 minimum flow requirement; and the ability to move gas supply between the Ehreneberg and
24 Otay Mesa system receipt points.

1 Under Rule 41 SoCalGas has purchased gas supply, mostly at Ehrenberg, and sold that
2 supply back to suppliers and customers at the City Gate; bought and sold base load gas purchases
3 at Ehrenberg during the winter and summer months; and has moved spot gas purchases from the
4 El Paso Natural Gas (EPNG) South Mainline for interruptible transport to Otay Mesa to ensure
5 system reliability.

6 Acquiring the right to be an interruptible shipper on the North Baja/Gasoducto
7 Rosarito/TGN path requires an agreement with two affiliates, Gasoducto Rosarito and TGN.
8 Affiliate Compliance rules require Commission approval of those relationships which last
9 occurred on June 25, 2015.

10 The Utilities believe that these tools, while effective for meeting Southern System
11 requirements under most conditions encountered so far, are inadequate as replacements for Line
12 1600 as an alternative to a new pipeline that transports gas in parallel with Line 3010.

13 On March 30, 2012, the Commission authorized the SoCalGas Operational Hub to
14 transport gas supply from Ehrenberg to Otay Mesa on the North Baja Pipeline, Gasoducto
15 Rosarito, and TGN systems.

16 Rule 41 restricts the Operational Hub's purchase of gas supply from Sempra Energy
17 affiliates to those made through an Independent Party, where the counterparties are not known
18 until after the transaction is completed. During the EPNG South Mainline system emergency in
19 February 2011, the Operational Hub was able to make limited purchases of supply from an
20 independent party who the Utilities believe was selling gas from ECA before it became
21 unavailable. This restriction limits the Utilities' ability to make direct spot purchases with North
22 Baja gas suppliers since then because it now appears that Sempra Energy affiliates are the only
23 major suppliers operating there at this time.

1 Rule 41 RFO authorizes SoCalGas to issue an RFO for proposals to enable the
2 management of minimum flow requirements for system reliability. The RFO does not bind
3 SoCalGas to enter into a contract for any product or service offered in response to the RFO. Any
4 contract entered into with an RFO respondent is conditioned upon Commission approval
5 acceptable to SoCalGas. Current Commission authority limits SoCalGas to issuing RFOs for
6 seasonal Base Load purchase transactions. The Utilities believe that an RFO issued by
7 SoCalGas without Commission authority would not be perceived by the market as a serious
8 proposal.

9 **D. None of the Otay Mesa Alternatives are Operationally Equivalent to**
10 **the Proposed Project**

11 As stated in Mr. Borkovich's Updated Prepared Direct Testimony, a new pipeline in
12 parallel with Line 3010 provides flexibility and regulatory certainty that cannot be provided by
13 either of the Otay Mesa Alternatives.³⁶²

14 Both Otay Mesa Alternatives would require the delivery of gas to the SDG&E system at
15 Otay Mesa from the TGN system which has not been used by SoCalGas and SDG&E BTS
16 shippers on a voluntary basis since 2011. The Otay Mesa Pipeline Alternative would use
17 capacity originally built in the U.S. and Mexico in 2002 to serve load in a growing North Baja,
18 Mexico gas market. The Otay Mesa LNG Alternative would force SoCalGas and SDG&E
19 customers to resuscitate an uneconomic supply option for Southern California somehow into an
20 economic project alternative. These problems are avoided on the SDG&E system by
21 constructing a replacement for Line 1600.

22 Further, as explained in Supplemental Testimony, contracting for long term service on a
23 foreign gas system exposes ratepayers to sovereign risks that are avoided by the construction and

³⁶² See SDGE-6-R.

1 operation of a new pipeline located in the U.S.³⁶³ Taking service from foreign pipelines to avoid
2 the higher development cost for pipeline facilities subject to Commission and California
3 Environmental Quality Act (CEQA) jurisdictional requirements could be undermined by future
4 regulatory changes in Mexico that could negate the benefit of the investment. The Commission
5 would also have to consider the cost and time to have personnel capable of monitoring and
6 possibly intervening in regulatory matters affecting the rates and services charged for these
7 services as is currently done for services paid for by ratepayers under the jurisdiction of FERC.

8 The potential sovereign risk cannot help but lead one to the conclusion that contracting
9 for long term service on a gas system in a foreign country should only be seriously considered
10 when it is done to either serve load located in that country or to procure a source of otherwise
11 inaccessible gas supply that provides essential supply or competitive benefits to the utility's gas
12 market not available from domestic sources. The Otay Mesa alternatives currently meet neither
13 criteria and have mostly not done so since 2011.

³⁶³ SDGE-12 at 43.

EXHIBIT D

Application No: A.15-09-013
Exhibit No.: SDGE-4-R
Witness: S. Ali Yari

In The Matter of the Application of San Diego Gas
& Electric Company (U 902 G) and Southern
California Gas Company (U 904 G) for a Certificate
of Public Convenience and Necessity for the Pipeline
Safety & Reliability Project

Application 15-09-013
(Filed September 30, 2015)

UPDATED
PREPARED DIRECT TESTIMONY OF
S. ALI YARI
ON BEHALF OF
SAN DIEGO GAS & ELECTRIC COMPANY
AND
SOUTHERN CALIFORNIA GAS COMPANY

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

March 21, 2016, updated February 21, 2017

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1 **I. PURPOSE AND OVERVIEW**

2 The purpose of my testimony is to explain why the proposal of San Diego Gas & Electric
3 Company (SDG&E) and Southern California Gas Company (SoCalGas) (collectively, the
4 Utilities) for a new approximately 47-mile, 36-inch diameter natural gas transmission pipeline
5 (Line 3602) and associated facilities between the Rainbow Metering Station (Rainbow Station)
6 and a tie-in point with Line 2010 on Marine Corps Air Station (MCAS) Miramar (the Proposed
7 Project or Pipeline Safety & Reliability Project (PSRP))¹ should be approved. The Proposed
8 Project is needed from an electric reliability standpoint. My testimony supplements the
9 testimony of other witnesses who testify as to why the Proposed Project is needed from a gas
10 safety and reliability standpoint.

11 Although the Application primarily focuses on gas issues, there is significant reliance on
12 gas by electric generation in the region served by SDG&E.

13 A key issue of my testimony is that curtailment of gas supply to electric generation can
14 result in the loss of firm electric customers. This conflict arises because the competitive
15 generation market is not incentivized to ensure that firm electric demand is met during periods of
16 gas curtailment. There is currently no option for electric generators to elect a firm gas supply to
17 provide for a firm electric supply.

18 SDG&E is a regulated public utility that provides electric service to 3.4 million people
19 through 1.4 million electric meters in San Diego County and southern Orange County.² The
20 electric service area spans 4,100 square miles. As a regulated public utility, SDG&E has an
21 obligation to serve its customers safely and reliably. Although the North American Electric

¹ The Utilities use these terms interchangeably throughout the testimony and Application.

² SDG&E provides natural gas service to San Diego County. SoCalGas provides natural gas service to southern Orange County.

1 Reliability Corporation (NERC), pursuant to the Federal Power Act and Federal Energy
2 Regulatory Commission (FERC) regulation, already has an extensive set of reliability standards
3 for the electric transmission system, issues involving the interdependency between the gas
4 systems and electric systems are also being considered to improve reliability.³

5 The interdependency and need for coordination between electric and gas systems is also
6 recognized by the California Energy Commission (CEC). In its 2015 Natural Gas Act Report
7 prepared pursuant to Assembly Bill (AB) 1257, the CEC determined that approximately 40
8 percent of the natural gas in California is used in electric generation (EG) and as such, more
9 discussions and studies are needed for more effective coordination between the gas and electric
10 industries, as described in more detail below.⁴

11 The Utilities raise these issues to the attention of the California Public Utilities
12 Commission (CPUC or Commission), because the Proposed Project is vital not only for the
13 reliability of gas service, but also for the reliability of electric service. My testimony will explain
14 the following key risk issues with respect to the Proposed Project's relationship to electric
15 reliability:

- 16 • SDG&E's firm electric customers are at risk for electric curtailment when gas
17 curtailments occur, due to the vast majority of electric in-basin⁵ generation power

³ See FERC Final Rule 809, issued April 16, 2015. See also NERC Special Reliability Assessment "Accommodating an Increased Dependence on Natural Gas for Electric Power" (NERC Report), at 38 (dated May 2013), available at http://www.nerc.com/pa/RAPA/ra/Reliability%20Assessments%20DL/NERC_PhaseII_FINAL.pdf; and FERC webpage, at <http://www.ferc.gov/industries/electric/indus-act/electric-coord.asp>. However, these efforts involving gas scheduling issues and improving the timing of the "Gas Day" do not alleviate the gas-electric interaction issues involved in this testimony.

⁴ CEC Final Staff Report, AB 1257 Natural Gas Act Report: Strategies to Maximize the Benefits Obtained From Natural Gas as an Energy Source, November 2015 (AB 1257 Report), at 29-30.

⁵ The term "in-basin" generation refers to local generation, meaning generation in the SDG&E service territory.

1 plants relying on gas as a fuel source. Gas curtailments could result in a reduction
2 of electric supply.

- 3 • Conflicting priorities exist between gas and electric operations. As discussed in
4 the Prepared Direct Testimony of Mr. David Bisi, gas curtailments could require
5 electric generating plants to be curtailed to continue to serve core gas customers.
6 However, as discussed in my testimony, such curtailment of gas-fueled⁶
7 generation could require firm electric customer outages to prevent a widespread
8 blackout.⁷
- 9 • With 90 percent of the gas capacity in the SDG&E system supplied by Line 3010,
10 a 30-inch diameter pipeline, any number of potential outage scenarios on this
11 single gas pipeline could place firm electric load at risk due to gas curtailment of
12 EG leading to electric outages. *See* the Prepared Direct Testimonies of Mr. Bisi
13 and Mr. Jani Kikuts.
- 14 • The FERC/NERC, Western Electricity Coordinating Council (WECC), California
15 Independent System Operator Corporation (CAISO) and SDG&E reliability
16 standards require that the electric system must withstand the largest single electric
17 contingency without the need to drop firm electric customer load. However, the
18 situation is such that the loss of a single gas facility, Line 3010, could result in a
19 loss of firm electric customer load. There is clearly a reliability correlation
20 between the gas and electric systems. In the absence of construction of the
21 Proposed Project, these persistent gas-electric interdependency issues could
22 require constructing one or more new transmission lines to increase electric
23 transmission import capabilities, in order to provide adequate electric reliability in
24 accordance with established NERC and other regulatory requirements.⁸

⁶ The terms “gas fueled” and “gas fired” have the same meaning and may be used interchangeably.

⁷ As described in the Amended Application, the Utilities retained PricewaterhouseCoopers (PwC) to perform a cost-effectiveness analysis of the Proposed Project and the alternatives identified in the Ruling. *See* Amended Application, Volume III – Cost-Effectiveness Analysis. The Cost-Effectiveness Analysis and underlying methodology were performed by PwC with input and data from the Utilities. I have provided data input to the analysis as well as other data inputs for the portions of the analysis that pertain to my testimony below.

⁸ In a “no gas” or very limited gas scenario, SDG&E may not be able to serve all of its customers and may need to drop load.

1 **II. A GAS SINGLE CONTINGENCY STANDARD DOES NOT CURRENTLY EXIST**
2 **THAT WOULD SUPPORT THE ELECTRIC TRANSMISSION PLANNING AND**
3 **OPERATION STANDARDS AND THE ELECTRIC GRID'S INCREASING**
4 **RELIANCE ON NATURAL GAS**

5 From an electric reliability perspective, a single point of failure on the SDG&E gas
6 system could also place SDG&E's electric load at risk due to curtailment of gas supply to EG in
7 San Diego. The Proposed Project is a physical solution that provides a redundant gas supply to
8 San Diego that would address the single point of failure scenario from a gas reliability
9 perspective (*see* the Prepared Direct Testimonies of Gwen Marelli and Mr. Bisi) and an electric
10 reliability perspective (as discussed in my testimony).

11 The electric grid is designed to handle a single contingency (N-1), meaning an outage
12 condition on a single electric transmission facility and/or generation resource pursuant to
13 established electric reliability standards, such as the FERC-approved NERC reliability
14 standards.⁹ However, the electric grid in San Diego relies upon in-basin natural gas-fired EG
15 under many operating scenarios, and that in-basin generation is currently connected to a gas
16 supply system without gas contingency planning for a similar "N-1" single line outage of
17 Line 3010. The CAISO, FERC and the CEC all recognize the need for gas-electric integration
18 because of power plants' reliance on gas as a fuel supply.¹⁰ Indeed, the NERC released a 2013
19 report recognizing the need for risk mitigation of potential EG outages due to natural gas

⁹ *See generally* NERC Report, at 38.

¹⁰ In 2011, the CAISO applied for and obtained a tariff amendment providing that the CAISO may share information regarding outages of natural gas-fired generation resources and other electric grid outages with natural gas transmission and distribution utilities. CAISO Tariff Section 20.4(c)(iv). *See also* February 3, 2012 Request for Comments of Commissioner Moeller on Coordination between the Natural Gas and Electricity Markets, available at <https://www.ferc.gov/industries/electric/indus-act/electric-coord/moellergaselectricletter.pdf>; November 15, 2012: FERC Staff Report on Gas-Electric Coordination Technical Conferences (Docket No. AD12-12-000). *See also* AB 1257 Report, at 31-32 ("Certain natural-gas fired power plants are used to meet local reliability needs, to provide emergency system support, and to provide the range of ancillary services that are needed by [CAISO] to keep the integrated electric system running reliably.").

1 interruptions and curtailments, even if the probability of a pipeline failure occurring during
2 electric peak periods is very low: “[W]ithin a relatively short time, a major failure [on a gas
3 pipeline] could result in a loss of electric generating capacity that could exceed the electric
4 reserves available to compensate for these losses.”¹¹

5 At this time, however, there is no similar gas “N-1” contingency standard for gas system
6 operators that would support the electric transmission planning and operation standards and the
7 electric grid’s increasing reliance on natural gas.¹² According to the NERC, “[w]hile it is not
8 possible to fully protect any system against acts of nature, contingency plans can and should be
9 prepared. . . .”¹³ As explained in the Sections below, the Proposed Project would allow the
10 Utilities to handle a “contingency event involving the loss of delivered gas supply to gas-fired
11 units within a region and mitigate the potential resulting domino effect.”¹⁴

12 The existing in-basin gas-fired generation in SDG&E’s service territory consists of
13 approximately 3,140 megawatts (MW) of generators that rely on natural gas supplies from the
14 two existing transmission pipelines within San Diego County. If an outage on Line 3010 occurs,
15 as Ms. Marelli and Mr. Bisi testify, these EG plants could be curtailed to continue providing gas
16 to serve core gas customers. That curtailment of gas supply to EG plants could require shedding
17 *electric* load (*i.e.*, firm electric customers) to prevent complete electric system loss, resulting in a
18 widespread blackout.¹⁵ As described below, SDG&E’s electric power import capability alone is
19 not sufficient to serve all electric load for many hours during many days of the year.

¹¹ NERC Report, at 4.

¹² See D.02-11-073 and D.06-09-039.

¹³ NERC Report, at 29.

¹⁴ See *id.* at 38.

¹⁵ See *id.* at 25:

While relatively few in number and limited to specific regions, there have been interruptions to the delivery of gas supply to gas-fired units, as well as to consumers within the other demand

1 **III. NATURAL GAS-FIRED GENERATION IS CRITICAL TO SDG&E AND**
2 **CALIFORNIA**

3 **A. Growth in Need for Fast Ramping Natural Gas-Fired EG**

4 Unlike base load units that are operated at a relatively constant level of power output, or
5 renewables that have outputs that cannot be dispatched up or down, fast-ramping natural gas-
6 fired units are needed due to their ability to be dispatched to increase or decrease power output
7 relatively quickly to meet changing electric load demand conditions.

8 SDG&E's electric system is operated as part of the larger CAISO integrated system.
9 Traditionally, the customer load demand of the CAISO system (including the SDG&E system)
10 would change slowly throughout the day in a cycle that would peak between 3 and 5 PM and
11 reach a minimum around 2 or 3 AM. However, that traditional load curve has been changing,
12 and will continue to change. Senate Bill (SB) 350 requires electric service providers in
13 California to increase their purchase of eligible renewable energy resources from 33 percent to
14 50 percent under the Renewables Portfolio Standard (RPS) by December 31, 2030. Thus, by
15 law, the amount of renewable generation coming on-line will continue to increase.

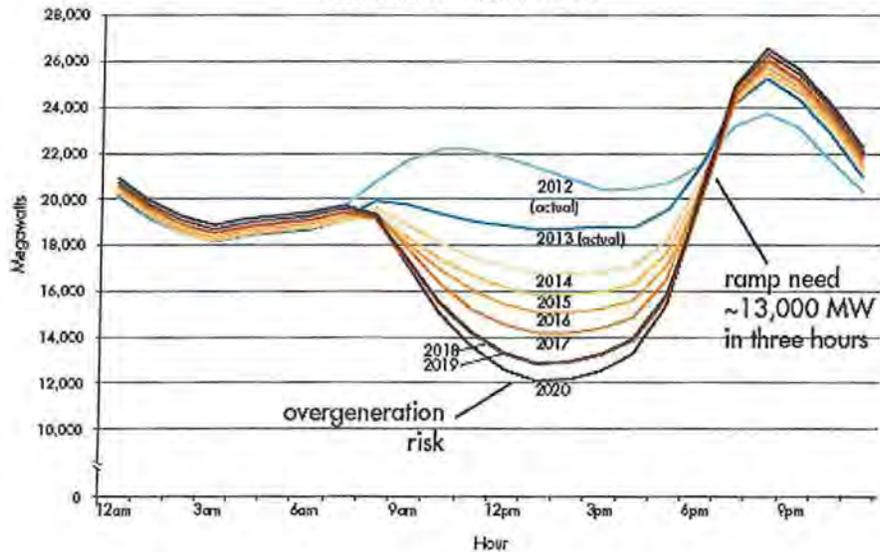
16 Energy generated from renewable sources, such as wind and solar, varies depending on
17 conditions (*e.g.*, wind not blowing, sun not shining). The intermittency of renewable generation
18 can fluctuate hour to hour, which presents challenges for planning and operating the electric grid.
19 For example, with the installation of significant amounts of solar power, we now see a new
20 emerging pattern of natural gas-fired EG dispatch throughout the day. There is a need for natural
21 gas-fired EG on a daily basis in the morning before the solar output has peaked. As solar power

sectors. As illustrated by the review of selected historical service interruption incidents in Chapter 3, none of the incidents directly affected overall system reliability. In some cases, the gas industry was able to either respond quickly or resort to alternatives. However, some historical incidents have contributed to the degradation of system reliability, and similar incidents that could easily threaten regional system reliability are possible.

1 increases during mid-day and through the early afternoon, the net load¹⁶ that the CAISO must
 2 “follow” by dispatching natural gas-fired EG decreases since the solar output is increasing faster
 3 than electric demand. After peaking in the afternoon, solar output starts to decline while electric
 4 demand continues to rise, resulting in a very fast “ramp” requirement during which natural gas-
 5 fired EG must be quickly and dramatically increased.¹⁷

6 The CAISO’s “duck curve” below illustrates this phenomenon.¹⁸ This curve has come to
 7 be known as the duck curve based on the shape of the curve. The magnitude of the duck curve
 8 phenomenon is increasing year by year, increasing challenges and reliance on natural gas for
 9 fast-ramping EG capability, as solar and other renewables continue being added to the system.

10 **TABLE 1**
Net Load – March 31



¹⁶ “Net Load” is load (customer power demand) minus renewable generation (solar and wind participating in the CAISO market).

¹⁷ See AB 1257 Report, at 32 (“Studies performed by the [CAISO] show that the predicted variation in renewables production mean that large numbers of remaining resources, namely those fired by natural gas, will need to ramp up production quickly, as the renewables generation falls off, and be turned down quickly as the renewables production increases.”).

¹⁸ CAISO, *Fast Facts*, “What the duck curve tells us about managing a green grid,” available at https://www.caiso.com/Documents/FlexibleResourcesHelpRenewables_FastFacts.pdf.

1 Accordingly, while renewable resources provide an additional source of energy, the need
2 for fast-ramping, natural gas-fired generation to meet peak electric power demand is increasing
3 to “fill the gap” as renewable generation fluctuates during the day or with the weather.
4 Integration of increasing amounts of renewable generation (especially solar and wind) has
5 significantly increased reliance on the availability and flexibility of natural gas-fired units to
6 ensure safe and reliable operation of the electric system, especially during morning and late
7 afternoon load and renewable generation ramps.

8 In addition to observed, daily ramping patterns of solar generation illustrated by the duck
9 curve, renewable generation has intermittency issues that are not always predictable (*e.g.*, rain or
10 cloud cover reducing solar output). Quick-start, natural gas-fired units known as peaking units
11 alleviate these intermittency issues as well. As more generation from solar and wind comes on-
12 line, the call for dispatch of natural gas-fired generation becomes larger and less predictable than
13 in the past, and peaking units can be quickly dispatched under scenarios that require back-up
14 generation for renewable fluctuations throughout the day. Natural gas-fired units are also needed
15 to provide frequency regulation (matching load and generation) and provide more dependable
16 voltage support than renewables.

17 To support fast ramping natural-gas fired EG, the gas must be available when called
18 upon, even if it was not scheduled in advance. The CEC and CAISO recognize that the
19 intermittency of renewables may cause natural-gas fired EG to ramp up quickly, and as such,
20 may cause a “greater variation in gas load, as well as large draws on the gas system, sometimes
21 very quickly.”¹⁹ As discussed in the testimony of Mr. Bisi, the capacity increase from the
22 Proposed Project provides useful “operational flexibility” under stress conditions or intra-daily

¹⁹ AB 1257 Report, at 32.

1 system fluctuations, such as when peakers are dispatched to respond to a loss of renewable
2 generation (*i.e.* no sun or wind). The incremental capacity would allow more gas to be readily
3 available in-basin, where the natural-gas fired EG is located, and it would support the fast
4 ramping and associated quick draw from the gas system without impacting service to core and
5 noncore customers.

6 For all of these reasons, natural gas supply reliability and operational flexibility are key
7 to maintaining electric system reliability and serving firm electric demand in San Diego.

8 **B. Existing and New EG No Longer Have Back-Up Fuel Sources**

9 In the past, the large generating units at the South Bay and Encina Power Plants serving
10 the SDG&E area were required to maintain a dual-fuel capability to avoid electric load
11 curtailment in the event of a loss of natural gas supply. Although these traditional fossil fuel
12 generating units in SDG&E's area were able to switch back-and-forth between natural gas and
13 oil, air quality rules have dictated that only natural gas is now used. As new units come on-line,
14 they are designed to only operate on natural gas, not oil. Thus, oil is no longer available as a
15 back-up fuel source. This issue makes SDG&E's electric customers more dependent on a
16 reliable and assured natural gas supply, and likewise makes electric customers more vulnerable
17 to blackout in the event of a loss of natural gas supply.

18 **C. Alternative Energy Storage Options Would Not be Superior to the Proposed**
19 **Project**

20 The Utilities considered whether grid-scale battery/energy storage and associated
21 equipment would be sufficient to supply customers with energy equivalent to that of the

1 Proposed Project from an electric perspective.²⁰ This evaluation is based on a scenario under
2 which: the gas supply is lost to all local natural gas-fired EG during a peak electric load period;
3 gas supply is unavailable for a four-hour period; and that no customer outages would occur. The
4 Utilities are unaware of a battery storage project of this magnitude being undertaken and, as a
5 result, battery production on this scale would be very difficult, very expensive, very large
6 (requiring approximately 100 acres of land) and would take a very long time to produce.

7 A system of grid-scale batteries might provide four hours of electric supply under the
8 circumstances that EG was unavailable due to the loss of the natural gas supply; however, grid-
9 scale batteries would not provide any energy replacement for the residential and business needs
10 that are currently supplied by natural gas. For example, during the four-hour period, customers
11 might still receive electricity service from the grid-scale batteries, but would not have any natural
12 gas service to operate their gas water heaters, gas heating units, gas appliances or any other gas
13 supplied equipment.

14 In order for the four hours of grid-scale battery storage to be ready and available if a
15 system wide natural gas outage occurred, the system of batteries would need to be fully charged
16 at all times. It is likely that grid-scale batteries would be charged and discharged on a regular
17 basis and operated by the CAISO as an ongoing resource it could count on for grid reliability
18 purposes. Therefore, depending on the timing of a natural gas outage, there is no certainty that
19 the system of batteries would be fully charged when needed. Even if the batteries were kept
20 fully charged, at most they would cover a four-hour period, which is not equivalent to the benefit
21 of the Proposed Project.

²⁰ This evaluation was undertaken to comply with the Joint Assigned Commissioner and Administrative Law Judge's Ruling Requiring an Amended Application and Seeking Protests, Responses, and Replies issued January 22, 2016 (Ruling), at 12-13.

1 The Utilities also evaluated a smaller-scale, alternative energy battery storage that
2 involves the installation of smaller-scale batteries and associated equipment to supplement the
3 gas supply system at times when additional capacity is needed (e.g. unplanned outages,
4 maintenance, peak demand). Similar to the grid-scale battery storage project, this assumes that
5 smaller-scale battery storage would supply four hours of electric supply, including approximately
6 11,200 MWh of energy storage capacity.

7 Similar to the issue with the grid-scale battery storage, smaller-scale battery storage
8 would not provide any energy replacement for the residential and business needs that are
9 currently supplied by natural gas. Customers might still receive electricity service from the
10 batteries, but would not have any natural gas service. Likewise, the same issues exist in that the
11 system of batteries would need to be fully charged at all times, but would be charged and
12 discharged on a regular basis and operated by the CAISO as an ongoing resource it could count
13 on for grid reliability purposes. Therefore, depending on the timing of a natural gas outage, there
14 is no certainty that the system of batteries would be fully charged when needed. As previously
15 discussed, even if the batteries were kept fully charged, at most they would cover a four-hour
16 period, which is not equivalent to the benefit of the Proposed Project.

17 The Utilities could not identify any other reliable alternative energy options that would
18 not require the installation of a new gas transmission pipeline.

19 **D. Retirement of San Onofre Nuclear Generating Station (SONGS) Requires**
20 **Additional Base Load Natural Gas-Fired EG**

21 Compounding the renewables intermittency issues, the permanent shutdown of SONGS
22 Units 2 and 3, both base load units,²¹ has resulted in eliminating approximately 2,250 MW of

²¹ A “base load” unit is one that is expected to run at full load continuously, except for outages for maintenance or other reasons.

1 generation that was used to serve the base load in the region.²² SONGS had been SDG&E's
2 primary generation not sourced by gas supplies. The retirement of SONGS has significantly
3 increased reliance on existing natural gas-fired generating units and triggered the need to add
4 natural gas-fired units to replace the SONGS generator capacity to serve the base load of electric
5 demand. This is also a significant driving force for the need to reinforce SDG&E's gas system
6 for reliable service to SDG&E's firm electric customers.

7 **IV. CURRENT AND EXPECTED NATURAL GAS-FIRED ELECTRIC**
8 **GENERATION IN SDG&E'S SERVICE TERRITORY**

9 **A. Existing In-Basin Natural Gas-Fired Generation**

10 Excluding a small water pumped storage facility in the Lake Hodges area of San Diego,
11 battery energy storage projects in the area of Escondido and El Cajon, and 30 MW of "Net
12 Qualifying Capacity" (NQC) associated with wind and solar renewables within the SDG&E in-
13 basin area, existing gas-fired generation in the SDG&E system is a total of approximately 3,140
14 MW and is comprised of combustion turbines (CTs), steam turbines at Encina Power Plant
15 (located in Carlsbad), the combined cycle plants at Palomar Energy Center (located in
16 Escondido), the Otay Mesa Energy Center (located in Otay Mesa), and the Pio Pico Energy
17 Center (located in Otay Mesa).

18 1. Encina (operated by Cabrillo I):

19 This gas fired power plant has a maximum capacity of 850 MW (after
20 Encina Unit 1 retirement).

21 2. Palomar Energy Center (operated by SDG&E):

22 This combined cycle power plant has a maximum capacity of 565 MW.

²² In this context, "base load" refers to the minimum customer load demand, which is a "base" amount of power required around-the-clock.

1 3. Otay Mesa Energy Center (operated by Calpine):

2 This combined cycle power plant has a maximum capacity of
3 approximately 600 MW.

4 4. Pio Pico Generation (operated by NAES Corporation):

5 Gas Turbine generators with an installed capacity of approximately 300
6 MW.

7 5. Combustion Turbines (CTs):

8 The total maximum capacity of these generators, including Gas Turbines,
9 Qualifying Facilities and other Peakers is approximately 800 MW.

10 **B. Imperial Valley Natural Gas-Fired Generation:**

11 Existing gas-fired generation in the Imperial Valley area is comprised of combined cycle
12 plants located south of the USA-Mexico border. These plants play an important role in
13 regulating the voltages in this very important hub of 500 kV lines and renewables. The lack of
14 this generation would limit SDG&E import capability and cause issues in neighboring systems
15 such as the Imperial Irrigation District (IID) and Comisión Federal de Electricidad (CFE).

16 1. Termoeléctrica de Mexicali

17 This combined cycle power plant has a maximum capacity of 600 MW.

18 2. Central La Rosita II

19 This combined cycle power plant has a maximum capacity of 450 MW.

20 **C. Predicted Retirements and Additions**

21 **Planned (Future) Generation:**

22 Additionally, approximately 500 MW of future natural gas fired generation has been
23 approved for construction in SDG&E's service territory.

1 1. Encina Generation (Carlsbad Energy Center):

2 Gas Turbine generators with an installed capacity of approximately
3 500 MW are planned to be in service in 2017. These will replace the
4 existing units totaling 950 MW described earlier in my testimony.
5 Although the installed capacity at Encina will be reduced from 950 MW to
6 approximately 500 MW, the increased efficiency of the new units will
7 likely mean that they will be dispatched more often than the existing units.

8 **V. WITHOUT SAN DIEGO NATURAL GAS-FIRED ELECTRIC GENERATION,**
9 **SDG&E DOES NOT HAVE SUFFICIENT LOAD SERVING CAPABILITY TO**
10 **PROVIDE RELIABLE ELECTRIC SERVICE**

11 The San Diego and southern Orange County areas are served by SDG&E. The peak
12 electrical demand is projected to reach up to 4,693 MW²³ in 2017 climbing at an annual growth
13 rate that varies, and averages about 0.2 percent per year through 2027. The electric load serving
14 ability for this area relies heavily on local natural gas generation, especially during high electric
15 load²⁴ levels, with the area containing approximately 3,140 MW of natural gas-fired generation,
16 a very small amount, 70 MW, of non-gas-fired generation and in addition there are
17 approximately 37 MW of battery storage for up to 4-hours.

18 SDG&E's customer load is served by a combination of internal generation and power
19 import. SDG&E's maximum power import capability is 3,500 MW. However, this maximum
20 level is established under operating conditions with in-basin natural gas-fired generation
21 available. As discussed in the testimony of Mr. Bisi and Mr. Kikuts, any number of
22 circumstances could result in an outage on the gas transmission system. A gas curtailment or gas
23 supply interruption would result in significantly reducing SDG&E's power import capability.

²³ California Energy Commission, 2016 California Energy Demand Electricity Forecast Update – *Final CEDU2016 SDGE Mid Demand Case*, January 23, 2017:
http://www.energy.ca.gov/2016_energy_policy/documents/2016-12-08_workshop/mid_demand_case.php
specifically tab "SDGE Form 1.5-Mid" at:
http://docketpublic.energy.ca.gov/PublicDocuments/16-IEPR-05/TN215508_20170123T111111_FINAL_CEDU2016_SDGE_Mid_Demand_Case.xls

²⁴ The terms "load" and "demand" may be used interchangeably.

1 Even if there were an abundance of generation available in the CAISO system, SDG&E's limited
2 power import capability would prevent those resources from serving SDG&E's customer load
3 demand.

4 A solution to eliminating the reliance on natural gas supply and capacity, although with
5 potentially high cost and environmental impact, would require building additional transmission
6 infrastructure that would allow for greater import capacity from the north (California) or east
7 (Arizona).

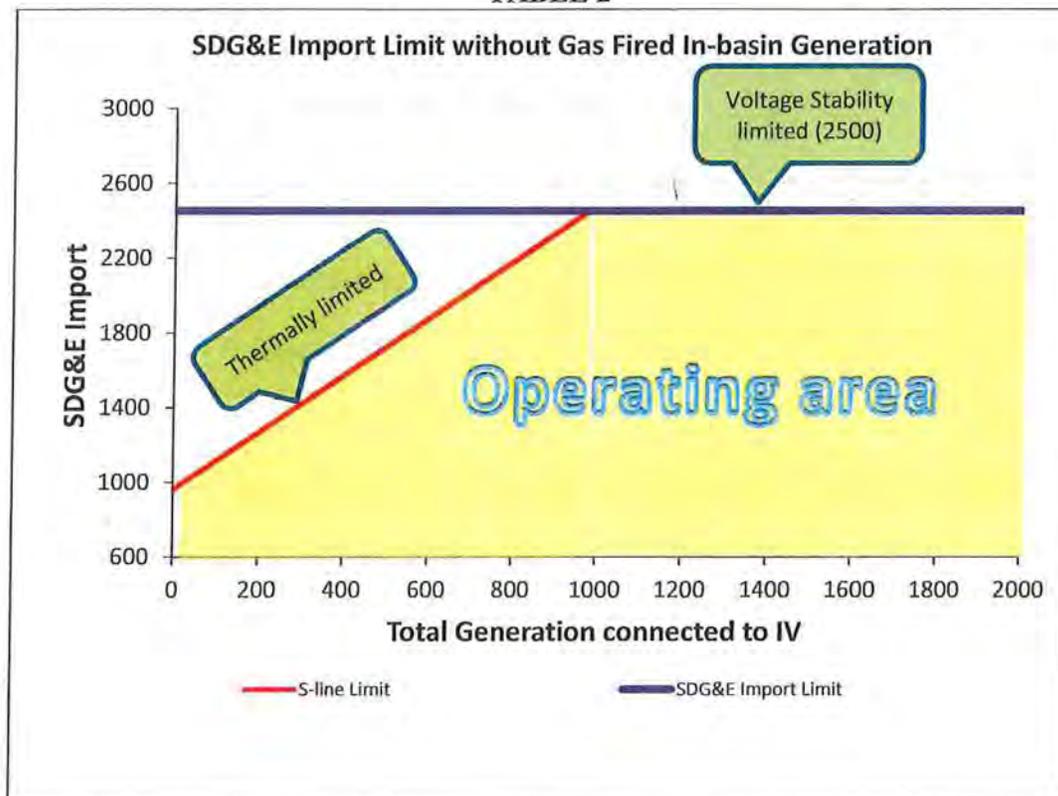
8 A simple comparison of SDG&E's maximum electric power import capability (up to
9 3,500 MW) to SDG&E's peak load (4,693 MW for 2017) shows that even under maximum
10 import conditions, up to 1,086 MW of local generation is needed and must have a reliable gas
11 supply to serve SDG&E's customer peak electric demand. That number will trend upward due
12 to the projection of increasing electric customer demand through 2027.²⁵

13 Absent internal natural gas-fired electric generation due to a gas interruption, SDG&E's
14 power import capability would be reduced to approximately 2,500 MW or lower, as shown in the
15 Table below.

²⁵ At the time my prepared direct testimony was prepared in March 2016, I relied on the CEC's California Energy Demand 2015 – 2025 Final Forecast, adopted January 15, 2015, which was the then-current forecast. I have updated my testimony to reflect the current forecast (as of February 21, 2017), which is the CEC's California Energy Demand 2017 – 2027 Updated Forecast, adopted January 25, 2017.

1

TABLE 2



2

3

If the gas supply were interrupted, about 107 MW of in-basin resources²⁶ would remain.

4

Under this scenario, SDG&E could serve up to about 2,607 MW of customer load. At peak load,

5

up to about 2,086 MW of customer load would be unserved or need to be shed.²⁷ This

6

unacceptable outcome is not only an annual peak load condition problem, but would be a daily

7

issue. Further exacerbating the problem is growing customer demand. SDG&E's daily peak

8

demand typically ranges from 2,500 MW to 3,500 MW. The ability to serve only about 2,607

9

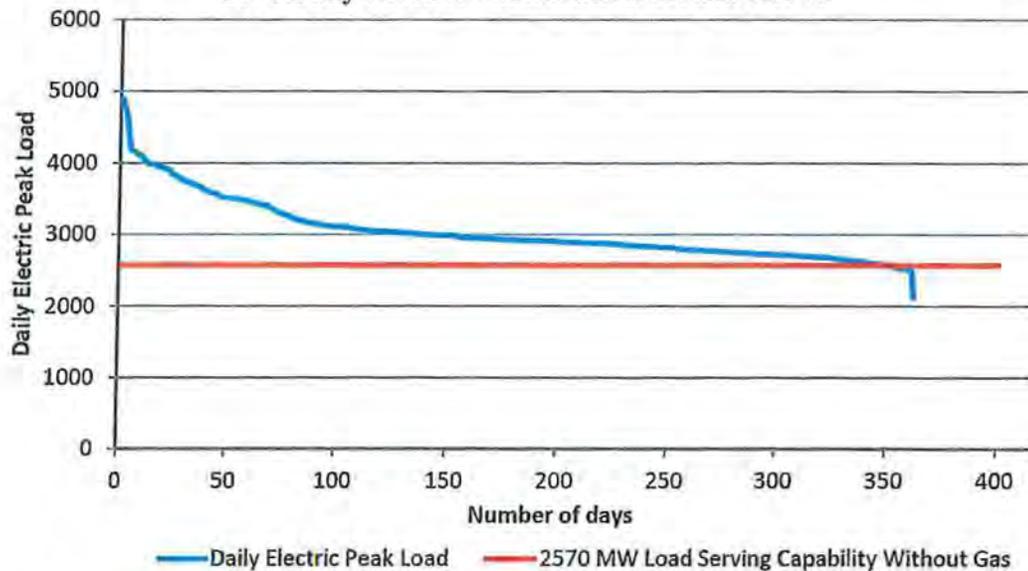
MW of customer load under gas outage conditions means that load would need to be shed almost

²⁶ The 107 MW of resources refers to 40 MW of Lake Hodges pumped storage hydro generation along with 30 MW of "Net Qualifying Capacity" (NQC) associated with Kumeyaay wind generation, a small amount of solar generation at Borrego, and 37 MW of battery storage (available for up to 4-hours).

²⁷ The figure of 2,086 reflects the annual peak load of 4,693 MW minus the 2,607 MW load-serving capability without gas.

1 all days of a gas interruption. This points out a critical need for the Proposed Project to avoid
2 such a scenario occurring. Table 3 below illustrates the severity of this issue.

3 **TABLE 3**
2014 Daily Electric Peak Load Duration Curve



4 The need for a reliable gas supply to electric natural gas-fired generation is further
5 illustrated by the events during SDG&E's peak-load period of 2014 and 2015, when the high
6 humidity of the monsoonal conditions was causing high electric demand while at the same time
7 the associated cloudiness severely limited solar output.

8 Although SDG&E does have Demand Response (DR) programs, the amount of DR is
9 very limited and would not have any significant impact in resolving the problems of potential
10 blackouts. The number of DR programs available depends upon the season. Some DR programs
11 are available year round and others are available only May through October. SDG&E's DR
12 forecast filed April 2016 shows that SDG&E has 14 MW available in April and 80 MW
13 available in September. These amounts are far too insignificant to mitigate the potential for
14 blackouts in the event of a gas curtailment.

1 As discussed above, there is a need to ensure coordination between the gas and electric
2 industries. With an increasing amount of renewables coming on-line, and even more so with the
3 passage of SB 350, there is a greater need for energy system flexibility. Natural gas-fired EG
4 provides the increased dispatchability and operational flexibility to integrate increasing amounts
5 of renewable energy onto the electric system. Indeed, the CEC recognizes that as California
6 moves from utilizing carbon-intensive resources, how natural gas is used will change.²⁸ Such
7 changes will affect the quantity of natural gas used for EG and how and when natural gas-fired
8 resources need to operate, requiring a higher degree of coordination between gas and electric
9 industries.²⁹

10 The interdependency of the gas and electric systems in the San Diego region is evident in
11 the following examples, which can be expected to grow as the use of solar and wind increases.

- 12 • January 15, 2013 Gas Curtailment Watch
- 13 • December 9, 2013 Gas Curtailment Watch
- 14 • February 6, 2014 Gas Emergency Localized Curtailment Notice:
 - 15 ○ This curtailment impacted local generation, with only
 - 16 one plant (Otay Mesa) operational for the majority of
 - 17 the day.
 - 18 ○ CAISO issued Restricted Maintenance Order –
 - 19 Cancelled all scheduled work
 - 20 ○ CAISO issued Flex Alert for customers statewide to
 - 21 conserve
 - 22 ○ These impacts lingered for 2 days due to extreme
 - 23 weather conditions to the east.

24 The gas curtailment on February 6, 2014 and corresponding electrical curtailment
25 occurred under winter and not peak summer conditions for electric service. If such a curtailment
26 were to take place under a heavier electric demand period, there is no assurance that all

²⁸ AB 1257 Report, at 30.

²⁹ *Id.*

1 customers' loads would be served, and electric outages could occur. This issue will only
2 continue to intensify in future years as electric demand continues to rise and gas demand on a
3 daily and hourly basis continues to fluctuate. In addition, the potential for an extended gas
4 outage as described by Mr. Bisi and Mr. Kikuts is of particular concern due to the high
5 consequences for both gas and electric reliability in the San Diego region.

6 It is for the reasons outlined above that it is vitally important from an electric standpoint
7 that the SDG&E natural gas system be reinforced as proposed.

8 **VI. ELECTRIC GENERATION IN SAN DIEGO ALSO PROVIDES ENERGY TO**
9 **CAISO SYSTEM**

10 When the SONGS generating units were operational, power would normally flow from
11 San Onofre into SDG&E's system through SDG&E's five-line 230 kV interconnection at San
12 Onofre. Since the shutdown of SONGS, power now routinely flows from SDG&E's system into
13 the Southern California Edison (SCE) system through that interconnection. This flow from
14 SDG&E's system supports the CAISO system.

15 The CAISO oversees the dispatch of generators through its market mechanisms. To the
16 extent that generators in the San Diego area would have otherwise been winning bidders, but
17 cannot run due to a gas curtailment, then clearly higher-bidding units would be dispatched in
18 their place, resulting in higher costs to electric customers throughout California.

19 Although there are specific power import constraints into SDG&E's system as described
20 earlier in this testimony, the CAISO's market dispatch of generation covers the entire CAISO
21 area, including SDG&E. A loss of gas supply resulting in a loss of EG in the San Diego area
22 would not only affect electric system reliability locally, but would affect the CAISO operations.
23 At best, there may be higher prices to customers if the generators in the San Diego would have
24 otherwise been winning bidders. At worst, should there be an overall shortfall of generation

1 within the CAISO as a whole, then loss of EG in the San Diego area would exacerbate such a
2 shortfall and could result in loss of customer load in San Diego and elsewhere in the CAISO
3 system.

4 As described in the testimony of Mr. Bisi, the addition of a 36-inch pipeline will provide
5 complete redundancy for the existing 30-inch Line 3010 or Moreno Compressor Station, reduce
6 reliance on Moreno Compressor Station, and increase the capacity on the SDG&E gas system to
7 support operational flexibility during the swings in natural gas-fired generation needed to
8 respond to the intermittency issues associated with solar and wind generation. With the new
9 pipeline, a single pipeline contingency would still leave enough gas capacity to avoid the risk of
10 electric generation curtailment for the foreseeable future.

1 **VII. QUALIFICATIONS**

2 I graduated with a Bachelor of Science degree in Electrical Engineering from the
3 University of Texas in El Paso in 1979. I worked as a plant electrical engineer for Lone Star
4 Industries from 1979 to 1980 and was responsible for electrical projects in System Protection and
5 Control. I obtained a Master of Science degree in Electrical Engineering with emphasis in Power
6 Systems from the University of Texas at El Paso in 1983.

7 I joined the Transmission Planning Section of SDG&E in 1982. I had lead responsibility
8 for development of SDG&E's electric transmission capital budget projects to expand the
9 transmission system within the SDG&E service territory, evaluation of transmission
10 interconnection capabilities to accommodate off system resources, and the conducting of system
11 analysis. From 1999 to 2004, I served as SDG&E's Manager of Grid Operations Services, where
12 I was responsible for technical evaluation to identify day-to-day and seasonal transfer capability
13 limits and mitigating measures for the safe and reliable operation of SDG&E's transmission
14 system. I managed development and coordination of operating procedures to minimize
15 congestion. I also managed SDG&E's existing transmission contract administration
16 responsibilities and was responsible for overseeing all Reliability Must Run contract,
17 settlements, technical studies and FERC filings. From 2004 to 2012, I served as the Director of
18 SDG&E's Electric Transmission and Distribution Engineering Department, responsible for
19 design and engineering of distribution, substation, and transmission projects, including the
20 engineering, equipment, and structural design involved in the development of Transmission and
21 Substation Engineering projects.

22 From 2012 to the present, I have been serving as the Director of SDG&E's Electric Grid
23 Operations Department. In that capacity, I am responsible for the reliable operation of SDG&E's

1 electric transmission grid, which supplies electricity to the distribution system that ultimately
2 provides electricity to SDG&E's customers.

3 From 1986 to 1998, on a part-time basis, I taught at the senior level at San Diego State
4 University in the Electrical and Computer Engineering department in system network modeling
5 and power flow analysis, system stability, and system protection. Since 2000, I have been
6 teaching a Professional Engineering preparation class at SDG&E in the Electrical Engineering
7 discipline.

8 I have served as the Chairman of the Western Electricity Coordinating Committee
9 (WECC) Pacific and Southwest Transfer work group, and I have represented SDG&E on the
10 WECC Planning and Operations Committees.

11 I am a registered Professional Engineer in the State of California.

12 I have previously testified before the California Public Utilities Commission.

13 This concludes my prepared direct testimony.

A.15-09-013 Pipeline Safety & Reliability Project
SDG&E and SoCalGas Prepared Direct Testimony Change Log – February 2017
(Page and line references are to the original version of the prepared direct testimony served on March 21, 2016)

Witness	Page	Line(s)	Revision Detail
S. Ali Yari	Cover	N/A	Added "SDGE-4-R"
S. Ali Yari	Cover	N/A	Added "Updated"
S. Ali Yari	Cover	N/A	Added "updated February 21, 2017"
S. Ali Yari	1	16	Replaced "requirement" with "option"
S. Ali Yari	3	1	Deleted "on an interruptible basis. As a result,"
S. Ali Yari	3	2	Replaced "can" with "could"
S. Ali Yari	3	5	Deleted "the interruptible"
S. Ali Yari	3	19	Replace "interaction" with "correlation"
S. Ali Yari	5	13	Replace "3,000 megawatts (MW)" with "3,140 megawatts (MW)"
S. Ali Yari	8	17	Replace "there" with "available"
S. Ali Yari	8	22	Replace "provide" with "provides"
S. Ali Yari	9	14	Replace "those" with "they"
S. Ali Yari	12	10-15	Modified the paragraph as follows: "Excluding a small water pumped storage facility in the Lake Hodges area of San Diego, <u>battery energy storage projects in the area of Escondido and El Cajon</u> , and 30 MW of "Net Qualifying Capacity" (NQC) associated with wind and solar renewables within the SDG&E in-basin area, existing gas-fired generation in the SDG&E system is a total of approximately 3,000 <u>3,140</u> MW and is comprised of combustion turbines (CTs), steam turbines at Encina Power Plant (located in Carlsbad), the combined cycle plants at Palomar Energy Center (located in Escondido), and the Otay Mesa Energy Center (located in Otay Mesa), and the Pio Pico Energy Center (located in Otay Mesa). "
S. Ali Yari	12	17-18	Modified sentence as follows: " This gas fired power plant has a maximum capacity of 950 <u>850</u> MW (including a small Gas Turbine, GT, included below after Encina Unit 1 retirement.)"

Witness	Page	Line(s)	Revision Detail
S. Ali Yari	13	4	After “This combined cycle power plant has a maximum capacity of approximately 600 MW” inserted the following: “4. Pio Pico Generation (operated by NAES Corporation): Gas Turbine generators with an installed capacity of approximately 300 MW.”
S. Ali Yari	13	4-6	The list number for “Combustion Turbines (CTs)” was changed from “4” to “5” Replaced “900 MW” with “800 MW”
S. Ali Yari	13	19	Replaced “800 MW” with “500 MW”
S. Ali Yari	13	21-23	Deleted the sentences, which read: “1. Pio Pico Generation: Gas Turbine generators with an installed capacity of approximately 300 MW are planned for an in-service date in early 2016.”
S. Ali Yari	14	7	Replaced “run” with “dispatched”
S. Ali Yari	14	11-16	Modified the paragraph as follows: “The San Diego and southern Orange County areas are served by SDG&E. The peak electrical demand is projected to reach up to 5,372 <u>4,693</u> MW ^[fn] in 2016 <u>2017</u> climbing at an annual growth rate that varies, but typically is around 1 percent per year through 2025 and averages about 0.2 percent per year through 2027. The electric load serving ability for this area relies heavily on local natural gas generation, especially during high electric load ^[fn] levels, with the area containing approximately 3,000 <u>3,140</u> MW of natural gas-fired generation and, a very small amount, 70 MW, of non-gas-fired generation and in addition there are approximately 37 MW of battery storage for up to 4-hours.”
S. Ali Yari	14	Footnote 23	Replaced footnote with the following: “California Energy Commission, 2016 California Energy Demand Electricity Forecast Update - <i>Final CEDU2016 SDGE Mid Demand Case</i> , January 23, 2017: http://www.energy.ca.gov/2016_energypolicy/documents/2016-12-08_workshop/mid_demand_case.php specifically tab “SDGE Form 1.5-Mid” at: http://docketpublic.energy.ca.gov/PublicDocuments/16-IEPR-05/TN215508_20170123T111111_FINAL_CEDU2016_SDGE Mid Demand Case.xls ”

Witness	Page	Line(s)	Revision Detail
S. Ali Yari	15	7-12	<p>Modified paragraph as follows:</p> <p>“A simple comparison of SDG&E’s maximum electric power import capability (up to 3,500 MW) to SDG&E’s peak load (5,372 <u>4,693</u> MW for 20162017) shows that even under <u>maximum import conditions</u>, up to 1,872 <u>1,086</u> MW of local generation (which is more than 50 percent of the local generation) is needed and must have a reliable gas supply to serve SDG&E’s customer peak electric demand. That number will climb <u>trend</u> upward every year due to the projection of year-by-year increasing electric customer demand (projected through 20252027).^[fn]”</p> <p>Note: The phrase “even under maximum import conditions” is not an addition; it was underlined in the original.</p>
S. Ali Yari	15	Footnote 25	<p>Modified footnote as follows:</p> <p>“At the time my prepared <u>direct</u> testimony was prepared in <u>March 2016</u>, I relied on the CEC’s California Energy Demand 2015 – 2025 Final Forecast, adopted January 15, 2015, which was the then-current forecast. I am aware a new forecast was recently issued by the CEC on January 27, 2016. I have updated my testimony to reflect the current forecast (as of February 21, 2017), which is the CEC’s California Energy Demand 2017-2027 Updated Forecast, adopted January 25, 2017.”</p>
S. Ali Yari	16	3-10	<p>Modified paragraph as follows:</p> <p>“If the gas supply were interrupted, about 70 <u>107</u> MW of in-basin non-gas generation resources^[fn] would remain. Under this scenario, SDG&E could serve up to about 2,570 <u>2,607</u> MW of customer load. At peak load, up to about 2,802 <u>2,086</u> MW of customer load (over half of the customer load) would be unserved or need to be dropped <u>shed</u>.^[fn] This is an unacceptable outcome. This is not only an annual peak load condition problem, but would be a daily problem issue. This issue will only be further exacerbated <u>the problem is growing</u> as customer demand continues to grow. SDG&E’s daily peak demand typically ranges from 2,500 MW to 3,500 MW. The ability to serve only about 2,570 <u>2,607</u> MW of customer load under gas outage conditions means that load would need to be dropped <u>shed</u> almost all days of a gas interruption.”</p>

Witness	Page	Line(s)	Revision Detail
S. Ali Yari	16	Footnote 26	Modified sentence as follows: “The 70 <u>107</u> MW of non-gas electric generation resources refers to 40 MW of Lake Hodges pumped storage hydro generation along with 30 MW of “Net Qualifying Capacity” (NQC) associated with Kumeyaay wind generation and , a small amount of solar generation at Borrego, <u>and 37 MW of battery storage (available for up to 4-hours).</u> ”
S. Ali Yari	16	Footnote 27	Replace “2,802” with “2,086” and Replace “5,372” with “4,693” and Replace “2,570” with “2,607”
S. Ali Yari	17	5	Replaced “2015” with “2014 and 2015”
S. Ali Yari	17	12	Replace “April 1, 2015” with “April 2016”
S. Ali Yari	17	14	Replace “small” with “insignificant”

EXHIBIT E



Review of Risk Factors for Line 1600

Michael J. Rosenfeld, PE
February 20, 2017



0609-1701

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Final Report

on

REVIEW OF RISK FACTORS FOR LINE 1600

to

SAN DIEGO GAS & ELECTRIC COMPANY

February 20, 2017

Prepared by



**Michael J. Rosenfeld, PE
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Approved by



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Review of Risk Factors for Line 1600

Michael J. Rosenfeld, PE

INTRODUCTION

San Diego Gas & Electric (SDG&E) Line 1600 is a 16-inch outside diameter (OD) natural gas transmission pipeline constructed in 1949 and operating historically with a maximum allowable operating pressure (MAOP) of 800 psig. It runs approximately 50 miles from the Rainbow Metering Station in northern San Diego County into the city of San Diego. The pipeline primarily consists of flash welded seam pipe meeting API 5LX Grade X52, along with some pre-1970 electric-resistance-welded (ERW) seam pipe.

In response to the 2010 failure of a Pacific Gas & Electric (PG&E) 30-inch OD natural gas transmission pipeline in San Bruno, CA that was installed in 1956, the California Public Utilities Commission (CPUC) required that natural gas pipelines that lack documented hydrostatic pressure tests performed after installation which support the MAOP either be tested to modern standards or be replaced.¹ SDG&E has no documentary evidence that Line 1600 was hydrostatically pressure tested. In fact, Line 1600 was installed several years before the State of California required pressure testing as part of the pipeline commissioning process (in 1961),² and before such practices were adopted in the gas pipeline industry. SDG&E therefore faces a choice between pressure testing Line 1600 to present-day requirements or replacing it. Either response constitutes a major undertaking. Thus SDG&E is compelled to carry out thorough analyses of expected costs and benefits associated with these two choices and potential variations and alternatives in order to identify optimal courses of action.

This report provides an element of SDG&E's optimization analysis by comparing the risk benefits or disadvantages of two specific cases: (a) pressure testing Line 1600 and maintaining it in transmission service, versus (b) derating Line 1600 to distribution service without pressure testing it and replacing its transmission function with a new 36-inch OD pipeline designated Line 3602. Other variations of or alternatives to these paths to meeting CPUC requirements were not considered in this review. Also, this review did not examine matters related to cost, feasibility, or impact on providing continuously reliable service.

¹ CPUC Decision 11-06-017; California Public Utilities Code § 958.

² Public Utilities Commission of the State of California, General Order No. 112, Adopted Dec. 28, 1961.

CONCLUSIONS

A review and analysis of risk factors and a risk assessment were performed to evaluate whether it makes sense from a public risk standpoint to pressure test the existing Line 1600, or derate it to distribution service without pressure testing it and build a new 36-inch transmission pipeline, Line 3602. The two options were compared in terms of inherent resistance or susceptibility to certain integrity threats based on typical characteristics and attributes of the two pipelines, historical performance trends affecting similar pipelines, and a relative risk model widely used in the natural gas industry.

The review of risk factors concluded that Line 1600 has greater vulnerability or susceptibility to several key failure mechanisms compared with the proposed Line 3602 including:

- Brittle fracture
- Coating failure and corrosion
- Selective seam corrosion
- Seam manufacturing defects
- Mechanical damage from excavators
- Natural events
- Unknown condition of seams and welds

Susceptibility to several of these factors is reduced in Line 1600 by lowering the operating pressure to distribution service with hoop stress levels below 20% of specified minimum yield strength (SMYS).

The relative risk assessment assumed that the pipelines would be of roughly similar length, traverse similar areas of land use or development, and cross the same or similar hazard zones (e.g. rivers, slopes, soil liquefaction areas). The risk model resulted in risk scores for the option of building the proposed Line 3602 that were meaningfully lower than the option of testing Line 1600 and retaining it in transmission service. The model did not take credit for the reduction in consequences that would be associated with derating Line 1600 to distribution service.

While there is no evidence that Line 1600 is unsafe, there is much that is unknowable about the line, including the ability of girth welds to withstand loadings from natural events, and features in the longitudinal seams. Risk is proportional to what is unknown, at least in part. The proposed Line 3602 will not have such gaps in relevant integrity data. After testing, Line 1600

will still be 68 years old, with limited resistance to many of the above concerns compared with the proposed Line 3602.

BACKGROUND

San Diego Gas & Electric (SDG&E) Line 1600 is a 16-inch outside diameter (OD) natural gas transmission pipeline constructed in 1949 and operating historically with a maximum allowable operating pressure (MAOP) of 800 psig. It runs approximately 50 miles from the Rainbow Metering Station in northern San Diego County into the city of San Diego. SDG&E relies on Line 1600 for 10% of its gas supply and on another pipeline installed in 1961 for the remaining 90%.

The pipeline primarily consists of flash welded seam pipe along with some pre-1970 ERW seam pipe. Both types of pipe are generally regarded as potentially susceptible to integrity concerns related to the pipe manufacturing process, which will be discussed later in this report with respect to the flash-welded pipe as it comprises the largest proportion of the line.

Approximately 95% of the aggregate length of the line consists of pipe having a wall thickness of 0.250 inch, 2% has a wall thickness of 0.312 inch, and small segments have thicker wall. Approximately 97% of the aggregate length of the line consists of pipe designated as API 5LX³ Grade X52 having specified minimum yield strength (SMYS) of 52,000 psi. In 1949, API 5LX did not provide detailed specifications for grades stronger than X42 and having SMYS of 42,000 psi. Higher strength grades were permitted, subject to agreement between manufacturer and purchaser as to steel chemistry and mechanical properties. Small segments of the line consist of pipe grades having higher or lower strengths than X52.

At the historical operating pressure of 800 psig, the majority of the pipeline operates at a hoop stress of 25,600 psi or 49.2% of SMYS. SDG&E recently reduced the MAOP to 640 psig in order to increase the factor of safety pending completion of integrity assessments by internal inspection. If the line is derated to distribution service, the MAOP will be 320 psig and the hoop stress will be below 20% SMYS.

Line 1600 traverses a wide range of land uses, consisting of 10.0 miles of vacant land, 10.2 miles of agricultural land, 22.6 miles of residential land, 5.2 miles of commercial land, and 1.8 miles of recreational land.

³ American Petroleum Institute, "Specification for High-Test Line Pipe", API Standard 5LX, 2nd Edition, May 1949.

TECHNICAL ANALYSIS

The technical analysis consisted of the following steps:

- Review risks to the public posed by natural gas pipelines
- Review risk factors associated with vintage pipelines
- Identify specific risk factors associated with Line 1600 and compare them with proposed Line 3602
- Perform a risk assessment comparing SDG&E's options for responding to the CPUC directive

Discussion of Pipelines and Public Risk

SDG&E's transmission pipelines (including the existing Line 1600 and Line 3602 if it is constructed) are part of a nationwide network of approximately 301,000 miles of pipelines.⁴ These pipelines supply a natural gas distribution system consisting of approximately 2.2 million miles of gas distribution mains and service lines to 67.6 million natural gas customers, mostly households. The US transmission pipeline network alone, including 209,000 miles of hazardous liquid transmission pipelines, represents approximately two-thirds of the world's aggregate mileage of transmission pipelines in service and is enough to encircle Earth approximately 12 times. An exact count of the number of people in the US living or working in close proximity to natural gas transmission pipelines is unavailable, but it would be a relatively straightforward exercise to estimate that the number is several tens of millions.

Federal pipeline safety regulations⁵ define a natural gas transmission pipeline as a pipeline transporting natural gas at a hoop stress in excess of 20% of the pipe material SMYS, or one that, regardless of the operating stress level, transports gas within a storage field for the purpose of well injection or withdrawal and that is not a gathering line, or transports gas to a large volume customer that is not downstream of a distribution center at which gas supply and gas delivery are demarcated by a block valve. Functionally, a gas transmission pipeline transports gas from a source of supply to a distribution system or an end user.

Of necessity, in order to fulfill its function as suggested above, a transmission pipeline must extend cross-country across lands having a variety of characteristics and uses, including deserts, mountains, rivers, wetlands, farmlands, suburbs, commercial areas, roads and

⁴ <http://www.phmsa.dot.gov/pipeline/library/data-stats>, Annual Report Summary.

⁵ Code of Federal Regulations, Title 49 – Transportation, Part 192 – Transportation of Natural and Other Gas by Pipeline: Minimum Federal Safety Standards, 49 CFR 192, October 1, 2015.

highways, public parks, and urbanized areas. Transporting a flammable gas under pressure through people’s yards entails some risk. As stated by the Transportation Research Board’s study on transmission pipelines and land use, “Risk can be mitigated but not eliminated”.⁶ Despite the potential risk, and the San Bruno incident notwithstanding, the industry does a creditable job of managing risk. This is indicated in Figure 1 by the steady decline in annual incidents involving fatalities or injuries caused by all categories of pipelines over time (of which gas transmission pipelines comprise approximately 11%), and in Figure 2 by the very low average numbers of annual fatalities associated with natural gas transmission pipelines in particular.

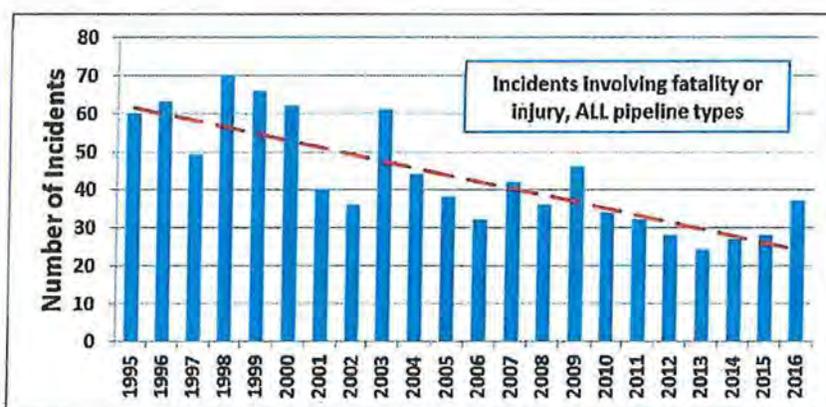


Figure 1. Serious Gas Transmission Pipeline Incidents, 1995-2016

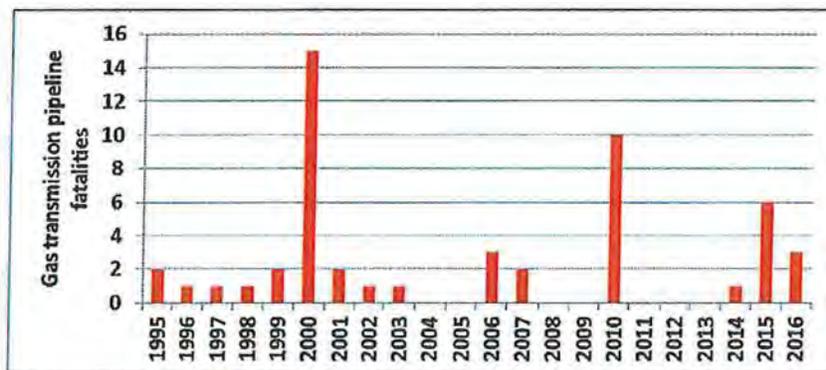


Figure 2. Fatalities Caused by Gas Transmission Pipelines, 1995-2016

Accounting for the expected size of population exposed to gas transmission pipelines, the pipelines pose a low societal risk compared with most other causes of accidental mortality (e.g.,

⁶ Transportation Research Board of the National Academies, Special Report 281, “Transmission Pipelines and Land Use: A Risk-Informed Approach”, 2004.

traffic accidents, food poisoning, falls).⁷ Nevertheless, the public and pipeline safety regulators understandably and reasonably expect that the risk must be managed and maintained as low as reasonably possible. There are several important ways to manage the risk. These include:

- Complying in all phases of design, construction, operation, and maintenance with applicable pipeline safety regulations and industry-developed good practices;
- Identifying segments of pipeline that could impact designated High Consequence Areas in the event of a pipeline rupture;
- Identifying potential threats to a pipeline's integrity considering the pipeline's design, construction, operating conditions, operating environment, and prior history;
- Performing risk assessment in order to identify risk-drivers and to determine locations for prioritizing risk mitigation;
- Conducting assessments of the pipeline condition with respect to integrity threats and in risk-prioritized locations as informed by the risk assessment;
- Developing mitigation strategies to lower risk.

The steps discussed above are the essential elements of "Integrity Management Planning", a formalized process specified under 49 CFR 192, Subpart O. Subpart O requires that "integrity threats" be identified. With reference to ASME B31.8S⁸, Subpart O lists and categorizes 21 specific integrity threats based on the causes of reported pipeline incidents. (Pipeline operators are also required to report incidents exceeding specified thresholds of severity.) Integrity threats are categorized as time-dependent if they can worsen over time if nothing is done about them (e.g., corrosion), time-stable if they do not worsen over time provided operating conditions do not change such that the stable condition is no longer stable (e.g., defects in material, welds, or equipment), or time-independent if they occur randomly (e.g., natural events or damage from excavators). The categorization with respect to time affects an operator's choices for integrity assessment and mitigation. Time-dependent threats must be reassessed for periodically; time-stable threats only require a one-time assessment provided conditions do not change over time; while time-independent threats may only be mitigated through prevention and surveillance.

In addition to following these practices, operators are compelled to continually seek opportunities to reduce risk even where a system is deemed to be safe and fit for its intended

⁷ National Safety Council, "Injury Facts 2016".

⁸ American Society of Mechanical Engineers, "Managing System Integrity of Gas Pipelines", Supplement to ASME B31.8, B31.8S-2016.

service, because safety is achievable at varying levels of risk. Risk may increase with time or it may vary widely depending on specific characteristics of the pipeline, all while the pipeline meets standards of safety.

Some factors that drive risk may be associated with the age of the pipeline. Pipeline age alone is not a determinant of a pipeline’s fitness for service, but a prudent operator will recognize that some characteristics or features associated with older vintage pipelines inherently pose greater risk than the corresponding characteristics in a modern pipeline. Furthermore, an absence of failures or problems in service up to this point in time due to any particular cause should not be interpreted to mean that a risk of failure due to that cause does not exist. Thus replacing older pipelines on a selective basis can lower risk. How this is the case with Line 1600 is discussed below.

Vintage Pipeline Concerns

Line 1600 is now 68 years old. It is 21 years older than the current average age of gas transmission pipelines in the US. The percentage of natural gas pipeline mileage in the US by decade of installation is shown in Figure 3.⁹ Approximately 11% of the pipeline infrastructure was installed prior to 1950. Thus Line 1600 is older than approximately 89% of natural gas transmission pipelines currently in service in the US today.

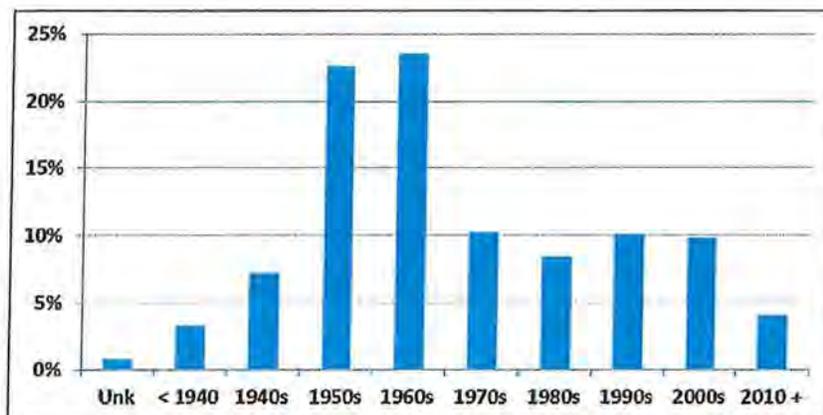


Figure 3. Percentage of Gas Transmission Pipelines by Installation Decade

The age of a pipeline is not a direct determinant of its fitness for service. Fitness for service is determined by how well the pipeline is maintained and defended against degradation or damage by various causes, mostly external in nature. However, age may indirectly affect susceptibility to specific degradation mechanisms owing to inherent limitations or inferiorities of technology associated with the pipeline era of construction, compared with the technology

⁹ <http://www.phmsa.dot.gov/pipeline/library/data-stats>, Annual Report Form 7000.2-1 submittals, 2015.

associated with modern pipelines.¹⁰ These technological areas include (in no particular order) fracture control, pipe manufacturing quality (particularly as it relates to longitudinal seams), girth weld quality and strength, resistance to natural events, resistance to mechanical damage, coatings performance, and capability for being inspected.

These inherent inferiorities do not automatically render older vintage pipelines unsafe; however they do increase susceptibility to or vulnerability to certain integrity threats or increase the difficulty of defending against those threats. This is reflected in higher rates of failure due to specific causes in older pipelines relative to more modern pipelines. Consequently it is accurate to state that a vintage pipeline poses a higher risk to the public than a new pipeline, even as it appears to be in a safe condition. Some vulnerabilities that can be considered applicable to Line 1600 are discussed below.

Fracture Control

At the time that Line 1600 was constructed, it was thought that the primary design concerns were adequate wall thickness and SMYS to operate with a hoop stress within specified limits according to the steel pipe design formula. It became shockingly apparent in 1960 that there could be more to pipeline design than specifying wall thickness and SMYS when a new Transwestern natural gas pipeline experienced a rupture that propagated 8.1 miles while being gas tested. About that time, a Michigan-Wisconsin gas pipeline experienced a 3-mile long rupture. The pipe involved in these incidents met requirements for new line pipe at that time.

Many years of research eventually determined that controlling long running fractures in gas pipelines requires that the pipe material exhibit ductile fracture properties of sufficient magnitude at the operating temperature. Since 1992, industry standards¹¹ have required specifying and testing gas transmission line pipe materials for 16-inch and larger pipe operating at a hoop stress of 40% SMYS or greater in order to assure that they possess adequate propagating fracture control properties.

The pipe installed in Line 1600 was not manufactured with fracture control in mind because the concept was not known at that time. While the pipe has good mechanical strength, its propagating fracture control properties do not meet modern criteria for gas transmission pipelines. Specifically, the temperature at which one would expect to observe 85% shear

¹⁰ Kiefner, J.F., and Rosenfeld, M.J., "The Role of Pipeline Age in Pipeline Safety", Interstate Natural Gas Association of America, INGAA Final Report No. 2012.04, November 8, 2012.

¹¹ American Society of Mechanical Engineers, "Gas Transmission and Distribution Piping Systems", Section 8, B31 Code for Pressure Piping, B31.8-1992 and subsequent editions.

appearance¹² in the full-scale pipe wall¹³ is well above the expected operating temperature of 55 degrees F. Testing of samples removed from Line 1600 show that the pipe body properties are consistent with those observed in Kiefner's data for A.O. Smith Corporation (AOS) flash welded pipe of vintages ranging from 1930 to 1967, Figure 4.

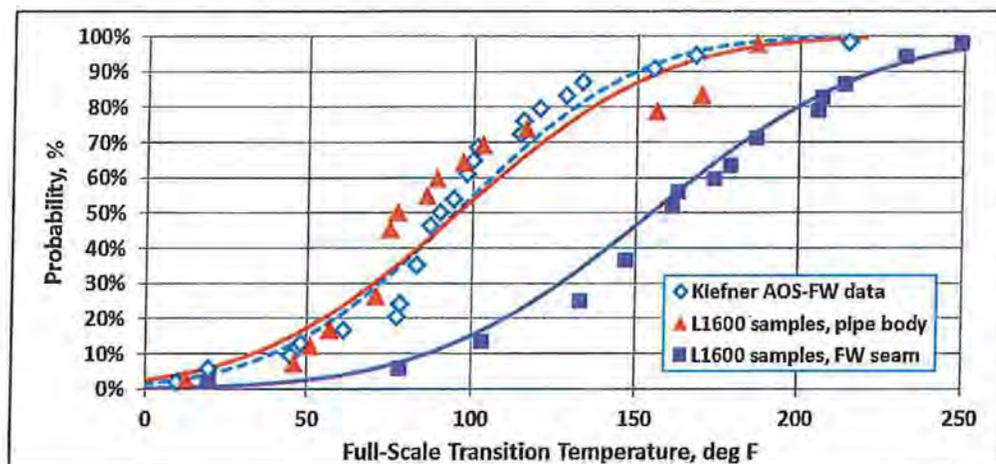


Figure 4. Flash Welded Pipe Fracture Propagation Transition Curves

The pipe body has approximately a 15% probability of exhibiting a fracture appearance transition temperature below an expected operating temperature of 55 degrees F, or put another way, there is an 85% probability that a rupture would propagate some distance. Moreover, there is approximately a 20% probability that the pipe exhibits a transition temperature more than 60 degrees F warmer than the expected operating temperature (or about 135 degrees F) in which case the pipe may be incapable of ductile fracture initiation at the operating temperature. This means that standard corrosion assessment methods would not be reliable for those pipes that cannot exhibit ductile fracture initiation. Charpy V-Notch (CVN) testing of the flash welded seams from the Line 1600 samples exhibited significantly higher transition temperatures than the pipe body, as shown in Figure 4. There is negligible probability of the seams exhibiting ductile propagating fracture characteristics at the expected operating temperature. The implication of these inherent properties of Line 1600 is that in the event of a failure, particularly in the seam but potentially even in the pipe body, a failure would result in a rupture and propagating brittle fracture, rather than a leak.

¹² A fracture surface that exhibits shear is said to be ductile. The 85% shear appearance temperature corresponds to the lowest temperature at which the full ductile fracture resistance would be expected to be observed in a notched impact test. Modern gas transmission line pipe is specified and manufactured to exhibit the fracture appearance transition temperature at or below the lowest expected service temperature.

¹³ The fracture appearance transition temperature is affected by metal thickness. The transition temperature exhibited by CVN specimens that are smaller than 70% of the pipe wall must be adjusted to account for this size effect in order to determine the transition temperature effective in the full-scale pipe wall dimension.

A propagating brittle fracture can be arrested if the material has sufficient fracture resistance, even in the nonductile condition. In the case of Line 1600 operating at 800 psig, the equivalent of 7 ft-lb absorbed impact energy from a full-size CVN coupon at operating temperature is estimated to be sufficient to arrest a propagating brittle fracture.¹⁴ In CVN notched impact tests of several Line 1600 specimens the material exhibited only 10% to 30% shear appearance at a temperature of 50 degrees F, which was substantially nonductile, but the fracture resistance was at least 10 ft-lb full-size equivalent meeting the brittle arrest criterion. The required brittle fracture arrest toughness varies with the square of the hoop stress, so at a reduced MAOP of 640 psig the requirement is less than 5 ft-lb and at the proposed distribution pressure of 320 psig it is only 1 ft-lb. The benefit of reducing the pressure in Line 1600 to distribution service is to greatly reduce the probability of a failure occurring as a rupture. This also reduces consequences in the event of a failure. However, at transmission service pressure, a rupture is more likely and could be expected to propagate the length of at least two pipe joints.

It is important to recognize that the considerations above do not render Line 1600 unsafe. There are thousands of miles of pipeline in service throughout the US that consist of pipe that was not manufactured with fracture control in mind. However, with such pipe, preventing a failure becomes even more important because of the resulting brittle fracture mode of failure. Reducing the operating stress to distribution levels greatly reduces the magnitude of a release, however.

Line 3602 would be constructed from pipe meeting the specifications of API 5L Grade X65, except for one mile of existing pipeline consisting of Grade X60. Modern Grade X65 (and X60) is a high-strength low-alloy (HSLA) steel consisting of a fine-grained microstructure. The pipe body material and seams can be expected to have high fracture toughness with a low transition temperature, and to be capable of meeting brittle and ductile fracture control requirements.

Pipe Manufacturing Defects

The technology of steelmaking and pipemaking has evolved significantly over the past 120 years. Many methods of steelmaking are no longer in use (such as the Bessemer process and open hearth). Likewise, many methods of pipe manufacturing involving certain seam-welding techniques are no longer in use, including lap welding, flash welding, single-submerged-arc welding, and low-frequency-welded electric-resistance welding (LF-ERW). Generally, manufacturing methods go by the wayside because newer developments make it possible to produce pipe faster and at lower cost. However, the industry now recognizes that pipe

¹⁴ Maxey, W.A., Kiefner, J.F., and Eiber, R.J., "Brittle Fracture Arrest in Gas Pipelines", NG-18 report No. 135, Pipeline Research Council, Inc. Catalog No. L51436, April 1983.

produced using some outmoded steelmaking and pipemaking practices can be susceptible to specific failure mechanisms that warrant special attention.

Certain types of vintage seams have been involved in serious pipeline failures. Consequently, integrity management planning requirements contained in 49 CFR 192, §192.917(e)(4) require that where certain seam types are present, the pipeline operator must consider that an integrity threat associated with the seams is present, and must perform an assessment using a technology capable of assessing seam integrity and seam corrosion. The regulation specifically names lap welded and LF-ERW seams, and any other seam types meeting the screening criteria in B31.8S Paragraphs A-4.3 and A-4.4. B31.8S Paragraph A-4.4 also names LF-ERW and flash welded seam pipe, among others. Thus the type of pipe installed in Line 1600 is of the type that the regulations specify must be presumed to be affected by the seam manufacturing defects integrity threat.

What is flash welded pipe?

It is worth briefly reviewing what flash welded pipe is and why it merits concern. Flash welded line pipe was manufactured by only one company, AOS, from 1930 until 1969. Flash welding is a joining process generally used in industrial manufacturing. Heating is produced by electrical resistance to produce fusion of base materials simultaneously over the entire area of abutting surfaces. The electrical flashing across a gap heats the material to the plastic state. The surfaces are then brought into contact and pressed together to forge a bond.¹⁵ Excess material extrudes lateral to the joint which must then be trimmed. The heating produces a heat affected zone. AOS applied the electric flash weld process to pipe production beginning in 1930. Pipes were produced in 40-foot lengths. Plate was formed in presses in a U and then O configuration. The flash weld process used a 1-million-amp current to heat the mating plate edges over the full length of the pipe.¹⁶ The edges were then bumped together to forge the joint and squeeze out oxides. The bumping action caused excess material to extrude radially to form an upset which was then trimmed not quite flush with the pipe interior and exterior surfaces. The process produced a seam having a characteristic square bead in a width approximately equal to the thickness of the pipe wall, after trimming. Figure 5 shows the external appearance of a flash welded seam on pipe in Line 1600, which is typical of AOS pipe made after 1940. Figure 6 shows the typical appearance of the flash welded seam in cross-section (figure not from Line 1600).¹⁷

¹⁵ <http://www.thefabricator.com/article/tubepipefabrication/comparing-flash-and-butt-welding>

¹⁶ A.O. Smith Company, Bulletin 576, 1945.

¹⁷ Rosenfeld, M.J., "Joint Efficiency Factors for A.O. Smith Line Pipe", www.kiefner.com, December 2012.



Figure 5. External Appearance of the Flash Welded Pipe Seam on Line 1600

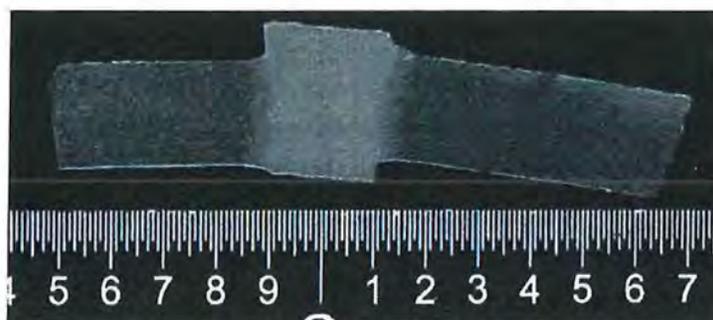


Figure 6. Typical Flash Welded Seam Cross Section, ca. 1946

Starting in 1930 in conjunction with implementing the flash welding process, AOS introduced hydraulic cold-expansion of the pipe (after seam welding). AOS stated in its promotional literature that it used “stronger steel” in their pipe.^{18,19} The cold expansion served both to control final dimensions and increase the strength of the pipe, and was a stringent test of the strength of the seam. It is unlikely that a severely defective seam could withstand cold expansion without failing. The amount of expansion was typically 1 to 1.7% of the diameter.

AOS also practiced hydrostatic pressure testing to a high percentage of the SMYS early on. Testing to 90% of SMYS became a standard AOS practice in 1940.²⁰ For many years, AOS was

¹⁸ Graham, W.T., “Pipe Line Welding”, Natural Gas, Nov. 1930.

¹⁹ A.O. Smith, Bulletin 576.

²⁰ Barkow, A.G., “History of Pipe Line Welding, Part I, 1700-1950”, Welding Journal, Vol. 56, No. 9, September 1977.

testing to higher pressure levels than the minimum test levels specified in API 5L or 5LX. Prior to 1942, API 5L only required mill pressure tests to 40% to 50% of SMYS. Starting in 1942, pressure testing of Grades A and B was increased to 60% SMYS; high strength grades of pipe were only required to be pressure tested to 85% SMYS in 1949, and large diameter pipe was not required to be pressure tested to 90% SMYS until 1956.²¹ Thus AOS mill testing practices significantly exceeded general industry requirements until 1956. Also, AOS performed burst tests of pipe as a measure of quality control, a practice that was never required in API 5L.²²

Line 3602 would be constructed using pipe manufactured to meet the present-day requirements of API 5L and 49 CFR 192. The current edition of API 5L requires pressure testing each pipe to a hoop stress of 90% of SMYS at the pipe mill. Pipe of the proposed size will be constructed using double-submerged-arc welded (DSAW) seams. DSAW seams have an excellent record and are not susceptible to the specific types of manufacturing flaws that can occur in flash welded seams.

Hook Cracks

It is likely that the combination of cold expansion and high-level pressure testing enabled AOS flash welded pipe to experience fewer seam-related problems than ERW pipe of similar vintages.²³ Nevertheless, industry experience has been that important seam flaws in the form of hook cracks have been frequently discovered in AOS flash welded seams, and numerous such defects have been identified by SDG&E in Line 1600. (The effectiveness of the inspection process will be discussed later in this report.) Hook cracks result from the use of steel having high sulfur content, which was common at the time Line 1600 was constructed. The sulfur combines with other elements such as manganese to form inclusions or laminations oriented with the layered microstructure in the plane of the plate. Such features in that orientation usually have no impact on the integrity of the pipe. However, if the features are near the edges of the skelp they become reoriented with the plastic flow of material in the upset region adjacent to the bondline of the flash welded seam. Reoriented, they act as a crack which can enlarge in service due to fatigue crack growth driven by operational pressure cycles, eventually resulting in a rupture. A large hook crack in a flash welded seam that extended by fatigue to failure is shown in Figure 7. (This defect is not from Line 1600.)

²¹ Kiefner, J.F., "Evaluating the Stability of Manufacturing and Construction Defects in Natural Gas Pipelines", Report to DOT and INGAA, Contract No. DTFAAC05P02120, April 26, 2007.

²² Barkow.

²³ Kiefner, J.F., and Clark, E.B., "History of Line Pipe Manufacturing in North America", ASME CRTD-Vol. 43, 1996.

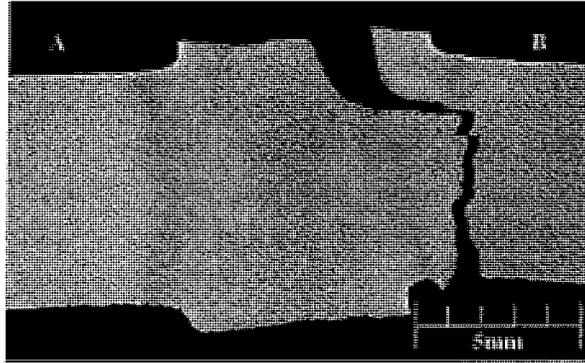


Figure 7. Cross Section of a Flash Welded Seam with a Hook Crack

Kiefner performed an analysis to determine the susceptibility of fatigue crack growth in Line 1600 due to pressure cycles acting on a defect such as a hook crack. The operational pressure fluctuations recorded over time were analyzed to determine the number and magnitude of pressure cycles. Initial flaws of a size that could have just survived the mill pressure test were postulated. The increment of crack growth with each cycle of pressure fluctuation was then determined in accordance with a recognized fatigue crack growth model until the flaw was estimated to be of a size that it could fail in service.²⁴ The result was a shortest predicted time to failure of 171 years, which suggests that seam fatigue should not be the primary focus of the integrity management plan for Line 1600.

While those results would appear to put concerns for hook cracks to rest, there are some residual concerns that cannot be easily addressed. One is that the estimates of time to failure relied on operating pressure data from 2015 and 2016 and assumed that the pipeline had always operated similarly. Early in its history the pipeline may have operated differently and in a manner that could be more severe from the fatigue standpoint. Secondly, a study of the causes of failures in ERW and flash welded seams performed for the Pipeline Hazardous Material Safety Administration (PHMSA)²⁵ found that commonly used ductile fracture initiation models gave unsatisfactory (i.e. overestimated) predictions of the failure stress levels of hook crack defects. There was essentially no correlation between predicted and actual failure stress levels. The PHMSA study also found that hook cracks oriented very close to low-toughness bondlines may fail spontaneously in a manner that cannot be predicted with present models and that such an interaction may have happened with a notorious pipeline incident involving ERW seams (the Dixie Pipe Line incident at Carmichael, Mississippi). Finally, multiple hook cracks may be present in parallel or aligned and in close proximity to each other. Recent

²⁴ Kiefner, J.F., Kolovich, C.E., Zelenak, P.A., and Wahjudi, T., "Estimating Fatigue Life for Pipeline Integrity Management", International Pipeline Conference, IPC04-0167, Calgary, October 4-8, 2004.

²⁵ Kiefner, J.F., and Kolovich, K.M., "ERW and Flash Weld Seam Failures", Subtask 1.4, U.S. Department of Transportation, Agreement No. DTPH56-11-T-000003, September 24, 2012.

research gives evidence that individual hook cracks can interact with other adjacent hook cracks so as to lead to failure in less time than would be expected with a single hook crack.²⁶ The most adverse combination is hook cracks occurring on the same side of the seam bondline but with one hook crack on the inside and the other on the outside pipe surfaces. With the geometric complexity presented by the flash welded seam bead, it is not entirely clear how well multiple hook cracks are characterized by either in-line inspection (ILI) or in-ditch non-destructive examination (NDE).

Line 3602 would be constructed from DSAW line pipe. DSAW seams are not susceptible to hook cracks.

Selective Seam Weld Corrosion

Flash welded seams are susceptible to an insidious form of corrosion known as selective seam weld corrosion (SSWC).²⁷ SSWC, also called preferential seam corrosion, is corrosion-caused metal loss, either internal or external, of or along an ERW or flash welded seam. The corrosion process attacks the seam bondline region at a higher rate than the surrounding body of the pipe, resulting in a corrosion crevice or groove aligned with the bondline. Figure 8 shows the typical external appearance of SSWC (at arrow). Figure 9 shows typical selective corrosion in cross section.



Figure 8. Typical external appearance of selective seam weld corrosion

²⁶ Ma, J., and Rosenfeld, M.J., "Threat/Anomaly Mitigation Decision-Making Process – Task 5: Deterministic and Probabilistic Approaches for Scheduling Mitigations of Crack-Like Anomalies", Interim Report, US DOT – PHMSA, DTPH5614H00005, July 13, 2015.

²⁷ Kiefner and Clark.

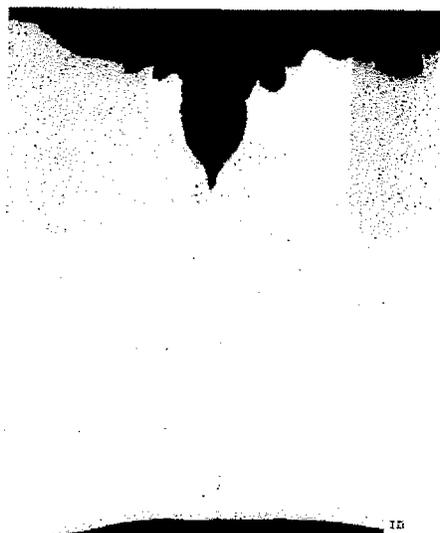


Figure 9. Selective seam weld corrosion viewed in cross section

Susceptibility to SSWC is enhanced by high sulfur content in the steel,^{28,29} similar to the steel used to make the pipe in Line 1600. Steel chemistry analyses performed on samples of pipe removed from Line 1600 indicated sulfur content between 0.02% and 0.05% by weight, which is ten times what would be present in modern line pipe steel. SSWC can evade detection by conventional magnetic ILI tools, but can usually be detected using circumferential magnetic-flux leakage (CMFL) tools. Making accurate measurements in the ditch of the depth of the SSWC groove can be difficult due to the narrow groove geometry and poor reference surface condition. The combination of SSWC and low toughness in the seam bondline, may create a serious defect that is more likely to cause a rupture than coincident corrosion in the body of the pipe, or cause a rupture at low hoop stress.³⁰ Conventional corrosion evaluation methods such as ASME B31G cannot be reliably used to evaluate SSWC if the flaw cannot be accurately sized or if the seam can exhibit low-toughness behavior. SDG&E has so far not reported the occurrence of SSWC on Line 1600, however the line should be regarded as susceptible based on its chemistry and seam type. With the potential for low seam toughness at the operating temperature, the occurrence of selective corrosion in Line 1600 could pose an integrity concern.

Line 3602 will be constructed using DSAW seam pipe and fusion-bonded epoxy (FBE) coating. It will not be susceptible to selective seam weld corrosion.

²⁸ Kato, C., Otaguro, Y., Kado, S., and Hisamatsu, Y., "Grooving Corrosion In Electric Resistance Welded Steel Pipe in Sea Water", Corrosion Science, vol. 18, 1978.

²⁹ Masamura, K., and Matsushima, I., "Grooving Corrosion of Electric Resistance Welded Steel Pipe in Water – Case Histories and Effects of Alloying Elements", Paper No. 75, NACE International Corrosion Forum, Toronto, April 6-10, 1981.

³⁰ Rosenfeld, M.J., and Fassett, R., "Study of Pipelines that Ruptured While Operating at a Hoop Stress Below 30% SMYS", Pipeline Pigging and Integrity Management Conference, Houston, February 13-14, 2013.

Other Pipe Manufacturing Defects

Pipe produced by AOS has been known to be affected by other undesirable conditions derived from manufacturing. One is excessive hard spots in the pipe body. AOS used pipe with high carbon and manganese content, which causes the steel to be readily hardenable when subjected to high cooling rates. Accidental local rapid quenching of the skelp while hot could then produce hard spots of varying sizes. Hard spots can be susceptible to hydrogen-induced cracking due to hydrogen generated by the cathodic protection system.

AOS pipe may also contain a type of flaw called a lamination. Laminations are the result of high sulfur content in the steel. The sulfur combines with manganese to form soft manganese sulfide inclusions which form very thin discontinuities within the layered microstructure of the plate as it is rolled to final thickness. Usually the laminations are not detrimental to the integrity of the pipe. The installation of hot taps or repairs that are welded to the pipe can encounter difficulties if they intersect a lamination. Also, hydrogen generated by the cathodic protection system can diffuse into the steel and become trapped in the layered discontinuity, leading to the formation of large blisters due to a buildup of pressure. Such blisters may crack and leak over time. SDG&E has not reported encountering this condition.

Corrosion Control

Pipelines buried in soil will corrode with time unless the pipe is externally coated. External coatings provide a primary barrier against corrosion, but coatings are imperfect and can be damaged by many common circumstances including: pipe handling during construction, contact against rocks in the ditch and backfill, stresses induced by expansion or contraction of soils, stresses from soil movement, contact from excavating equipment, or just weathering and deterioration over time. Therefore additional measures are required. Corrosion is an electrochemical process, meaning the flow of electrons is involved. Hence the corrosion process on the pipe exterior can be slowed or stopped by applying a voltage such that electrical current always flows onto the pipe surface where it is exposed to the soil environment at breaches in the coating. This is accomplished by a cathodic protection system utilizing external anodes and/or a rectified external current.

Corrosion inside the pipe may occur where free water collects in low spots where the flow of gas is not vigorous enough to push the water through the line. Cathodic protection is not effective for controlling corrosion inside the pipe. It may be controlled by one or more methods including diligent control of moisture levels in the gas entering the pipeline, use of corrosion inhibiting chemicals injected into the pipeline, or by use of internal cleaning tools propelled by the gas flow to sweep up collected water or residual solid matter deposited on the pipe bottom.

Line 1600 is coated with coal tar enamel. Coal tar enamel has a good performance record but it can weather, crack, disbond, peel, sag, or become penetrated over time. It also can partially shield the pipe from cathodic current. Coal tar enamel has been superseded by more modern coating technologies. The pipeline has been reliable from the standpoint of leaks due to internal and external corrosion. It is cathodically protected and is capable of being internally inspected to detect metal loss caused by corrosion.³¹ However, it seems reasonable to expect that the longevity and performance over time of coatings technology that dates from 1949 is likely to be inferior to that of modern coatings materials. Line 3602 would be coated using fusion-bonded epoxy (FBE), a reliable high-integrity coating system. FBE is resistant to disbonding from the pipe surface due to mechanical stress or cathodic overprotection. It also does not insulate or shield the pipe from cathodic current, so it is essentially fail-safe.

The Interstate Natural Gas Association of America (INGAA) pipeline age report determined that pipelines built prior to 1950 exhibit a rate of failure due to corrosion approximately 2.4 times greater than what would be expected based solely on their proportion of total pipeline mileage. On the other hand, modern pipelines constructed since 1990 exhibit on average only 0.25 times the rate expected based on their mileage pro-rata. Thus pre-1950 pipelines are approximately 9.5 times more likely to leak or fail due to corrosion than modern pipelines. A similar conclusion was arrived at in an American Petroleum Institute (API) study of the effects of pipeline age on the safety of petroleum pipelines.³² That study determined that pipelines built in the 1940s experience leaks due to corrosion at a rate of approximately 1.5 times that of pipelines built between 1970 and 1990 and about 14 times that of pipelines built after 1990. The findings from the API and INGAA studies are consistent, which makes sense considering natural gas and petroleum pipelines are constructed similarly.

Natural Events

Large scale natural events can adversely affect buried pipelines causing damage and sometimes failure of the pipe. Examples of natural events that could occur in San Diego County are listed in Table 1. While the precise mechanisms can vary, events such as those listed in Table 1 or their ensuing secondary effects lead to consistently similar outcomes, namely the introduction of large loads that can cause girth welds to crack or pull apart completely. Other outcomes are possible too. Where loadings in compression are sufficiently severe, the pipe section may buckle. A buckle is usually not an immediately catastrophic event in the way a girth weld separation is, but buckles often develop cracks and eventual leak. Cyclic or oscillatory

³¹ Line 1600 is not necessarily capable of accommodating all ILI tools. A recent inspection attempt using a new CMFL tool failed because the tool was unable to negotiate bends and wall thickness changes in the line. The previously used CMFL tool was superseded by the newer tool design and was no longer available. So currently Line 1600 can only be inspected using a conventional MFL tool.

³² Kiefner, J.F., and Trench, C.J., "Oil Pipeline Characteristics and Risk Factors: Illustrations from the Decade of Construction", American Petroleum Institute, December 2001.

movement caused by vortex-induced vibration in water currents flowing across an exposed pipe span can cause fatigue cracks to grow in girth welds which may then pull apart. Several notable pipeline failures have occurred due to that cause. More subtle ground movement, such as undermining by erosion, subsidence, or frost heave/thaw settlement (which is unlikely in San Diego) can introduce axial and bending stresses in the pipe that promote stress-corrosion cracking.

Table 1. Natural Event Hazards That Could Affect Line 1600

Event	Secondary Effect	Effect on Pipeline	Mode of Failure
Heavy rainfall	Flooding, riverbed scouring, exposure of pipeline to water current forces	Lateral displacement of pipeline	Girth weld separation
		Debris build up	Mechanical damage, girth weld separation
		Oscillation due to hydrodynamic effects	Fatigue crack growth leading to girth weld separation
	Slope instability	Axial and lateral displacement of pipeline	Buckling, girth weld separation
	Undermining	Subsidence	Buckling, girth weld cracking, stress corrosion cracking
Seismicity	Fault movement	Axial and lateral displacement of pipeline at a fault crossing	Girth weld cracking, possible separation
	Soil liquefaction	Axial and lateral displacement of pipeline	Buckling, girth weld separation
	Slope instability	Axial and lateral displacement of pipeline	Buckling, girth weld separation

Three sorts of incidents that are often categorized separately are in fact related to natural events: heavy rains and floods, earth movement, and girth weld failures. The reason why girth welds are included is that large external loads are the main cause of girth weld failures,³³ and natural events are the most likely source of large external loads acting on pipelines.

The INGAA pipeline age study determined that pipelines installed prior to 1950 had higher normalized rates of incidents in the heavy rains and floods, earth movement, and girth weld failure categories, while post-2000 pipelines had low normalized rates in the same categories. The ratio of normalized rates shows that pre-1950 pipelines have 1.7 to 3.3 times the rate of incidents due to those causes than do post-2000 pipelines, as shown in Table 2.

³³ The axial stress due to internal pressure in a buried pipeline is nominally only 30% of the hoop stress. Internal operating pressure alone cannot cause even a very weak girth weld to actually separate. Only external loadings can act to pull apart a girth weld.

Table 2. Vintage Pipeline Susceptibility to Failures Caused by Natural Events

Integrity Threat	<1950 Normalized	>2000 Normalized	Ratio <1950/>2000
Heavy rains/floods	2.23	0.67	3.3
Earth movement	1.28	0.77	1.7
Girth welds	1.67	0.80	2.1

The reasons for the increased susceptibility of older vintage pipelines to these three categories of integrity threat have to do with inherent limitations of older methods of pipeline construction, which have been significantly improved upon with modern construction methods. The first has to do with how pipelines used to be installed across flowing streams and rivers. Until 30 years ago (more or less) pipelines were installed across rivers in excavated trenches. The concrete weights were installed on top of the pipe to offset the buoyancy of the empty pipe and the pipe was lowered in and backfilled. Sometimes rock would be placed or dumped over the pipeline. It was difficult to excavate a trench very deeply below the river bottom. Flooding could scour away the river bed exposing the pipe, or if the river overflowed its banks it could carve a new channel exposing a portion of the pipeline that was not part of the actual river crossing and that had been buried to only a normal depth. Today, rivers are routinely crossed using horizontal directional drilling (HDD). An HDD pipeline river crossing is installed by pulling it through a borehole that subtends an arc located very deep below the river bed such that bottom scouring will not expose the pipe. In order to pull the pipe through the borehole the ends of the crossing must be positioned well away from the river banks laterally such that erosion of the stream or river banks will not expose the approach. The HDD pipe is usually heavier wall thickness than the normal construction as well. This installation technique provides better long-term protection for the pipeline and also eliminates the environmental damage caused by excavating a trench across a river. Line 1600 crosses several streams or rivers and was certainly installed in a trench that could be washed out, exposing the pipe. Line 3602 will be installed across rivers and streams using the HDD method.

The second important factor affecting susceptibility to the effects of flooding and soil movement is girth weld quality. As of 1949, radiographic inspection in the field was difficult and expensive. In fact, the technology had only just been introduced for inspecting pipeline girth welds in 1948 and there was a long period of adaptation, learning, and training on the part of the industry to properly take advantage of the technology.³⁴ At that time the practice was to cut a hole in the pipe to insert the radiological source, until it was concluded that patching the holes was more detrimental than leaving the welds uninspected. X-ray inspection could only be implemented with pipe 20 inches in diameter or larger.

³⁴ Barkow.

Welding quality is improved by inspection. The first workmanship standard based on radiography of pipeline girth welds was introduced in 1953, four years after Line 1600 was built. Workmanship standards did exist when Line 1600 was constructed but acceptance was usually based on visual examination or destructive examination of random cut-outs.³⁵ (Visual examination could include several observations capable of detecting a bad weld including burn-off of the electrode, fusion and penetration of the weld, formation and contour of the deposited bead, and sound of the arc. Preparation of the pipe ends for welding, and clamping the pipes to achieve good alignment, also contribute to weld quality. These practices were also just starting to become routine at the time of construction of Line 1600.) Today radiographic inspection of girth welds is a routine practice and can now be performed digitally which is useful for enhancing the image and for long-term retention of the inspection record. Also, where automated welding is practiced (typically with large-diameter long-distance pipelines), automated ultrasonic inspection is used. Sometimes advanced ultrasonic inspection supplements radiographic inspection for critical welds such as tie-ins or transition joints.

Electric arc welds from the era of Line 1600 and even earlier could exhibit favorable mechanical strength and ductility. Present day understanding, as informed by fracture mechanics, is that the ability of a girth weld to withstand large applied stresses is primarily governed by the presence and size of defects,^{36,37} i.e. the workmanship. Therefore, whether inspections were performed and to what criteria is the principle discriminator of welds that would be expected to perform well when subjected to significant loadings, e.g. when exposed to the effects of floods, soil movement, or seismic activity. The probability of a weld failing is then the probability of the weld containing defects combined with the probability of the high load event occurring. Thus the threat of girth weld failure can be considered an interacting integrity threat pair: welds of known low quality (or welds of undocumented quality because they were never inspected) and external loadings from natural events are each undesirable but potentially tolerable, but where the two are present together the probability of failure becomes high. This is the situation for Line 1600 wherever geotechnical hazards intersect the pipeline.

Mechanical Damage

Mechanical damage results from the pipe being struck by excavating equipment. The damage is in the form of a scrape or gouge, often within a shallow indentation. Mechanical damage, if severe, may result in immediate failure of the pipe. More often, the pipe initially withstands the damage which may then cause a failure weeks, months, or even years after the damage

³⁵ Amend, B., "Vintage Girth Weld Defect Assessment – Comprehensive Study", Contract PR-355-094502, Pipeline Research Council, Inc., March 5, 2010.

³⁶ Reed, R.P., McHenry, H.I., and Kasen, M.B., "A Fracture-Mechanics Evaluation of Flaws in Pipeline Girth Welds", Welding Research Council, Bulletin 245, January 1979.

³⁷ Lundin, C.D., "Fundamentals of Weld Discontinuities and Their Significance", Welding Research Council, Bulletin 295, June 1984.

occurred. In fact, mechanical damage is one of the most frequent causes of pipeline failure.³⁸ There is currently no completely reliable method for assessing the severity of mechanical damage. If it is discovered on a pipeline, it is usually considered to be injurious and requiring immediate repair.³⁹

The susceptibility of a pipeline to mechanical damage failure has been observed to be significantly greater for older vintage pipelines. The INGAA pipeline age study found that natural gas pipelines installed prior to 1950 were 4.1 times more likely to experience a failure due to being hit by a third-party excavator than pipelines installed after 2000, and 1.7 times more likely to rupture due to latent (previous) damage. The API pipeline age study observed that oil pipelines installed during the 1940s decade were approximately 3.8 times more likely to experience a failure due to being hit by a third-party excavator than pipelines installed after 1990.

The properties of the pipe strongly influence susceptibility to failure in the event that the pipeline is hit by an excavator. Testing and experience has shown that resistance to mechanical damage is proportional to the thickness, toughness, and ultimate tensile strength of the pipe material.^{40,41} Older vintage pipelines may exhibit reasonably high strength, but often do not possess the fracture toughness at the operating temperature or heavy wall thickness of modern pipelines. The various combinations of pipe wall thickness and grade present in Line 1600 and the proposed Line 3602 were evaluated for resistance to penetration by excavators, based on a probabilistic mechanics model.⁴² The results from applying that model are presented in Table 3. Table 3 shows that Line 1600 could be expected to be severely damaged by most pipeline excavators in use, whereas Line 3602 would resist penetration by almost any excavator.

³⁸ <http://www.phmsa.dot.gov/pipeline/library/data-stats/pipelineincidenttrends>

³⁹ Rosenfeld, M.J., Pepper, J.W., Lewis, K., "Basis of the New Criteria in ASME B31.8 for Prioritization and Repair of Mechanical Damage", Paper No. IPC2002-27122, International Pipeline Conference, Calgary, October, 2002.

⁴⁰ Maxey, W. A., "Outside Force Defect Behavior", Battelle Report to A.G.A. Pipeline Research Committee, Catalog No. L51518, August 15, 1986.

⁴¹ Spiekhout, J., Gresnigt, A. M., Koning, C., and Wildschut, H., "The Influence of Pipewall Thickness on Resistance to Damage of Gas Transmission Pipelines", NG-18/EPRG 6th Biennial Joint Technical Meeting on Line Pipe, September, 1985.

⁴² Chen, Q., and Nessim, M., "Reliability-based Prevention of Mechanical Damage to Pipelines", PRCI Catalog No. L51816, August 1999.

Table 3. Vulnerability of Line 1600 and Line 3602 to Excavator Damage

Pipe, OD x WT, inches	Grade	Penetration Force, lb	Excavator Weight, tons	Excavators that are Larger, pct.
Existing Line 1600				
16 x 0.250	X52	32,000	23 T	56%
16 x 0.312	X52	42,000	35 T	24%
16 x 0.250	X60	37,000	29 T	38%
16 x 0.250	X42	29,000	20 T	78%
Proposed Line 3602				
36 x 0.625	X65	96,000	147 T	0.03%
36 x 0.500	X60	72,000	86 T	1%

An important factor affecting the threat of mechanical damage is the intensity of land development activity adjacent to the pipeline. Older pipelines are more likely to have recent land development take place nearby that was not planned for when the pipeline route was selected and the line installed. Pipeline operators are required by law in California and all 50 states to participate in an excavation notification program that enables anyone wishing to dig to call a toll-free number (8-1-1) to request that all buried utilities (including water lines, electrical lines, cable or communications, not just pipelines) in the area of the planned excavation to be marked in advance. The operator of the buried utility has 48 hours to respond. It is also a state law that those planning to dig must request the marking in advance and wait for the buried utilities to be marked prior to digging. The number of marking requests (“tickets”) for excavations within 1,000 ft of Line 1600, tickets within 10 ft of Line 1600, and tickets requiring direct on-site supervision by SDG&E of excavation near Line 1600 for 2014 through 2016 are presented in Table 4. The intensity of excavation activity near Line 1600 shows no evidence of abating. This risk cannot be understated. Figure 10 shows prior mechanical damage on Line 1600 that was discovered by in-line inspection.

Table 4. Line Locate Requests near Line 1600 2014-2016

Year	Within 1,000 ft	Within 10 ft	Requiring Direct Supervision
2014	1833	65	16
2015	1596	43	27
2016	2003	52	18



Figure 10. Prior Mechanical Damage Discovered on Line 1600

Other factors external to the pipe may affect the likelihood of the pipeline being hit by an excavator in the first place. These include depth of cover, presence of signage or markers, and the accuracy of alignment maps. Older pipelines were often installed with shallower cover than is common practice today. In cultivated areas, plowing activity and wind erosion can reduce the cover over time. HDD installation methods are often used where a new pipeline must cross freeways and other land uses where excavation activity might be expected such that the pipeline depth is well below likely excavation depth.

Discussion of Testing and Inspection of Line 1600

SDG&E has no reliable records indicating that Line 1600 had been pressure tested following construction and prior to entering service, which is consistent with prevailing industry practices.⁴³ Hydrostatic pressure testing of cross-country pipelines was only first shown to be feasible and effective about a year later. Lacking such a test, SDG&E either must now test the pipeline or replace it in order to comply with the CPUC decision and California statute resulting from the San Bruno incident. For integrity management planning use, 49 CFR 192 recognizes in-line inspection as an acceptable method for assessing the integrity of pipelines covered by Subpart O, irrespective of whether the pipeline had or had not previously been pressure tested, provided the ILI tool is capable of assessing the condition of the pipeline with respect to applicable integrity threats, including seam defects. Unlike some pipelines of similar vintage,

⁴³ Rosenfeld, M.J. and Gailing, R.W., "Pressure Testing and Recordkeeping: Reconciling Historic Practices with New Requirements", Pipeline Pigging and Integrity Management Conference, Houston, TX, Feb. 14-15, 2013, and Journal of Pipeline Engineering, vol. 12, no. 1, March 2013.

Line 1600 is capable of being internally inspected using ILI tools (though not by all tool types). However, ILI has not been accepted by CPUC for responding to their orders to enhance the safety of pipelines not previously hydrostatically tested.

ILI tools today are complex and sophisticated instruments that are propelled through the pipeline by the flow of gas, and that can sense and record some conditions affecting the pipeline, depending on the design of the sensors installed in the tool. ILI can be more sensitive to some conditions or defects than hydrostatic testing. The types of ILI tools used with natural gas transmission pipelines are listed in Table 5. Not all technologies are available for all pipe sizes or pipeline configurations.

Table 5. ILI Tools Used with Natural Gas Transmission Pipelines

Tool type	Condition Assessed For
Caliper	Significant indentations and diameter restrictions
Geometry with inertial measurement	Same as caliper, plus slope and curvature
Longitudinal (conventional) magnetic flux leakage (MFL)	Internal or external metal loss due to corrosion, some capability for mechanical damage
Circumferential MFL (CMFL)	Selective seam corrosion, some capability for hook cracks
Electromagnetic acoustic transducer (EMAT)	Stress-corrosion cracking

SDG&E has internally inspected Line 1600 using caliper, conventional MFL, and CMFL tools. The CMFL tools are of particular interest in view of the vintage flash welded seams. SDG&E reported no findings of selective corrosion, and numerous indications of hook cracks. The presence and sizes of the flaws indicated by ILI were confirmed by NDE in the ditch using phased-array ultrasonic testing (PAUT). Many of the indicated flaws were then cut out and subjected to destructive examination in order to confirm the accuracy of the PAUT and to characterize the nature of the flaws. The destructive examination confirmed that the linear indications in the flash welded seam were hook cracks.

The CMFL ILI tool performed well in five important ways:

- a) a flaw of some type was present where it indicated something was there,
- b) it performed according to usual CMFL tool performance claims of 20% of the wall (a depth of 0.05 inch for this pipe),
- c) it discovered flaws that were much smaller than would cause the pipeline to fail,

- d) it discovered flaws that were smaller than could be discovered by a hydrostatic pressure test, and
- e) it indicated the sizes of the flaws reasonably accurately.

These points are illustrated in Figure 11 below.

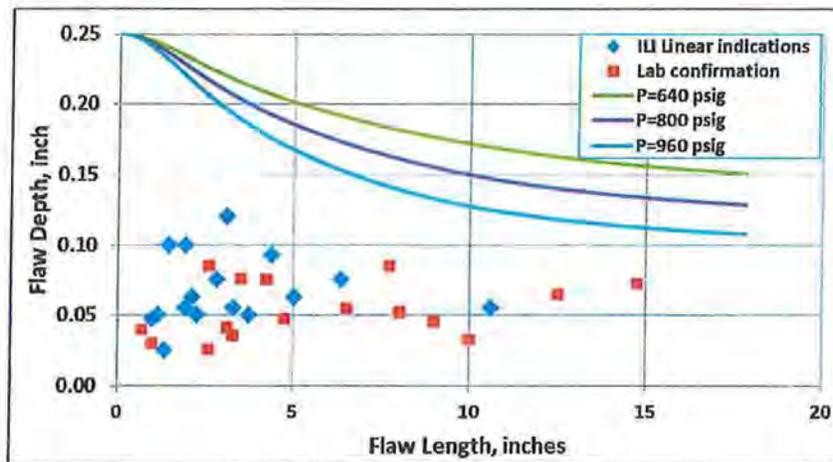


Figure 11. Performance of CMFL Tool for Detecting Hook Cracks

Figure 11 shows the sizes of the hook cracks as reported by the CMFL ILI tool as blue diamond symbols. The sizes of flaws that would fail at an MAOP of 640 psig, an MAOP of 800 psig, and a hydrostatic test pressure of 960 psig are shown as the green, purple, and light blue curves, respectively. That the indicated flaws were smaller than these critical sizes demonstrates that the CMFL tool was capable of detecting flaws that could affect the integrity of the pipe. The dimensions as confirmed by destructive examination are shown as red square symbols. The hook crack dimensions reported by the CMFL tool were in reasonable agreement with the actual dimensions, which is important for discriminating between minor and significant flaws.

On the other hand the CMFL tool exhibited a possible performance limitation: the sizes of flaws that it failed to indicate were approximately as large as the ones that it did indicate, as shown in Figure 12. It is important to understand that no ILI tool indicates all flaws, and both the probability of detection of a flaw and its significance to pipe integrity are proportional to the dimensions of the flaw. On the other hand, as Figure 12 shows, flaws discovered incidentally in the course of investigating the flaws indicated by the CMFL tool were not all substantially smaller than those that were indicated by the tool. After completing a CMFL inspection there will be flaws not reported and not investigated in the field. These incidental flaw discoveries are representative of those that will remain after running the CMFL tool and which will be unknown to SDG&E. Moreover, the CMFL tool requires that some air gap be present at the mouth of a flaw in order for magnetic flux to be sensed. The hook cracks discovered in Line

1600 were opened widely. Hence no CMFL tool vendor claims that the CMFL tool can detect true cracks, and the National Energy Board of Canada (the Canadian counterpart to PHMSA in the US) has denied use of CMFL technology for detecting cracks that could enlarge. A CMFL tool will not indicate hook cracks that remain tight or any part of a hook crack that was growing internally. This represents a risk to the extent that risk is proportional to what is unknown.

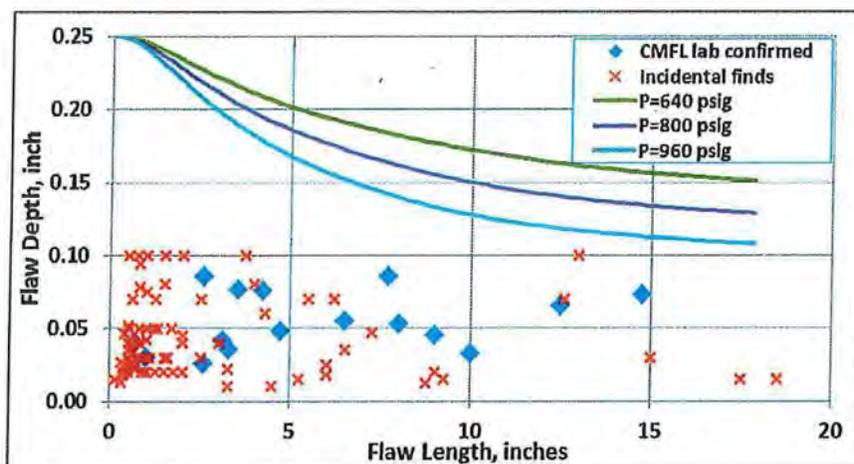


Figure 12. CMFL Indicated and Incidental Seam Flaws

SDG&E performed an inspection for metal loss due to corrosion using a conventional MFL tool designed for that purpose. It appears to have performed well in that it successfully indicated the presence of corrosion flaws that were too small to affect the integrity of the pipe or to be detected by a hydrostatic pressure test, as shown in Figure 13.

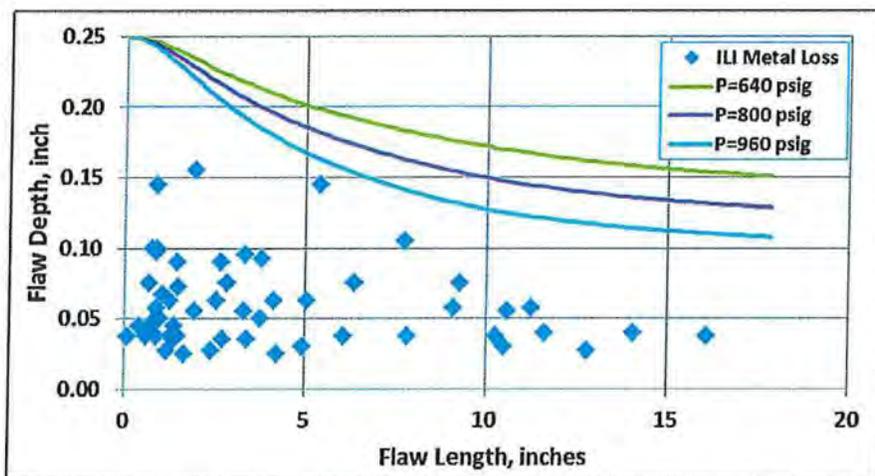


Figure 13. Performance of the MFL Metal Loss ILI Tool

Regarding the prospect of hydrostatic testing, it is important to recognize that a pressure test is a potentially-destructive proof of the integrity of the pipe so there is some risk of one or more failures occurring during the test. This is especially true with an older vintage pipeline that has never previously been pressure tested, although having been subjected to ILI reduces that probability for Line 1600. A test failure is potentially hazardous to people and property nearby. Numerous instances have occurred of property damage, personal injuries, or fatalities as a result of failure of the pipeline being tested or of the testing equipment, even when testing with water. While measures can be taken to isolate the pipeline under test and the testing site in remote areas, this becomes difficult in built-up areas. It may be impossible in some areas to shut down roads that cross or run adjacent to the pipeline. Recent pressure tests of pipelines in California have resulted in damaged roads and vehicles. Line 1600 is situated very close to homes, which probably should be evacuated while the line is being tested.

The proposed Line 3602 will be constructed so as to be capable of being internally inspected using ILI. Present regulations and industry standards require hydrostatic pressure testing of the line before it enters service. Certainly the potential hazard associated with pressure testing exists for Line 3602 as well, but the probability of a single test failure is much lower, let alone multiple test failures, than with a 68-year-old pipe. Finally, it is worth pointing out that after pressure testing Line 1600, it will still be 68 years old with uninspected girth welds, thin wall, and no fracture control.

Discussion of the Risk Benefits of the Proposed Project

Several different pipeline configuration and mitigation alternatives were evaluated on the basis of risk. Information provided to us about Line 1600, two proposed mitigation alternatives, and a proposed pipeline replacement alternative was inputted to the Kiefner-NGA⁴⁴ Risk Assessment model to compute probability of failure (POF) index scores. The model is a relative risk ranking model that uses pipeline attribute data to compute index scores that can be ranked. The model includes more input data fields than was available for the existing pipeline and alternatives, so default or estimated data were used where actual pipeline attributes were not available. The values selected for the defaults will influence the actual probability index score, but because the same default values were used for all the segments entered, the default data will not affect the relative ranking of the index scores.

The primary reasons for using the risk model to compute relative probability of failure index scores were 1) to evaluate the benefit (reduction in probability of failure) of the two proposed

⁴⁴ The model was developed by Kiefner for the Northeast Gas Association (NGA). It has been used for at least 15 years by NGA member and nonmember gas pipeline companies for ranking relative risk of their natural gas pipelines for integrity management purposes. The relative risk scores are calculated considering the actual effects of various facility attributes as reflected in mechanistic relationships or the frequency of occurrence of incidents reported to PHMSA. The model is used to identify specific pipeline segments requiring focused risk mitigation and to evaluate the potential benefits of specific mitigations.

mitigation alternatives, namely hydrostatic testing of the existing line and reducing the maximum operating pressure, and 2) to compare the relative probability of failure scores of the existing pipeline and mitigation alternatives to the replacement of the existing 16-in pipeline with a new 36-in pipeline.

The risk model uses a very simplistic approach to model the beneficial effects of hydrostatic testing, in-line inspection, and pressure reductions. The model considers the beneficial effects of these mitigation methods as follows.

A hydrostatic test removes critically-sized, axially-oriented flaws, including external and internal corrosion defects, by causing them to fail. A hydrostatic test may also remove manufacturing defects that have not previously been exposed to the test pressure level. Pipelines may experience pressure-cycle induced fatigue crack growth of flaws under certain conditions. The rate of crack growth can be related to the magnitude and frequency of operating pressure cycles. Thus, the benefits of hydrostatically testing pipelines are to remove defects experiencing time-dependent growth (e.g., corrosion, fatigue) and removing manufacturing defects by exposing the pipeline to pressures above the operating pressure level, removing causing critically-sized defects.

The MFL inspection will reduce the likelihood of failure from external and internal corrosion. The model considers that the MFL inspection will locate these types of defects in the pipeline and that the operator will respond by excavating and examining certain indications appropriately. The model applies a 90% reduction to both the external and internal corrosion index scores in the year in which the ILI is performed. The value of this inspection erodes over time because corrosion is a time-dependent integrity threat.

Some segments in Line 1600 have been assessed with an in-line inspection in 2012, and thus the probability of failure index scores for internal and external corrosion already incorporates a mitigation factor. The beneficial effects of a hydrostatic test are not additive so the reduction from the hydrostatic test is smaller than it would be if the pipeline had not already been inspected by a recent ILI.

An alternative of replacing the existing Line 1600 with a new pipeline was considered in the model. The new pipeline alternative was assigned the following attributes:

- 36-in OD x 0.625-in WT, Grade X65 line pipe
- Fusion-bonded epoxy external coating
- 90% of the girth welds inspected by radiography to API 1104

- 100% cathodic protection within 12 months of installation
- Pre-service hydrostatic test to 90% of the SMYS of the pipe
- Depth of cover measured during construction along entire route

These characteristics resulted in a very low probability of failure score for the new pipeline alternative.

The risk model results are summarized in Figure 14. The color bands for each segment in the figure represent the probability of failure contribution for different threats.

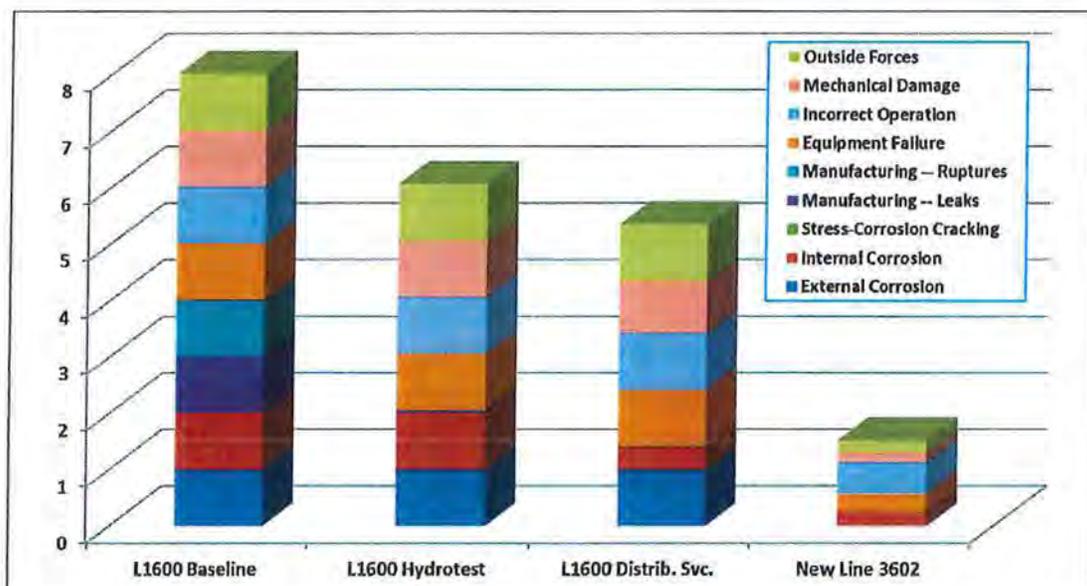


Figure 14. Summary of Probability of Failure Scores

The segment labeled "L1600 Baseline" represents the existing Line 1600 outside of steep slopes and fault crossing zones (which were not analyzed but certainly increase risk to the extent that the hazards are present). The columns labeled "L1600 Hydrotest" represents the POF scores after the line has passed a hydrostatic pressure test to an internal pressure of 1,200 psig. The column labeled "L1600 Distribution Service" represents the POF scores after Line 1600 has been derated to serve as a distribution line, with the MOP reduced from 800 psig to 320 psig. The column labeled "New Line 3602" represents the new 36-in diameter pipeline alternative.

As shown in the figure, both the hydrostatic pressure test and pressure reduction (to distribution service) alternatives reduce the POF scores somewhat. The pressure reduction alternative lowers the risk slightly more than the hydrostatic test scenario. The modest risk reduction with either alternative is due substantially to the fact that after mitigation it is still an

older vintage pipeline with limited resistance to excavator damage or to natural event loadings, poor fracture control, and an incompletely characterized seam. It may not be possible to in-line inspect the pipeline at the lowered operating pressure, which will have an impact on the POF scores after the credit for the 2012 ILI expires. The POF levels represented by the new pipeline alternative are notably lower than the existing Line 1600 and both mitigation alternatives. Although the pipeline risk will gradually increase over time, the new materials, heavy wall thickness, coatings, and cathodic protection system will result in a much lower increase in POF over time than the existing Line 1600.

The results of the analysis above do not account for all details of construction and location with either Line 1600 or the proposed Line 3602. However, they are illustrative of the sensitivity of relative risk associated with the differing scenarios. It is noted that these results are consistent with the conclusions from the PWC cost-effectiveness study.⁴⁵

Also, the model does not explicitly account for consequences. Conversion of Line 1600 to distribution service significantly lowers consequences in that the likelihood that a failure occurs as a rupture.

Summary

A review and analysis of risk factors and a risk assessment was performed to evaluate whether it makes sense from a public risk standpoint to pressure test the existing Line 1600, or derate it to distribution service without pressure testing it and build a new 36-inch transmission pipeline, Line 3602. The two options were compared in terms of inherent resistance or susceptibility to certain integrity threats based on typical characteristics and attributes of the two pipelines, historical performance trends affecting similar pipelines, and a relative risk model widely used in the natural gas industry.

The review of risk factors concluded that Line 1600 has greater vulnerability or susceptibility to several key failure mechanisms compared with the proposed Line 3602. Susceptibility to several of these factors is reduced in Line 1600 by lowering the operating pressure to distribution service with hoop stress levels below 20% of specified minimum yield strength (SMYS).

While there is no evidence that Line 1600 is unsafe, there is much that is unknowable about the line, including the ability of girth welds to withstand loadings from natural events, and features in the longitudinal seams. Risk is proportional to what is unknown, at least in part. The proposed Line 3602 will not have such gaps in relevant integrity data. After testing, Line 1600

⁴⁵ Price Waterhouse Cooper, "Cost-Effectiveness Analysis for the Pipeline Safety & Reliability Project", March 2016.

will still be an older vintage pipeline with limited resistance to many pipeline integrity concerns compared with the proposed Line 3602.

EXHIBIT F

**SAN DIEGO GAS & ELECTRIC
AND
SOUTHERN CALIFORNIA GAS COMPANY**

LINE 1600 HYDROTEST STUDY AND COST ESTIMATE

March 21, 2016

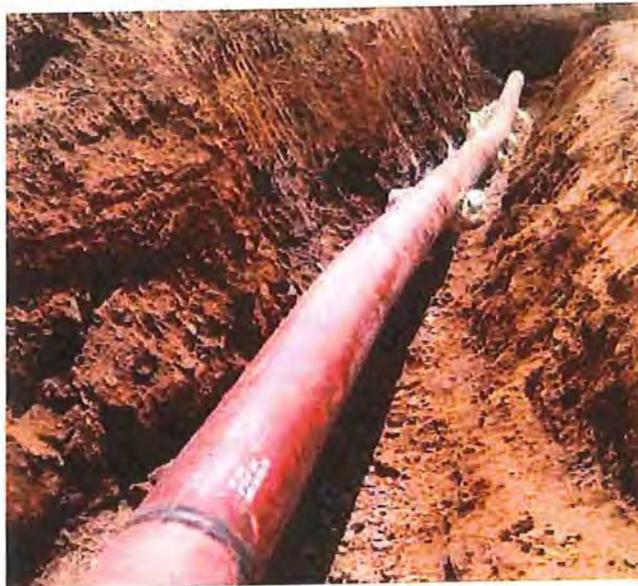


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 - Data Gathering and Data Assumptions
- 2.0 EXECUTIVE SUMMARY
- 3.0 HYDROTEST OF LINE 1600
 - Hydrotest Breaks
 - Hydrotest Scope and Cost Basis
 - By-Pass Lines vs. Stopples for Large Customer Tap Gas Supply
 - Temporary Gas Supply for Small Customer Taps
 - Hydrotest Water Supply and Disposal
 - Environmental Impacts & Costs
 - Hydrotest Cost Estimate
 - Hydrotest Schedule

LIST OF ATTACHMENTS¹

Attachment I:	Test Break Summary Table
Attachment II:	Tap List & CNG Supply Summary Table
Attachment III:	Project Cost Estimate
Attachment IV:	Test Break Schematic
Attachment V:	Test Break Work Area Exhibits
Attachment VI:	Hydrotest Schedule
Attachment VII:	Typical Test Break Detail
Attachment VIII:	Pressure Calculations Summary Table
Attachment IX:	Typical Hydrotest Water Treatment Diagram

¹ Attachments III and VI are attached hereto, the remaining attachments are workpapers and are available upon request.

1.0 INTRODUCTION AND SCOPE

Line 1600 is a 50.2-mile, 16 inch high pressure natural gas transmission pipeline owned and operated by San Diego Gas & Electric Company. Line 1600 is a main gas delivery pipeline for San Diego County that currently supplies approximately 10% of that market's demand. The line starts at the Rainbow Metering Station south of Temecula, CA and travels southbound along Freeway I-15 to Mission Station in San Diego, CA. Line 1600 is one of two sources of natural gas serving the San Diego area, the other being the 30 inch Line 3010. SPEC Services, Inc. (SPEC) performed a preliminary engineering study. SDG&E and SCG developed cost estimates and alternative schedules to hydrotest Line 1600, from Rainbow Metering Station to Kearny Villa Pressure Limiting Station, for consideration as one of the project alternatives in the SDG&E and SCG Pipeline Safety and Reliability Project (PSRP).

Data Gathering and Data Assumptions:

This study evaluates the costs and schedule impacts to hydrotest Line 1600 under the following scenarios:

- 1.) Testing from April 1st through June 15th and October 1st through December 15th to avoid peak gas usage during winter and summer months.
- 2.) Testing from April 1st through October 15th to avoid peak gas usage during winter months.
- 3.) Testing continuously during all months to leverage synergies between adjacent tests and reduce costs and schedule time.

Testing during the shoulder months (Option 1) is preferred since it minimizes customer impact during the summer months and winter months for fairly similar costs.

Several sources of information were supplied by SDG&E and SCG including drawings, Geographic Information System (GIS) shapefile of the pipeline, preliminary feature study, and list of connections. Any components with unknown properties within the preliminary feature study assume verification digs would be performed prior to the hydrotest.

The stationing used in the exhibits measure horizontal distance of the pipeline route from Rainbow to Kearny Villa Pressure Limiting Station and does not employ the equations used in the data supplied by SCG. Therefore, the stationing for features or lengths of pipeline segments may not agree with SDG&E drawings and maps.

2.0 EXECUTIVE SUMMARY

This study evaluates the requirements to maintain line 1600 at Transmission level service¹ at a Maximum Allowable Operating Pressure (MAOP) of 640 psi. Strength-testing by hydrotest would need to be conducted to validate the MAOP of 640 psi. A minimum test pressure of 960 psi would be held continuously for at least 8 hours to verify the 640 psi MAOP. A spike test would also be included with each test raising the pressure approximately 5% for one-half hour. The maximum test pressure may be higher in some cases to accommodate elevation differences but is based on a premise to not exceed 90% Specified Minimum Yield Strength (SMYS) or 1,462 psi.

The study describes the technical aspects of how Line 1600 could be hydrotested. The study also addresses gas supply to local distribution customers during testing of individual pipeline segments of Line 1600, which consists of Compressed Natural Gas (CNG) trailers/pods and alternative gas sources backfeeding L1600 from Otay Mesa and Line 3010.

Private land ownership and land use complicates the siting of test breaks. Further, there are 50 significant connections on the line that currently provide service to customers via regulator stations. Ten connections would require a 160MSCF tube trailer to maintain service, and those trailers would have to be re-filled approximately every three days. Three connections could be served by a smaller 12 MSCF tube trailer. Two connections could be served by a 7MSCF pod. Eight taps are either currently inactive or can be back-fed from another distribution source.

A total of 27 taps would require pipeline bypasses with lengths ranging from 20 feet to 3,800 feet to maintain service to high flow customers. Fourteen of these bypasses are designated as temporary or permanent pipe that are typically installed underground and used to eliminate additional test breaks at major service taps. The other 13 bypasses are shorter (typically 100 feet in length) and situated aboveground within the main work area to feed service taps at a test break. The majority of the large diameter and high flow taps are located within the southern portion of the line.

Test segments were selected according to elevation restrictions, valve sites, large taps, and accessibility/workspace. The tests range from 2,000 feet to 7.5 miles in length with the average being approximately 2 miles. The pipeline would be cut at each large tap or valve using either stopples or the main line block valve and installing temporary bypass lines to serve the large customers.

Since there must always be a flow path from either the north or the south, only one test can be conducted at a time. It is assumed all test water would be filtered and properly disposed of at the end of each test.

Each test segment would take approximately four to six weeks to conduct and assumes a separate construction crew would install bypasses concurrently with the hydrotest effort. Total direct costs and schedules for each scenario evaluated are summarized in the Table 1.

¹ Per 49 CFR Part 192.3 – Transmission line is defined as pipeline operating greater than 20% SMYS

Option 1 is the preferred option to minimize customer impacts. Curtailment due to winter and summer maximum loads would be avoided as well as over reliance on a single pipeline (e.g. Line 3010) to feed the system.

Table 1
Direct Cost estimates for hydrotest scenarios
 2015 dollars

Testing Scenario	Total Direct Cost (\$M)	Project Schedule
Option 1: Testing 4/1 - 6/15 & 10/1 - 12/15	\$ 112.9	Q4 2017 – Q2 2022
Option 2: Testing 4/1-10/15	\$ 112.7	Q4 2017 –Q4 2021
Option 3: Testing All Months	\$ 111.5	Q4 2017 – Q1 2021

Assumes PSRP application (A.15-09-013) decision in Q3 2017. See Appendix VI for hydrotest schedules with major tasks.

3.0 HYDROTEST OF LINE 1600

Hydrotesting Line 1600 has been identified as a project alternative in Chapter 5 of the Proponents Environmental Assessment (PEA) that is part of SDG&E and SCG's application (A.15-09-013). Line 1600 would be tested from Rainbow Metering Station to Kearny Villa Pressure Limiting Station.

The pipeline supplies 152,000 distribution customers, including core/non-core and electric generation supplied via 50 connections/regulator/meter stations. Provisions would need to occur during testing to maintain service and reliability to all current distribution customers for each test segment. However, there are generally no transmission lines within the vicinity of Line 1600, so alternate service would be provided by the following four methods:

- A) Gas bottles;
- B) CNG trucks;
- C) Backfeeding from another distribution source;
- D) Bypass connections at test breaks and back feeding from the north or south

The target MAOP of Line 1600 is 640 psi post-test. The pipe is generally 16 inch Outside Diameter (OD), 0.250-in wall thickness made to American Petroleum Institute (API) 5LX-52 specifications. The minimum test pressure of the 8-hour test to comply with 49 Code of Federal Regulations (CFR) Part 192.505 and 192.619 would be 960 psi (1.5 X MAOP). Before the 8-hour test, a short-duration spike test at a pressure that is approximately 5% greater than the target maximum low point pressure. The maximum allowable test pressure, as specified by SCG, is 90% of yield, or 1462 psi. The pressure calculations performed for this study (Attachment VIII) applies a range of 30 psi to the minimum 8-hour test pressure plus an additional 20 psi to the minimum spike test pressure. Applying this pressure range is a conservative approach to account for pressure fluctuations and helps ensure a successful test.

There are numerous regulator station taps (50) along the pipeline and the plan requires that service be maintained to each station and customer. The regulator stations vary in demand ranging from 14 Standard Cubic Feet per Hour (SCFH) to over 1.2MM SCFH with an average demand of 98M SCFH². Most of the large demand is located in the southerly segments near San Diego.

A CNG trailer can carry up to 160,000 SCFH and can deliver approximately 80% of that volume at 60 psi. There is generally little workspace near the regulator stations and there are not many large compressed gas trailers, so it is assumed that a CNG trailer would have to last at least three days to allow time to re-fill another trailer, send to the site, and connect it.

With that limit, 15 regulator stations could be served by compressed gas bottles or compressed gas trailers. The remaining taps would have to be served by a separate bypass pipeline or piped to an adequately sized distribution line that would not be impacted by the test.

² Based on 24 HDD (heating-degree day)

Hydrotest Breaks:

Test breaks have been determined based on the following criteria:

- Elevation (pressure) limitation
- Main line valve location
- Large tap site
- Workspace accessibility
- Environmental impact

A typical test break would occur at a valve or regulator station. All customer taps would be identified and arrangements made for natural gas supplement. A bypass line would be built from a new connection at the block valve to serve the large taps. One segment would be blown down between valves, the pipe cut and test heads welded on. The line would be filled with water using a temporary pig launcher, tested, and then de-pressured. The test water would either be treated and disposed on-site or re-used for the proceeding test segment. Water disposed on-site would be pumped through a filtration bank into new Baker tanks and the water would be sampled, tested and released to a sanitary sewer if it meets water quality specifications. The pipeline would be re-connected using pre-tested pipe and the process repeated on the other side of the valve. In this case, gas would have to be back-fed from Line 3010 or Otay Mesa to maintain the large customers' service. Note that only one test can be performed at a time since a flow path must be maintained either from the south or the north.

Some test breaks occur at large taps rather than at valves, and in that case a stopple (Pressure Control Fitting) would be used. The stopple takes the place of the block valve in the above scenario. The hydrotest plan is intended to minimize the use of stopples wherever possible. Refer to Attachment VII for a typical test break detail using stopples.

Potential leaks resulting in sudden pressure loss are relatively easy to find. Once found, the repair can be made and the test repeated. This may add a few days to 2 weeks to the test depending on where the release occurred and whether other leaks were found. It is reasonable to assume that such a scenario would require a 13 man crew and an additional 10 working days to make repairs.

A more difficult scenario occurs if the pipe had a very small leak, losing a few psi per hour, also known as a pinhole leak. There are several techniques to locate a small leak in underground pipelines. One way is to empty the water out of the line, segment it, and test each half to: a) get a successful test on at least half of the segment, and, b) reduce the length of the segment that contains the leak. This process is repeated until the location of the leak becomes evident and can then be found via excavation and repaired. This method is often tedious and time consuming since each cut and re-test can take two to three long workdays each. Cumulative delays can amount to weeks if not months of work. It is reasonable to assume that such a scenario would require an 18 man crew and 2-3 weeks of work to segment the line four times before being able to locate and repair the leak. One pinhole leak repair was included in the estimate as previously described.

The worst case scenario occurs if a repair is required in an area where the pipeline is inaccessible, for instance, underneath a freeway. In this case, new replacement pipe would either be installed by conventional boring methods or re-routed around the freeway. The crew size and schedule impact for this type of scenario could range drastically depending on the circumstances.

Repair costs were estimated to range from \$300,000 for simple repairs to \$18 million for pipeline relocations. The project cost estimate does include an allowance for locating leaks and making repairs as outlined by the three scenarios discussed above.

Hydrotest Scope and Cost Basis:

By-pass Lines vs. Stopples for Large Customer Tap Gas Supply:

The decision on test breaks was driven largely by the need to maintain gas supply to large customers. Where practical, test breaks were located at existing mainline valves where customer supply could be achieved with temporary bypass lines. Where bypass lines were not feasible due to length or cost, perceived permitting issues, or construction difficulties, test breaks were located directly at large customer taps. Isolation and gas supply would be accomplished using stopples. Costly permanent bypass lines were proposed in some instances when there was an opportunity to improve the connectivity of the existing distribution network. This decision was made at the recommendation of SDG&E Distribution Region Engineering.

A summary table of all bypass lines and stopple requirements for each test segment has been included in Attachment I.

Temporary Gas Supply for Small Customer Taps:

Attachment II: Tap List & CNG Supply Summary Table summarizes the 50 taps identified by SDG&E Distribution Region Engineering that would require isolation and an alternate gas supply during the hydrotest. The type of alternate gas supply would vary depending on volume requirements. The project estimate includes costs for a generic hook-up at each site and a temporary alternative gas supply based on the type required.

Hydrotest Water Supply and Disposal:

Although the cost for water is not typically significant, identifying a water source and disposal location and assessing how it would get transported can increase the cost dramatically. Each work site was evaluated by desktop study or field reconnaissance to assess water supply and disposal options. In most cases it appears that water can be supplied by nearby fire hydrants. Water disposal after on-site treatment would be discharged directly into nearby sewer manhole, sprayed onto adjacent vacant land via sprinklers, or discharged to a storm drain. Refer to Attachment V: Test Break Work Area Exhibits for details on water sources and disposal locations at the beginning or end of each test segment.

It is assumed for each test segment a single Baker tank would be used at the inlet side to act as a breakout tank for pump suction to fill the pipeline section with water. At the end of the testing, water

would be discharged through an on-site filtration system and into a battery of Baker tanks where it can be sampled prior to discharge into an adjacent sewer or storm drain (see Attachment IX: Typical Hydrotest Water Treatment Diagram).

The estimates assume that hydrotest testing would be limited to one segment at a time and the water would be discharged on site after each tested section. Cost estimates for Baker tanks, pumps, and an on-site water filtration system have been included.

It is recognized that the use of reclaimed water has been required in past SDG&E projects. Significant jurisdictional details need to be assessed and resolved in order to use reclaimed water to test the entirety of Line 1600. Detailed examination of reclaimed water use will be performed in future studies.

Contingency:

The estimate has been prepared with a contingency of 25% applied to the base estimate. The level of contingency was determined using expert engineering judgement, and to account for addressing various unforeseen events, that may occur with the hydrotest of a vintage pipeline in high consequence areas (HCAs) with limited rights of way.

The recommended 25% contingency reflects that additional information can only be obtained through further planning, engineering and design, performing site visits, project outreach, and engaging with permitting agencies. The likelihood of unforeseen events increase with the length of time until the work will commence. Unanticipated issues associated with land acquisition, permitting, and environmental constraints may affect major cost components such as the number of test segments.

There are other factors that may affect costs. For purposes of this analysis those factors are outside of the defined project scope and excluded from the cost estimate and contingency costs. Examples of these unknown factors that may impact costs include:

- Labor, materials, or other commodities increasing significantly over the project duration, beyond the escalation included in the revenue requirement.
- Significant changes to the project scope as a result of environmental and/or regulatory review process.
- Significant delays in the project schedule as a result of the environmental and/or regulatory review process, local community intervention, natural disaster, or labor strike.
- Changes to laws or regulations that would significantly affect project cost and/or schedule.
- Earthquakes, fires, natural disasters, strikes or other force majeure type events.

Environmental Impacts & Costs:

Environmental costs for mitigation, permitting, and construction support during the construction seasons has been included. Off-season, the time in between hydrotest seasons based on the option, environmental costs for Storm Water Pollution Prevention Plan (SWPPP) maintenance for disturbed

work areas has been included in the estimate. The example pinhole leak described above in the Hydrotest Breaks section was included in the estimate and assumed to occur in an area that is not environmentally sensitive with minimal environmental impact.

Hydrotest Cost Estimate:

A standard template has been developed for hydrotest cost estimating through SPEC's involvement with PSEP. The estimates include assumptions and costs relative to mobilization, crew sizes, materials, inspection, support personnel, etc. Additional cost input specific to this project were obtained from construction contractors, ROW consultants, environmental consultants, and SPEC Services engineering and design staff to ensure the cost estimate is reflective of the specific conditions associated with the preliminary design of Line 1600 project. Refer to Attachment III for additional information on inclusion/exclusions in the estimate.

Hydrotest Schedules:

A Gantt project schedule is included in Attachment VI to show the individual steps involved in a typical hydrotest and the time required for each option. The schedule assumes that each hydrotest segment would require approximately 4-6 weeks to complete. If testing only from April 1st to October 15th the construction duration would be approximately 28 months. If testing the pipeline occurs only during shoulder months from April 1st through June 15th and October 1st through December 15th, the construction duration would be approximately 33 months. If testing each segment consecutively during all months, the construction duration would be approximately 18 months. The schedules assume major bypasses would be installed by a separate crew, concurrent with the hydrotest effort of segments that require only short, aboveground bypasses within the hydrotest work area.



Attachment I

Test Break Summary Table

Workpaper – Available Upon Request



Attachment II

Tap List & CNG Supply Summary Table

Workpaper – Available Upon Request



Attachment III

Project Cost Estimate

HYDROTEST & REPLACEMENT COST ESTIMATE SUMMARY

INPUTS (ORANGE CELLS)

LINE NUMBER:	L1600	HYDROTEST LENGTH (FT):	236720
LOCATION (CITY):		REPLACEMENT LENGTH (FT):	24008
SCG PROJECT #:		EX. PIPE DIAMETER (IN):	16
SCG REGION:		PREPARED DATE:	3/2/2016
PSEP PHASE:		PREPARED BY:	

PROJECT SCOPE & COMMENTS

SCOPE: Project estimate to hydrotest L1600 from Rainbow to Kearny Villa PLS (19 segments).

Option 1: Testing 4/1 - 5/15 & 10/1 - 12/15

COMMENTS:

	Subtotal	Contingency	Total
Materials	\$ 2,299,142	25%	\$ 2,873,928
Construction	\$ 43,685,747	25%	\$ 54,607,184
Engineering & Design	\$ 3,558,050	25%	\$ 4,447,562
Environmental	\$ 5,175,003	25%	\$ 6,468,753
SCG Labor	\$ 2,359,517	25%	\$ 2,949,396
Bypasses	\$ 8,932,379	25%	\$ 11,165,474
Gas Transportation to Otay Mesa	\$ 16,200,000	25%	\$ 20,250,000
Other Project Execution Activities	\$ 8,098,257	25%	\$ 10,122,821
TOTAL	\$ 90,308,095	25%	\$ 112,885,118

Notes/Overall Assumptions: \$ 22,577,024

The estimates include direct project costs such as Sempra Energy Utilities (SEU) labor, construction, purchased services, paving, purchased materials, and permit fees.

Loaders, OHAP, and AFUDC costs are not incorporated into these comparative estimates.

TVR COST ESTIMATE TOOL REVISION 4.0

Note: Additional cost details are included in workpapers and available upon request.

HYDROTEST & REPLACEMENT COST ESTIMATE SUMMARY

INPUTS (ORANGE CELLS)

LINE NUMBER:	L1600	HYDROTEST LENGTH (FT):	236720
LOCATION (CITY):		REPLACEMENT LENGTH (FT):	24008
SCG PROJECT #:		EX. PIPE DIAMETER (IN):	16
SCG REGION:		PREPARED DATE:	3/2/2016
PSEP PHASE:		PREPARED BY:	

PROJECT SCOPE & COMMENTS

SCOPE: Project estimate to hydrotest L1600 from Rainbow to Kearny Villa PLS (19 segments).

Option 2: Testing 4/1 - 10/15

COMMENTS:

	Subtotal	Contingency	Total
Materials	\$ 2,299,142	25%	\$ 2,873,928
Construction	\$ 43,685,747	25%	\$ 54,607,184
Engineering & Design	\$ 3,558,050	25%	\$ 4,447,562
Environmental	\$ 5,122,004	25%	\$ 6,402,504
SCG Labor	\$ 2,359,517	25%	\$ 2,949,396
Bypasses	\$ 8,932,379	25%	\$ 11,165,474
Gas Transportation to Otay Mesa	\$ 16,200,000	25%	\$ 20,250,000
Other Project Execution Activities	\$ 8,038,257	25%	\$ 10,047,821
TOTAL	\$ 90,195,096	25%	\$ 112,743,870

Notes/Overall Assumptions: \$ 22,548,774

Stage 2, Test Vs Replace estimates are intended to be a comparative cost estimate for a given pipeline. The estimates include direct project costs such as Sempra Energy Utilities (SEU) labor, construction, purchased services, paving, purchased materials, and permit fees.

Loaders, OHAP, and AFUDC costs are not incorporated into these comparative estimates.

TVR COST ESTIMATE TOOL REVISION 4.0

Note: Additional cost details are included in workpapers and available upon request.

HYDROTEST & REPLACEMENT COST ESTIMATE SUMMARY

INPUTS (ORANGE CELLS)

LINE NUMBER	L1600	HYDROTEST LENGTH (FT):	236720
LOCATION (CITY):		REPLACEMENT LENGTH (FT):	24008
SCG PROJECT #:		EX. PIPE DIAMETER (IN):	16
SCG REGION:		PREPARED DATE:	3/2/2016
PSEP PHASE:		PREPARED BY:	

PROJECT SCOPE & COMMENTS

SCOPE: Project estimate to hydrotest L1600 from Rainbow to Kearny Villa PLS (19 segments).

Option 3: Testing all months

COMMENTS:

	Subtotal	Contingency	Total
Materials	\$ 2,299,142	25%	\$ 2,873,928
Construction	\$ 43,685,747	25%	\$ 54,607,184
Engineering	\$ 3,558,050	25%	\$ 4,447,562
Environment	\$ 5,054,975	25%	\$ 6,318,718
SCG Labor	\$ 2,359,516	25%	\$ 2,949,395
Bypasses	\$ 8,932,379	25%	\$ 11,165,474
Gas Transpo	\$ 16,200,000	25%	\$ 20,250,000
Other Projec	\$ 7,118,744	25%	\$ 8,898,431
TOTAL	\$ 89,208,554	25%	\$ 111,510,692

Notes/Overall Assumptions: \$ 22,302,138

Stage 2, Test Vs Replace estimates are intended to be a comparative cost estimate for a given pipeline. The estimates include direct project costs such as Sempra Energy Utilities (SEU) labor, construction, purchased services, paving, purchased materials, and permit fees.

Loaders, OHAP, and AFUDC costs are not incorporated into these comparative estimates.

TVR COST ESTIMATE TOOL REVISION 4.0

Note: Additional cost details are included in workpapers and available upon request.



Attachment IV

Test Break Schematic

Workpaper – Available Upon Request



Attachment V

Test Break Work Area Exhibits

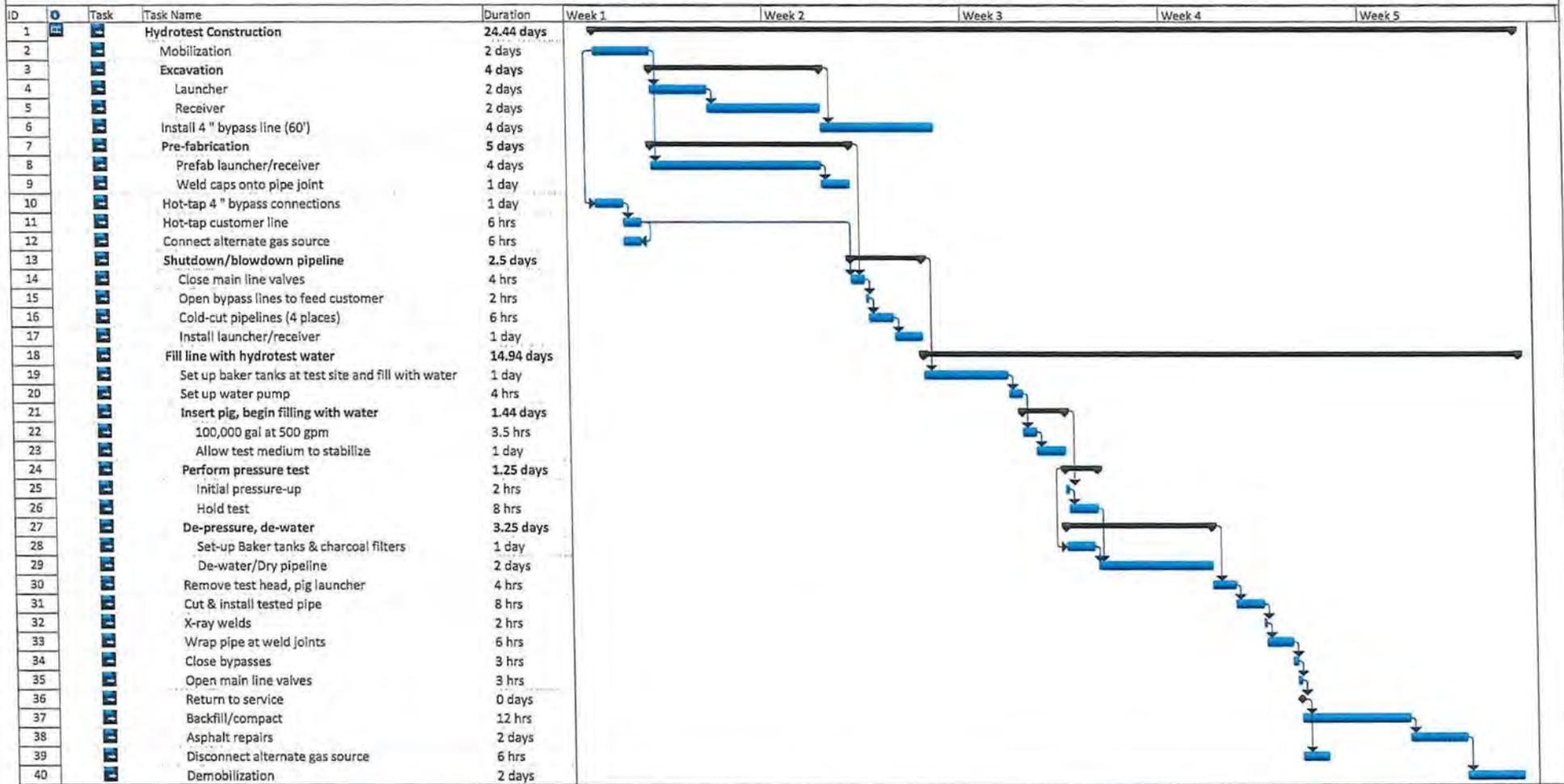
Workpaper – Available Upon Request



Attachment VI

Hydrotest Schedule

Typical Hydrotest Schedule For One Test Segment



Date: Mon 3/21/16

Task		Project Summary		Inactive Milestone		Manual Summary Rollup		Deadline	
Split		External Tasks		Inactive Summary		Manual Summary		Progress	
Milestone		External Milestone		Manual Task		Start-only			
Summary		Inactive Task		Duration-only		Finish-only			

Line 1600 Pipeline Hydrotest Schedule

OPTION 1: Testing 4/1-6/15 10/1-12/15

Hydrotest Schedule

Project Tasks	2015				2016				2017				2018				2019				2020				2021				2022			
	Q1	Q2	Q3	Q4																												
Feasibility Study/Preliminary Engineering	█																															
Regulatory Proceeding (CPUC)					█																											
Engineering and Design													█																			
Permitting																	█															
Material Procurement																	█															
Construction (Hydrotesting 19 Segments)																																
Closeout																																

Line 1600 Pipeline Hydrotest Schedule

OPTION 2: Testing 4/1-10/15

Hydrotest Schedule

Project Tasks	2015				2016				2017				2018				2019				2020				2021			
	Q1	Q2	Q3	Q4																								
Feasibility Study/Preliminary Engineering	█																											
Regulatory Proceeding (CPUC)					█																							
Engineering and Design													█															
Permitting																	█											
Material Procurement																												
Construction (Hydrotesting 19 Segments)																												
Closeout																												

Line 1600 Pipeline Hydrotest Schedule

OPTION 3: Testing All Months

Hydrotest Schedule

Project Tasks	2015				2016				2017				2018				2019				2020				2021			
	Q1	Q2	Q3	Q4																								
Feasibility Study/Preliminary Engineering	█																											
Regulatory Proceeding (CPUC)					█																							
Engineering and Design													█															
Permitting													█															
Material Procurement													█															
Construction (Hydrotesting 19 Segments)																	█											
Closeout																									█			



Attachment VII

Typical Test Break Detail

Workpaper – Available Upon Request



Attachment VIII

Pressure Calculations Summary Table

Workpaper – Available Upon Request



Attachment IX

Typical Hydrotest Water Treatment Diagram

Workpaper – Available Upon Request

From: [REDACTED]
Sent: Sunday, June 11, 2017 11:18 PM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: Pipeline

Daily traffic jams that rival those on the freeways. That is what already exists on roads in Mira Mesa. Options R and S would exacerbate this mess. Imagine the protests that would happen when commuters and residents know that SDG & E disregarded the concerns communicated before the project.

Mass protests, lawsuits and selling off your firm's stock. That is what you can expect. The firestorm would be no less than the one your downed power lines caused.

No to Options R or S.

[REDACTED]

From: matt.adams@hyatt.com
Sent: Friday, June 9, 2017 7:02 PM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: Emailing - Grand Hyatt Letter[1].pdf
Attachments: Grand Hyatt Letter[1].pdf



MATTHEW ADAMS

Area Vice President & General Manager

Manchester Grand Hyatt San Diego

1 Market Place, San Diego, CA 92101, U.S.A.

+ 1 619 358 6999 TELEPHONE

+ 1 415.297.5995 Mobile

matt.adams@hyatt.com

manchestergrand.hyatt.com

GRAND | HYATT

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[Click here to watch our hotel video.](#)

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May 25, 2017

Robert Peterson
California Public Utilities Commission
RE: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

Dear Mr. Peterson,

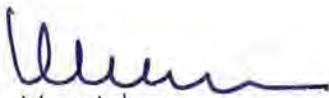
The CPUC should act swiftly to approve SDG&E's proposed natural gas pipeline project in San Diego County. This project will help secure natural gas as a reliable energy source in our region, which is of the utmost importance to my business.

I am the Area Vice President and General Manager of the Manchester Grand Hyatt San Diego. With more than 1,600 rooms on our waterfront property, our hotel boasts the largest room count in the region. With such a large operation, keeping costs down is vital to our success. We use natural gas to heat our water, cook our food and launder our linens simply because it is the most affordable energy source available.

Affordable energy is a priority for my business because our bottom line has wide reaching effects on San Diego. I recall the natural gas curtailment in the early 2000's was painful not only for my business, but for the region as a whole. Our hotel employs more than 1,000 area residents whose job depends on an active and thriving economy fueled by natural gas. In addition, the nearly \$20 million that Hyatt pays yearly to the Port of San Diego and the additional \$20 million we pay in Transient Occupancy Tax could be affected by the lack of access to natural gas. This is money that is used to directly improve our communities through the city's General Fund.

As this project is considered before the CPUC, I urge commissioners to take into account the businesses and residents in San Diego who rely on natural gas and how our region's economic wellbeing would be jeopardized without consistent access to it.

Sincerely,



Matt Adams

Area VP & General Manager

From: [REDACTED]
Sent: Monday, June 5, 2017 7:57 PM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: RE: Pipeline Safety and Reliability Project (Application No. A.15-09-013)

Robert Peterson
California Public Utilities Commission
RE: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

RE: Pipeline Safety and Reliability Project (Application No. A.15-09-013)

I oppose both alternative routes of the proposed gas pipeline (Line 3602). Alternative routes through Mission Trails Regional Park and surrounding park expansion areas are not acceptable.

The first proposed alternative would disrupt the use of and degrade Mission Trails Regional Park's West Sycamore Area including parts of the new Stowe Trail, as well as the Goodan Ranch, and Fanita Ranch. These preserved areas and parklands are used by hundreds of visitors daily. Maintaining the integrity of the preservation of these natural lands is imperative for existing wildlife, flora, and habitat.

The second proposed alternative is equally unacceptable and would degrade Mission Trails's Spring Canyon and East Fortuna Staging Area, and also East Elliott, part of MTRP's larger ecosystem. The park and its surrounding expansion area must be protected. A new gas pipeline does not belong in these natural habitats which are used recreationally by park visitors.

Please drop or oppose these alternative routes. Thank you.

appreciatively,

[REDACTED]

La Jolla, CA 92037

What is one thing you are grateful for?

From: Shawna Anderson <shawna@sdrp.org>
Sent: Wednesday, June 7, 2017 7:20 PM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: NOP Comment Letter for SDG&E Pipeline Safety and Reliability Project
Attachments: NOP comments 6717.pdf

Please see our NOP comment letter, attached.
Thank you,

Shawna Anderson, AICP

Principal Planner

San Dieguito River Park JPA

18372 Sycamore Creek Rd.

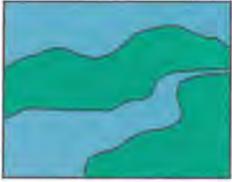
Escondido, CA 92025

858-674-2275, ext. 13

FAX: 858-674-2280

shawna@sdrp.org

www.sdrp.org



San Dieguito River Park
Joint Powers Authority
18372 Sycamore Creek Road
Escondido, CA 92025
(858) 674-2270 Fax (858) 674-2280
www.sdrp.org

June 7, 2017

California Public Utilities Commission
Re: Pipeline Safety & Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome St, Suite 300
San Francisco, CA 94111

Subject: NOP Comments
Pipeline Safety and Reliability Project – New Natural Gas Line 3602 and De-rating Line 1600

Commissioners and Staff:

Thank you for providing the detailed information on your CPUC website regarding this project. After reviewing the project documentation, the San Dieguito River Park Joint Powers Authority (JPA) staff has the following comments for your consideration as you prepare the project Draft EIR:

The pipeline route, milepost 29.6-30.2, falls within the boundaries of the San Dieguito River Park's Focused Planning Area (FPA). The proposed pipeline route in the vicinity of Lake Hodges is shown in Figure 5-2, Inset Map 2 of the NOP. More specifically, the pipeline route from Via Rancho Parkway (aka Bear Valley Parkway), south in the Lake Hodges/San Dieguito River floodplain travels through the San Dieguito River Park (shown on Attachment 3-A, maps 26 and 27 and noted on page 4.15-7 of the SDG&E project Environmental Impact Assessment (EIA)). This portion of the project area contains sensitive resources, both biological and cultural, that are protected as Conserved Lands and critical habitat and species protected under the Endangered Species Act. The EIR must fully address potential impacts and include detailed mitigation measures to avoid impacts to these resources.

All aspects of project construction and long-term operation must be disclosed in the Draft EIR, particularly with respect the HDD procedures that will occur directly on and in an area of sensitive riparian wetland habitat at Lake Hodges. HDD-related methods such as drilling mud hauling and "frac-out" procedures (these methods are described in SDG&E's EIA) and night-work must be fully evaluated for their potential impacts to biological and cultural resources and mitigation measures included. Seasonal restrictions during bird breeding seasons and limitations on night work should be implemented to reduce potential impacts.

Because the pipeline route and work area is directly on the path of the Mule Hill Historic Trail, the JPA staff is concerned about project construction impacts to the trail and park interpretive facilities. The San Dieguito River Park JPA operates and maintains the regional, multi-use Coast

to Crest Trail, a segment of which – the Mule Hill Historic Trail – is along the pipeline route and will be directly impacted by the proposed project. The Mule Hill Trail segment contains interpretive signs and displays along and adjacent to the trail and that lie within the HDD work area footprint. These recreational facilities are briefly described in Section 4.15 of the SDG&E Environmental Impact Assessment.

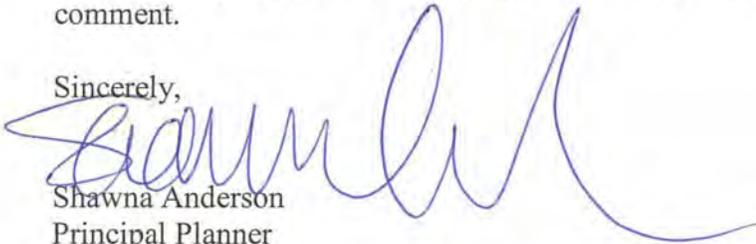
The project EIR must specifically address how the interpretive displays within the HDD footprint shown on Attachment 3-A, map 27 would be protected from construction impacts and explain how the interpretive facilities along the trail will be protected from construction impacts. Mitigation measures and project conditions that are made part of the construction plans and specifications should be implemented to ensure that any damage to the trail or park facilities during project construction be repaired and that the trail is restored to its pre-project construction condition.

The JPA staff feels it is important that "Applicant Proposed Measure" APM-REC-01 be included as a mitigation measure in the project EIR as it pertains specifically to the Coast to Crest Trail and the interpretive amenities along the trail. Coordination and consultation with the JPA staff as the open space and recreational "authority" for this area will be critical during the final design of the project and prior to the start of construction to ensure potential impacts to the trail are minimized.

We look forward to receiving a copy of the project Draft EIR for review. The JPA staff intends to bring this project and the Draft EIR to the JPA Board of Directors for consideration and comment.

Sincerely,

Shawna Anderson
Principal Planner



From: [REDACTED]
Sent: Sunday, June 11, 2017 1:30 PM
To: Rainbow Natural Gas Pipeline. CPUC

Please do not destroy wildlife and nature preserve to build this pipeline. Invest in clean energy for the future. This is not in our best interest. We stand against this

[REDACTED]

From: [REDACTED]
Sent: Monday, June 12, 2017 11:09 AM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: RE: Pipeline Safety and Reliability Project – New Natural Gas Line 3602 (Application No. A.15-09-013)

Robert Peterson
California Public Utilities Commission
RE: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

I oppose both alternative routes of the proposed gas pipeline (Line 3602). Alternative routes through Mission Trails Regional Park and surrounding park expansion areas are not acceptable.

The first proposed alternative would disrupt the use of and degrade Mission Trails Regional Park's West Sycamore Area including parts of the new Stowe Trail, as well as the Goodan Ranch, and Fanita Ranch. These preserved areas and parklands are used by hundreds of visitors daily. Maintaining the integrity of the preservation of these natural lands is imperative for existing wildlife, flora, and habitat.

The second proposed alternative is equally unacceptable and would degrade Mission Trails's Spring Canyon and East Fortuna Staging Area, and also East Elliott, part of MTRP's larger ecosystem. The park and its surrounding expansion area must be protected. A new gas pipeline does not belong in these natural habitats which are used recreationally by park visitors.

Please drop or oppose these alternative routes. Thank you.

Sincerely,
[REDACTED]

Santee, CA

From: [REDACTED]
Sent: Monday, June 5, 2017 11:06 AM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: I do not believe it wise to build a pipeline through Mission Trails

Nor do I believe it necessary.

As San Diegans replace gas with solar & wind power,
this is an unnecessary taxpayer expense.

Warmly,

[REDACTED]
SD, CA 92103

From: [REDACTED]
Sent: Monday, June 12, 2017 8:24 PM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: Proposed pipeline under Pomerado Road.

We are against the construction of this pipeline running next to our home and other homes in the neighborhood, several schools, a hospital, a church.

Sent from my iPad

From: [REDACTED]
Sent: Tuesday, June 6, 2017 1:02 PM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: RE: Natural Gas Line 3602 (Application No. A.15-09-013)

Dear CPUC,

SDG&E's fracked gas pipeline project should be abandoned. The pipeline expansion is not needed. Natural Gas use is declining in the region. The likely conversion of ratepayer-financed infrastructure to export LNG would be contrary to California's climate goals and contrary to the public interest. Our parks are not intended to be sacrificed for utility profits.

Sincerely,

[REDACTED]
San Diego, CA 92115

From: [REDACTED]
Sent: Monday, June 5, 2017 11:46 PM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: Pipeline Safety and Reliability Project (Application No. A.15-09-013)

Robert Peterson
California Public Utilities Commission
505 Sansome Street, Suite 300
San Francisco, CA 94111

Dear Mr. Peterson:

I oppose both alternative routes of the proposed gas pipeline (Line 3602). Alternative routes through Mission Trails Regional Park and surrounding park expansion areas are not acceptable.

The first proposed alternative would disrupt the use of and degrade Mission Trails Regional Park's West Sycamore Area including parts of the new Stowe Trail, as well as the Goodan Ranch, and Fanita Ranch. These preserved areas and parklands are used by hundreds of visitors daily. Maintaining the integrity of the preservation of these natural lands is imperative for existing wildlife, flora, and habitat.

The second proposed alternative is equally unacceptable and would degrade Mission Trails' Spring Canyon and East Fortuna Staging Area, and also East Elliott, part of MTRP's larger ecosystem. The park and its surrounding expansion area must be protected. A new gas pipeline does not belong in these natural habitats which are used recreationally by park visitors.

Please drop or oppose these alternative routes. In fact, I am opposed to a new pipeline, because we need to focus on renewable energy, not climate wrecking fossil fuels.

Sincerely,

[REDACTED]

[REDACTED], San Diego, CA 92119

Williams, Nicole L.

From: Sophie Barnhorst <SBarnhorst@sdchamber.org>
Sent: Tuesday, June 6, 2017 12:56 PM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: Letter of Support - Pipeline Safety and Reliability Project
Attachments: SD Chamber Comment Letter 060617.pdf

Good morning,

Attached please find the San Diego Regional Chamber's letter of support for the Pipeline Safety and Reliability Project.

Best,

Sophie Barnhorst
Public Policy Coordinator
**San Diego Regional
Chamber of Commerce**
sbarnhorst@sdchamber.org
p: 619.544.1314



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402 West Broadway, Suite 1000
San Diego, CA 92101-3585
p: 619.544.1300

www.sdchamber.org

June 6, 2017

Robert Peterson
California Public Utilities Commission
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

RE: Pipeline Safety and Reliability Project

Dear Commissioners:

The San Diego Regional Chamber of Commerce (Chamber) is pleased to support San Diego Gas & Electric (SDG&E) and Southern California Gas's (SoCalGas) proposed Pipeline Safety & Reliability Project which would create a new natural gas transmission pipeline, connecting SDG&E's Rainbow Metering Station near the Riverside County line to existing facilities on Marine Corps Air Station Miramar. The project is needed to replace an aging pipeline that would have to undergo a costly pressure test just to remain in service. A full replacement of the line is the safest and ultimately most cost-effective solution to improving our natural gas infrastructure.

With approximately 2,500 members representing an estimated 300,000 employees, the Chamber is the largest nonprofit advocate for businesses in the San Diego region. We understand the importance of safe and reliable energy to the regional economy.

In the San Diego region, natural gas powers homes and our economy through stoves and ovens, water heaters, manufacturing, transportation, military operations, and utility-scale electricity production. SDG&E and SoCalGas's proposed transmission pipeline would replace an existing pipeline that was built in 1949. The line would be 36 inches in diameter and run 47 miles, from Rainbow to MCAS Miramar. The proposed start of construction would be in 2018 while the anticipated in-service date for the new pipeline would be in 2020. The projected total cost of the new transmission pipeline as proposed is \$639 million, which would result in an estimated 57 cent increase per user, per month. The increase would be spread out between the SDG&E and SoCalGas customers.

In 2015, 54 percent of SDG&E's energy supply portfolio was natural gas. The San Diego region needs an updated, safe, and reliable natural gas transportation mechanism, and the proposed transmission line will do just that. Natural gas is the main source of energy in San Diego County and used by residential homes and

businesses every day. The key benefits of the Pipeline Safety and Reliability Project are enhanced safety, improved energy reliability and capacity, environmental sustainability, and increased economic activity. Above all, this project will help bolster our region's energy independence, which, in turn, will bolster our economy.

It is for these reasons that the Chamber is proud to support SDG&E and SoCalGas's proposed Pipeline Safety and Reliability Project and respectfully urges you to move the proposal forward. We look forward to working with you and having the opportunity to provide further input on this important project. If you have questions or comments, please do not hesitate to contact Sophie Barnhorst, Public Policy Coordinator, at (619) 544-1314 or sbarnhorst@sdchamber.org.

Sincerely,

A handwritten signature in black ink, appearing to read 'J. Sanders', with a stylized flourish at the end.

Jerry Sanders
President & CEO
San Diego Regional Chamber of Commerce

Cc: Commissioner Mike Florio
Commissioner Catherine J.K. Sandoval
Commissioner Carla J. Peterman
Commissioner Liane M. Randolph

From: [REDACTED]
Sent: Saturday, June 10, 2017 12:42 PM
To: Rainbow Natural Gas Pipeline. CPUC
Cc: [REDACTED]
Subject: NO to Proposed Fracked Gas Pipeline

I'm a resident property owner in Santee Lakes West, a tax payer, and I am very much opposed to SDGE putting in a fracked gas line!

Charles Barrett
[REDACTED]

Santee, CA
92071

Sent from my iPhone

From: [REDACTED]
Sent: Monday, June 12, 2017 7:56 PM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: proposed pipeline

Hello,

As a resident of Poway, Ca. and living off Pomerado street. The propose Gas line . will Run next to my home and My kids school. I beleive several hundreds home and hospital will be effected by this project. The danger we will be facing is much bigger than some of those berocrates thinks would be, it is a ticking bomb waiting to explode, any big earth quake or leaks and we are living in a fire zone area we did experience twice so far in the last ten years. it will be a better way if they run this pipe line along highway 15 as it should be. I know it would be more difficult if emergency occur because closing a freeway is much harder than street roads but that should not be the case here because the road from escondido all the way to pomerado road miramar is wide enough to keep the flow of traffic running. please reconsider to run this pipe line along side 15 instead of our streets .

Thank you,

[REDACTED]

From: [REDACTED]
Sent: Thursday, June 8, 2017 4:36 PM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: Location Question

Good afternoon,

I have reviewed the maps and having a hard time seeing how close proposed line is from our home. The attached maps don't label the roads very well. We are location at [REDACTED] [REDACTED] Escondido, CA 92026. Can you send me a map that is more detailed and shows the roads and location from our home?

Thank you,

[REDACTED]

PS. I am also the president of our HOA and would like to inform the neighborhood at the next meeting to avoid confusion. Thanks again!

From: [REDACTED]
Sent: Wednesday, June 7, 2017 12:28 AM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: Pipeline Safety and Reliability Project – New Natural Gas Line 3602 (Application No. A.15-09-013)

To: Robert Peterson
California Public Utilities Commission
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

RE: Pipeline Safety and Reliability Project – New Natural Gas Line 3602 (Application No. A.15-09-013)

Dear Mr. Peterson,

The gas pipeline proposed by SDG&E should be rejected for the following reasons:

- **It is unnecessary** because natural gas usage is declining in California -- projected by SDG&E to drop about 15 percent over the next ten years, and because SDG&E has determined that the existing pipeline can operate reliably for twenty more years.
- **It's intended to be a stealth subsidy for Sempra**, to serve as a major supply line for their proposed liquefied natural gas export facility near Ensenada at ratepayers expense: over \$600 million through 2063.
- **By encouraging natural gas production and use at home and abroad it would further the harmful process of fracking and undermine the letter and the spirit of California's environmental laws** that require us to transition rapidly from fossil fuels to renewable energy in order to cut CO2 emissions to 80% below 1990 levels by 2050.

Thanks for your consideration,

[REDACTED]
[REDACTED]
San Diego, CA 92103
[REDACTED]
[REDACTED]



Virus-free [REDACTED]

--

From: [REDACTED]
Sent: Wednesday, June 7, 2017 12:15 AM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: Pipeline Safety and Reliability Project – New Natural Gas Line 3602 (Application No. A.15-09-013)

To: Robert Peterson
California Public Utilities Commission
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

RE: Pipeline Safety and Reliability Project – New Natural Gas Line 3602 (Application No. A.15-09-013)

Dear Mr. Peterson,

The gas pipeline proposed by SDG&E should be rejected for the following reasons:

- **It is unnecessary** because natural gas usage is declining in California -- projected by SDG&E to drop about 15 percent over the next ten years, and because SDG&E has determined that the existing pipeline can operate reliably for twenty more years.
- **It's intended to be a stealth subsidy for Sempra**, to serve as a major supply line for their proposed liquefied natural gas export facility near Ensenada at ratepayers expense: over \$600 million through 2063.
- **By encouraging natural gas use at home and abroad it would undermine the letter and the spirit of California's environmental laws** that require us to transition rapidly from fossil fuels to renewable energy in order to cut CO2 emissions to 80% below 1990 levels by 2050.

Thanks for your consideration,

[REDACTED]
[REDACTED]
San Diego, CA 92103

[REDACTED]
[REDACTED]



Virus-free. [REDACTED]

From: [REDACTED]
Sent: Monday, June 12, 2017 6:21 PM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: Comments on Proposed Pipeline Project NOP

Please accept these comments for the Scoping Comments on the proposed SDG&E pipeline from Rainbow to Miramar:

- 1) Please evaluate an alternative of reinforcing the current lines 1600 and 3100 with available, industrial-strength polymer coating, from industry innovators such as Lubrizol, or others, so that the existing infrastructure can be stabilized in place and new construction can be avoided. This alternative would meet the project objective of upgrading the lines, but would do so in place. The technology exists to safe coat these lines in place and doing so is an environmentally-superior alternative.
- 2) Please require the applicant to demonstrate a demand for the gas that the new line will carry, as CA is moving away from using LNG and the cost of the lines will be borne by ratepayers well into the future when the use of LNG may be obsolete. Require the applicant to ensure that any new lines will not be used to export natural gas out of California-- thus providing a boon for the utility at the expense of ratepayers who will not benefit from such export.
- 3) Require the utility to meet the state mandates for renewable energy by focusing new infrastructure projects only on renewable resources.
- 4) Require SDG&E to comply with the current law and test all current gas lines before being handed approval of a new and necessary project--- if the company can't prove that the current lines are safe, they should be required to safeguard those lines before building a new line.
- 5) Require the cumulative impacts analysis to go beyond just the construction phase and to include the GHG emissions for the entire 50 to 60 year life of the new line, including potential for export and the GHG that would be emitted should the gas flowing on the pipeline eventually be shipped to Asia via Mexico via ships and the resulting fossil fuel emissions from such transport.

Thank you for accepting my comments.

[REDACTED]

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From: Ted Brengel <DTB@TedBrengel.com>
Sent: Tuesday, June 13, 2017 9:08 AM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: SDG&E Pipeline Safety & Reliability Project

The Mira Mesa Town Council is opposed to options R and S for this project. Far too often well-meaning but uninformed project managers use their power and influence to force projects upon our community without fully coordinating with others. In this case Mira Mesa will endure the Pure Water Project, and the Sycamore-Peñasquitos 230 Kilovolt Transmission Line Project in the same general area and at about the same time as this project. The fact that two of the three projects are managed by SDG&E gives us no comfort.

When this project collides with the others, it will be far more complex and expensive than is being envisioned by planners. Please do not consider options R and S further.

--Ted Brengel--

President
Mira Mesa Town Council



PMB 230
10606-8 Camino Ruiz
San Diego, CA 92126

www.MiraMesaTownCouncil.org

(858) 433-1486 (h)
(619) 985-4094 (m)



From: Arliss Cates <ACates@CityofSanteeCa.gov>
Sent: Friday, June 9, 2017 3:39 PM
To: Rainbow Natural Gas Pipeline. CPUC
Cc: Melanie Kush; Brian Jones (brian@electbrianjones.com); John Minto; Rob McNelis; Ronn Hall; Stephen Houlahan
Subject: City of Santee's Response to the NOP of an EIR issued by the CPUC related to Application No. A.15-09-013
Attachments: img-6090929-0001.pdf

Dear Mr. Peterson,
Attached is the City of Santee's response to the CPUC's Notice of Preparation of an Environmental Impact Report for the construction of a new natural gas pipeline and supporting facilities. The City appreciates the opportunity to submit these comments for consideration.
Respectfully,

Arliss Cates
Secretary to the City Council/Manager
City of Santee
10601 Magnolia Avenue
Santee, CA 92071
acates@cityofsanteeca.gov
(619) 258-4100, ext. 295



CITY OF SANTEE

MAYOR
John W. Minto

CITY COUNCIL
Ronn Hall
Stephen Houlahan
Brian W. Jones
Rob McNelis

June 9, 2017

Robert Peterson
California Public Utilities Commission
RE: Pipeline Safety and Reliability Project
c/o Ecology & Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

Submitted via email to SDgaspipeline@ene.com

SUBJECT: City of Santee's Response to the Notice of Preparation of an Environmental Impact Report issued by the California Public Utilities Commission ("CPUC") related to Application No. A.15-09-013

Dear Mr. Peterson:

This letter is the City of Santee's ("City") response to the CPUC's Notice of Preparation (NOP) of an Environmental Impact Report (EIR) for the construction of a new natural gas pipeline (Line 3602) and supporting facilities. Associated with this Project are modifications to an existing transmission pipeline (Line 1600) that would change it to a lower pressure distribution pipeline. The City of Santee strongly opposes the "Rainbow – Santee Non-Miramar" Alternative.

Alternative alignments have been presented and are to be evaluated in the EIR. Among the Alternatives identified in the NOP is a "Rainbow - Santee Non-Miramar" Alternative which, in avoiding Marine Corps Air Station (MCAS) Miramar would run through the Sycamore Canyon and Goodan Ranch Preserves and the entire west side of the City of Santee, through planned open space and established neighborhoods.

The City believes that the Rainbow – Santee (Non-Miramar) Alternative has the potential to cause significant and potentially unmitigable environmental impacts in all categories of the CEQA Checklist and the City strongly recommends dismissal of this alternative from further analysis in the EIR. If not removed, a thorough analysis of the City's Land Use, Housing, Conservation, Trails and Circulation Elements should be conducted.

The Rainbow – Santee Non-Miramar Alternative shows a generalized alignment on the CPUC website, and City streets, where they exist, are relied upon to provide utility right-

of way for the line at great disruption to the community. Moreover, this Alternative brings a high pressure 36-inch diameter gas line within feet of a fire station, one of only two in the City. The proposed Alternative effectively cuts off the fire station during construction as it encircles two sides of the station, coincidentally the two sides with access and egress into and out of the fire station. The Station and its emergency response units would likely be unable to respond while construction is ongoing. If a gas leak resulted in an explosion, emergency response would be non-existent from this station. Additionally the line runs across openings to Santee Lakes Campground where over 600,000 visitors a year relax and enjoy the waterfront and outdoor activities which provide significant tourism revenue to the City of Santee. How will the international visitors know where they will be able to access this highly popular location? The line crosses in front of the headquarters for Padre Dam Municipal Water District. This agency is the only water provider to the City and its main office is a primary point for many users to pay their bills. Will access to this site be allowed during construction for our many residents? This Alternative should be removed from further consideration in an EIR, but if it is not, it is appreciated if the following be taken into account:

The Land Use Element of the City of Santee General Plan states the City is committed to “minimize[ing] land use conflicts between land uses in adjacent areas and existing and planned uses in the City.” (Section 7.0, Objective 9.0). The Draft EIR must fully analyze the effects of the “Non-Miramar” Alternative on surrounding residential neighborhoods, schools, a nearby regional park (Santee Lakes), commercial businesses and the City’s Fire Station located at the northwest corner of Fanita Parkway and Carlton Oaks Drive.

The City of Santee monitors development that could result in increased land use compatibility impacts to the City of Santee (Land Use Element Policy 9.2) and this Alternative could significantly disrupt the quality of life of the community during construction of the pipeline, result in closed and congested streets and detours, and impose incompatible utility support facilities (operations facilities, storage yards) in areas designated for residential, commercial and open space land use.

This Alternative would conflict with the goals and objectives of the Conservation Element of the City’s General Plan which aims to conserve open space, natural and cultural resources by protecting areas rich in biological and cultural resources (Objectives 7.0, 8.0), protecting floodways such as Sycamore Creek and the San Diego River (Objectives 2.0, 9.0), maintaining an adequate water supply and supporting Padre Dam Municipal Water District in expanding its water reclamation facility (Objective 3.0, Policy 3.3) and establishing a 2,600-acre preserve system that includes the Goodan Ranch Preserve (Policy 7.4). Additionally, the Alternative could jeopardize a local recreational trail, the Stowe Trail, that just reopened after 20 years of collaboration, including a literal act of the United States Congress.

June 9, 2017
CPUC Application A.15-09-013
City of Santee
Notice of Preparation Response

The Safety Element of the General Plan aims to minimize injuries, loss of life, and property damage resulting from human-induced safety hazards; any construction impacts that affect Fire Station access and egress and lengthens the response times in the event of emergency and paramedic service calls has the potential to conflict with this overarching goal; to protect the public health, welfare, and safety.

San Diego Gas & Electric recently completed a pipeline replacement project in the City. Horizontal directional borings encountered granite in the San Diego River underneath the Carlton Hills Drive Bridge and may extend to Sycamore Creek under the Carlton Oaks Drive Bridge. This bridge has been identified in the City's Five year Capital Improvement Program for a seismic retrofit. Trenching in granite requires blasting, which should be fully analyzed in the EIR, and the bridge must be protected from collapse.

In summary, while the project is intended to increase safety and reliability of gas transmission and distribution, accidents can occur which result in loss of life and property. A new high pressure transmission line would be introduced in existing single- and multiple-family residential neighborhoods as well as areas of biological diversity and resources. Construction would be disruptive to residents, businesses, and recreational users of the Santee Lakes Preserve and the Stowe Trail. The project would impact the ability of rate payers to access their utility payment site during construction and probably hinder the expansion of use of reclaimed water in the area. Most importantly the line could jeopardize public safety from one of only two fire stations in the City of Santee. Again let me emphasize, the City of Santee strongly opposes this Alternative.

Thank you for the opportunity to submit these comments for consideration. The City requests notification of all proceedings related to this Application through Development Services Director Melanie Kush, at mkush@cityofsanteeca.gov.

Respectfully,



MARLENE BEST
City Manager

- c. Santee City Council
Melanie Kush, Development Services Director

From: [REDACTED]
Sent: Monday, June 12, 2017 7:59 PM
To: Rainbow Natural Gas Pipeline. CPUC
Cc: [REDACTED]
Subject: PSRP RE: Line 3602 and Line 1601

California Public Utilities Commission

RE: Pipeline Safety & Reliability Project
C/O: Ecology & Environment, Inc
505 Sansome St., Suite 300
San Francisco, CA 94111

[REDACTED]
Escondido, CA 92025
[REDACTED]

Dear Robert Peterson,

It is understandable that a New Natural Gas Line is necessary in light of the existing one having been constructed in 1949.

I am okay with Natural Gas still being a viable source of energy, and thus the need to run pipelines underground.

What I am not keen on is the proposed New natural gas line 3602 causing chaos and high volume stresses in our normally peaceful neighborhood.

In particular, I am referring to Line 1601 between Mainline Valve (MLV) 6 and MLV 7 or the cross tie near MP23 and MP29.

As another neighbor has written in more detail (Ernie & Gail Higgins) there are numerous schools, houses of worship, businesses and residential homes along this route, along with a number of private drives and cul de sacs. Felicita and Encino are both narrow roads. Felicita and Bear Valley already share the burden of heavier traffic than they were built for.

The question of why the left turn onto Felicita may have already been addressed, I suppose I am late to the party. Can you tell me the reason why this route is being proposed? Is there a good reason why this pipeline should not continue on straight down going south from MLV 6 to MLV 7?

Thus, avoiding a right angle left turn onto Felicita, a push on up the hill and then on the downhill side of the hill another sharp turn right onto Encino, finally a tight merge onto Bear Valley!

I am not in favor of the above mentioned route for the expressed reason of it causing chaos and high volume stresses.

Sincerely,


Homeowner

From: [REDACTED]
Sent: Monday, June 12, 2017 1:53 PM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: Comment letter - Pipeline Safety and Reliability Project

Robert Peterson
California Public Utilities Commission
RE: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

RE: Pipeline Safety and Reliability Project – New Natural Gas Line 3602 (Application No. A.15-09-013)

Dear Mr. Peterson:

I oppose both alternative routes of the proposed gas pipeline (Line 3602). Alternative routes through Mission Trails Regional Park and surrounding park expansion areas are not acceptable.

The first proposed alternative would disrupt the use of and degrade Mission Trails Regional Park's West Sycamore Area including parts of the new Stowe Trail, as well as the Goodan Ranch, and Fanita Ranch. These preserved areas and parklands are used by hundreds of visitors daily. Maintaining the integrity of the preservation of these natural lands is imperative for existing wildlife, flora, and habitat.

The second proposed alternative is equally unacceptable and would degrade Mission Trails's Spring Canyon and East Fortuna Staging Area, and also East Elliott, part of MTRP's larger ecosystem. The park and its surrounding expansion area must be protected. A new gas pipeline does not belong in these natural habitats which are used recreationally by park visitors.

Please drop or oppose these alternative routes. Thank you.

Sincerely,

[REDACTED]

[REDACTED] Oceanside, CA 90256

From: [REDACTED]
Sent: Tuesday, June 6, 2017 9:31 PM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: No pipeline in Santee

This e-mail is to express my sincere concerns of any expansion of a gas line being constructed in any neighborhood in Santee. I will raise as much awareness and support as I can to fight any effort or idea of this project advancing in my community.

[REDACTED] and family

Sent from my iPhone

From: Save Fanita <savefanita@gmail.com>
Sent: Saturday, June 3, 2017 5:06 PM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: SDG&E Natural Gas Pipeline 3602 (Application No. A.15--09--013)
Attachments: SDG&E Pipeline 06032017.pdf

Comment submission attached for SDG&E Natural Gas Pipeline 3602 (Application No. A.15--09--013) from California Chaparral Institute, Center for Biological Diversity and Preserve Wild Santee.

Van K. Collinsworth
Geographer/Director
Preserve Wild Santee
9222 Lake Canyon Road
Santee, CA 92071
savefanita@gmail.com



June 3, 2017

Mr. Robert Peterson
California Public Utilities Commission
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111
SDgaspipeline@ene.com

**RE: "Pipeline Safety and Reliability" Project – New Natural Gas Line
3602 (Application No. A.15-09-013)**

Dear Mr. Peterson,

The California Chaparral Institute, Center for Biological Diversity and Preserve Wild Santee oppose SDG&E's unnecessary pipeline expansion due to severe and inevitable environmental impacts.

The likely motivation for the project is the profit that SDG&E would obtain by building infrastructure (including future connections for LNG export to Asia) while attempting to use "safety and reliability" as a convenient veil for pipeline expansion.¹

Natural gas consumption in San Diego County has been flat since 1990.² According to California Energy Commission data, Natural Gas use in the Residential Sector plummeted by 39% from 1975 -2010.³

¹ "Sempra's subsidiary already has an LNG facility outside Ensenada...the company wants to add an export component to the plant with the hopes of going online in 2022 or 2023." Rob Nikolewski, San Diego Union-Tribune, April 3, 2016
<http://www.sandiegouniontribune.com/sdut-lng-exports-sempra-2016apr03-story.html>

² Scott J Anders. Natural Gas End-use Report. Energy Policy Initiatives Center, University of San Diego School of Law, September 2008.



Natural Gas use for California is predicted to decline through 2024.⁴ The growth of solar energy use provides opportunity to significantly reduce local demand for natural gas in all sectors. Even Sempra Energy (SDG&E's parent company) has stated that a 100% renewable grid is possible today.⁵

Considering the decline in Natural Gas demand, maintenance of the existing line until Natural Gas use becomes obsolete is reasonable. Building a new line with excessive capacity at a cost of over \$600 million to ratepayers is not reasonable, especially when severe environmental impacts are considered.

SDG&E should withdraw its application immediately. If SDG&E chooses to move forward with CEQA review, the Environmental Impact Report should study the following issues.

The real motivating factors for the project must be revealed in the objectives / goals disclosure.

Why is the new pipeline (at 36" in diameter) proposed at more than double the capacity of the existing 16" pipeline when demand for natural gas in California and San Diego County is declining?

How close would the southern termination point for the new pipeline be to pipelines that are repurposed to export Liquefied Natural Gas (LNG) to Mexico for export to Asia?

Where would the potential connection routes be for the new pipeline and any pipelines exporting natural gas?

What are the pipeline impacts upon California's ability to cut Greenhouse Gas Emissions (GHGs) to 80% below 1990 levels by 2050?

³ "Residential standards account for natural gas demand savings of 21 percent in 1990 compared to a 1975 baseline, 33 percent in 2000, and 39 percent in 2010." http://www.energy.ca.gov/almanac/naturalgas_data/overview.html

⁴ California Energy Commission Final Report, "California Energy Demand 2014-2024 Forecast", January 2014, Table ES2 Statewide Baseline End-User Natural Gas Forecast Comparison, page 5.

⁵ Ingrid Lobet, "Sempra VP Surprises, Says 100 Percent Renewable Grid Is Possible Now", Inewsourc, May 26, 2017. <http://www.kpbs.org/news/2017/may/26/sempra-vp-surprises-says-100-percent-renewable-gri/>



What is the financial cost of the new pipeline and what would be the impact to individual ratepayers?

What is the approximate minimum amount of natural gas that has been released into the atmosphere by accidents since 1970 and what are the climate impacts of those emissions? What were the most significant causes of the accidental releases?

What has been the financial and environmental cost of producing and shipping fracked natural gas since 1990? For example, permanent destruction of drinking water aquifers and fracking caused earthquakes have been documented. The USGS has acknowledged that fracking is causing earthquakes.⁶

Where are the fault lines that intersect with the proposed pipeline routes? How large would the potential impact zone be for the explosion of a pipeline severed by earthquake? The new pipeline would be more than double the capacity of the existing line with more fuel available for ignition. The potential impact zones should be mapped by fault line intersections.

Alternatives

The “Rainbow to Santee Alternative” through Sycamore Canyon is extremely outrageous. It would impact endangered species habitat for Quino Checkerspot butterfly, Hermes Copper butterfly, Least Bell’s vireo, California gnatcatcher, Willowy monardella, vernal pool species such as San Diego fairy shrimp while destroying old growth riparian forest that provides the setting for one of the most popular mountain biking trails in San Diego County – the historic “Stowe Trail.” The need to maintain the pipeline once installed means the area would never fully recover from the construction impacts.

The Alternative to “Pressure Test and Replace Line 1600 in Sections As Needed” should be the preferred Alternative.

A Non-Fossil Fuel Energy Alternative should also be examined. Sempra Energy has already stated that a 100% renewable energy grid is technologically possible today.⁷

⁶ Casey Coates Danson. “USGS Finally Admits That Fracking Causes Earthquakes”, Global Possibilities, March 7, 2017.

<http://www.globalpossibilities.org/usgs-finally-admits-that-fracking-causes-earthquakes/>

⁷ Maureen Cavanaugh, Megan Burke. “Sempra Energy Executive: 100 Percent Renewable Energy Can Be Done Today” KPBS, May 26, 2017 “



Mitigation

Unavoidable habitat impacts for any alternative selected should be mitigated by acquiring Fanita Ranch and any other available parcels in its vicinity and dedicate such habitat to permanent open space park expansion that links Mission Trails Regional Park to Sycamore Canyon Open Space Preserve.

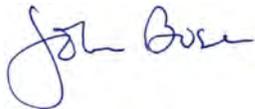
Conclusion

The project would have significant adverse environmental impacts in most categories including biological resources, climate change, aesthetics, recreation, etc. The pipeline expansion is not needed. Natural Gas use is declining in the region. The likely conversion of ratepayer-financed infrastructure to export LNG would be contrary to California's climate goals and contrary to the public interest. Therefore, the project should be abandoned.

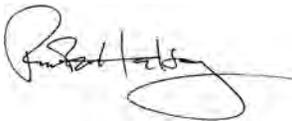
Thank you for considering our comments.



Van K. Collinsworth
Geographer/Director, Preserve Wild Santee
Coordinator, California Chaparral Institute Vernal Pool Conservation Program



John Buse
Senior Staff Attorney, Center for Biological Diversity



Richard W. Halsey
Director, California Chaparral Institute

<http://www.kpbs.org/news/2017/may/26/100-percent-renewable-energy-can-be-done-today-sem/>



From: Mike Cully <mcully@sdnedc.org>
Sent: Thursday, June 8, 2017 5:00 PM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: Support for Pipeline Reliability Project
Attachments: SDG&E_Pipeline.docx

Please see attached letter of support from this organization for the SDG&E Pipeline Safety and Reliability Project.

Best regards,

Mike Cully
CEO
San Diego North Economic Development Council
(760) 510-3179 (office)
(619) 929-6640 (cell)





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SDG&E

Ed Quinlan

Corporate Alliance

Kimberly Thorner

Olivenhain Municipal Water

District

Sarah Villarreal

CSU San Marcos

Ex-Officio

Sam Jammal

Camp Pendleton

May 24, 2017

California Public Utilities Commission

Re: Pipeline Safety and Reliability Project

c/o Ecology and Environment, Inc

505 Sansome Street, Suite 300

San Francisco, CA 94111

RE: Support for Pipeline Safety & Reliability Project

To Whom It May Concern,

On behalf of the San Diego North Economic Development Council (SDNEDC), I appreciate the opportunity to comment on San Diego Gas & Electric's (SDG&E) proposed Pipeline Safety & Reliability Project.

SDNEDC has a large membership of businesses that represent the diverse industry clusters within the San Diego region. These businesses depend on a safe and reliable delivery of electricity and natural gas in order to serve their customers and keep their doors open.

North County San Diego continues to grow and thrive and is a large contributor to San Diego's \$200 billion economy. For this reason, it is critical that our region's energy infrastructure is able to support our current and future energy needs both for our businesses and for the more than 1.4 million residents who call North County home.

Nearly 60 percent of the natural gas used by San Diego residents, businesses, military and institutions is used for space heating, cooking, hot water, manufacturing and transportation. The remaining natural gas is used to produce electricity, including when renewable resources like solar and wind are not available. This is critical when looking over the landscape of our region and highlights the importance of natural gas to our economy. Further, we must assure the safety of those who reside here by providing a dependable means of delivery as proposed in this much needed upgrade to decades-old infrastructure.

SDNEDC supports the Pipeline Safety and Reliability Project in concept and the need for reliable natural gas transmission into our region. We look forward to the Commission's timely review of this proposed project.

Sincerely,

Mike Cully

CEO

San Diego North Economic Development Council

From: Laura Cuthill <lcuthill@portofsandiego.org>
Sent: Monday, June 12, 2017 2:05 PM
To: Rainbow Natural Gas Pipeline. CPUC
Cc: David Yow; Job Nelson; Randa Coniglio
Subject: Public Comment re: Pipeline Safety and Reliability Project by SDG&E/SoCalGas
Attachments: Port of San Diego Comment Letter re SDGE Pipeline Project.pdf

Mr. Peterson:

Please see the attached comment letter from the Port of San Diego regarding the proposed project by San Diego Gas and Electric and Southern California Gas Company.

If you have any questions, please feel free to contact me.

Regards,

Laura Cuthill

Management Analyst, Government & Civic Relations

3165 Pacific Highway, San Diego, CA 92101
(o) 619.725.6038 • (c) 619.961.6583



connect: A row of small, circular social media icons for Facebook, Twitter, YouTube, LinkedIn, and Instagram.

Port administration offices are open Monday-Thursday and [every other Friday](#) from 8am-5pm.
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June 12, 2017

Mr. Robert Peterson
California Public Utilities Commission
RE: Pipeline Safety and Reliability Project
c/o Ecology and Environment
505 Sansome Street, Suite 200
San Francisco, CA 94111

SENT VIA US MAIL AND EMAIL

RE: Pipeline Safety and Reliability Project

Dear Mr. Peterson,

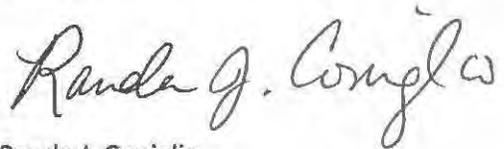
On behalf of the Port of San Diego, I write in support of the application for the Pipeline Safety & Reliability Project submitted by San Diego Gas & Electric (SDG&E) and Southern California Gas Company (SoCalGas). We support the California Public Utilities Commission (CPUC) moving forward in its review of the application and a thorough analysis of all pipeline options enclosed.

As you know, SDG&E and SoCalGas intend to construct a new natural gas pipeline from the Rainbow Station to Southern San Diego County. The San Diego region currently relies on one natural gas pipeline for 90 percent of its supply, with the other ten percent transported through a 70-year-old pipeline that has reached the end of its useful life. In partnership with other stakeholders in the San Diego region, the Port of San Diego supports development of a new pipeline because it will help ensure reliable energy, systems redundancy, and increased safety. Any new projects in San Diego must comply with current safety standards, as prescribed by state law and the CPUC. This is of particular importance in light of the 2010 fatalities in San Bruno, CA.

San Diego is the eight largest city in the United States, second largest in California, and San Diego County is the fifth most populous county in the nation. The Port of San Diego serves the people of California as a special district, balancing multiple uses on 34 miles along San Diego Bay spanning five cities. Collecting no tax dollars, the Port of San Diego manages a diverse portfolio, including Maritime, Waterfront Development, Public Safety, Experiences and Environment, all focused on enriching the relationship people and businesses have with our dynamic waterfront. The Port of San Diego is one of seventeen strategic ports in the U.S. as designated by the Department of Transportation and the Maritime Administration. We also work closely with the seven military bases around San Diego Bay and with countless federal partners to ensure seamless safety for the critical freight infrastructure and ports of entry.

The San Diego region needs a complete and reliable energy infrastructure in order to properly serve residents, businesses, and critical national defense operations, which are expected to increase dramatically in the next ten years. As the Port looks to continue to grow and protect business for the regional and national economies, dependable energy is a basic necessity to moving forward. As this project moves forward, we will be monitoring the progress closely. If you have any additional questions, please feel free to contact my office.

Sincerely,

A handwritten signature in black ink that reads "Randa J. Coniglio". The signature is written in a cursive, flowing style.

Randa J. Coniglio
President/CEO

From: [REDACTED]
Sent: Monday, June 12, 2017 10:33 PM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: Protest of pipeline on Pomerado Road

We want to protest the pipeline running down Pomerado Road. There is little sense in writing about the pipeline running by schools, churches, homes and a hospital, because we are sure that you have received a many communications about those issues. That said we agree that doesn't sound like a good plan. We would like to point out that Pomerado Hospital only has one entrance/exit, which is on Pomerado Road. If there were a problem at that intersection it would make for big problems for the patients and staff of the hospital and certainly any patients needing to get to the hospital needing care, including those with blast related injuries.

Should a 30 inch high pressure pipeline, filled with any gas, even a noncombustible one, rupture, it would be called an explosion by any observer and do damage for 100s of feet around the rupture. As a minimum it would make a mess of the windows in the hospital if the rupture happened in front of it. Some of the risk could be mitigated by burying it much deeper than 42 inches so that the overlaying dirt would absorb the energy.

Sincerely

[REDACTED]

--

[REDACTED] Poway, CA 92064-[REDACTED]

From: Catherine DeYoung <cd@sandiegobusiness.org>
Sent: Friday, June 9, 2017 3:27 PM
To: Rainbow Natural Gas Pipeline. CPUC
Cc: edellanos@semprautilities.com
Subject: Letter of support - Pipeline Safety & Reliability Project
Attachments: SDGE Pipeline Reliability 6 9 17.pdf

Please see attached letter for comments regarding Pipeline Safety and Reliability Project – New Natural Gas Line 3602 and De-Rating Line 1600.

Feel free to contact EDC if you have any questions.

Thank you, and have a good weekend.

Catherine DeYoung | Executive Assistant to Mark Cafferty
President and CEO

San Diego Regional EDC

o| 619 234 8484

d| 619 615 2958

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June 9, 2017

Robert Peterson
California Public Utilities Commission
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

Re: Pipeline Safety and Reliability Project – New Natural Gas Line 3602 and
De-Rating Line 1600

Dear Mr. Peterson:

I am reaching out on behalf of San Diego Regional Economic Development Corporation in support of the Pipeline Safety and Reliability Project.

It is our understanding based on the recent public meetings sponsored by CPUC that possible alternatives to building a new line are being considered, including pressure-testing the existing line, relying on gas from Mexico, or the use of alternative energy to displace natural gas. By virtue of our work with local business and industry, EDC has been involved in many of the conversations around the pipeline project. Based on our interactions and understanding of the potential overall impacts on our regional economy, we recommend that the CPUC eliminate these alternatives from further deliberation.

Please consider the following points of information supporting this recommendation:

- Pressure-testing costs more than \$100 million and would only extend the life of the 1949 line without addressing the known manufacturing defects and non-state-of-the-art materials.
- Relying on foreign gas supplies and/or infrastructure located in a foreign country – even one where we have very strong relationships – is not a reliable approach to meet the region's basic energy needs.
- While alternative energy has and will continue to displace some natural gas, it is highly unlikely that natural gas will go away entirely. A safe and reliable natural gas transmission system is a critical part of the bigger energy picture for the region.

San Diego requires energy infrastructure that can keep up with the region's diverse and evolving needs for decades to come. Besides public safety, a new pipeline will bring other critical benefits to the region, including increased reliability and resilience of the natural gas system, the ability to supply domestically produced energy, and the creation of quality jobs.

Additionally, CPUC has stated an anticipated date of August 2018 for a draft EIR. It is our understanding that this timeline would mean that Line 1600 would likely not be de-rated until at least 2021 – a less than ideal timeframe to bring the line into compliance, given the pipeline explosion in San Bruno several years ago.

EDC's mission is to maximize the region's economic prosperity and global competitiveness. In alignment with our efforts on behalf of our partners and industry representatives, we respectfully ask that the CPUC discontinue consideration of the alternatives listed above and move forward with the Pipeline Safety and Reliability Project.

Thank you for your time.

Sincerely,



Mark Cafferty
President & CEO

From: [REDACTED]
Sent: Tuesday, June 6, 2017 7:11 PM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: Natural Gas Line 3602 (Application No. A.15-09-013)

Dear CPUC,

SDG&E's fracked gas pipeline project should be abandoned. The pipeline expansion is not needed. Natural Gas use is declining in the region. The likely conversion of ratepayer-financed infrastructure to export LNG would be contrary to California's climate goals and contrary to the public interest. Our parks are not intended to be sacrificed for utility profits.

Sincerely,

--
[REDACTED]

From: [REDACTED]
Sent: Monday, June 5, 2017 8:55 PM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: RE: Pipeline Safety and Reliability Project (Application No. A.15-09-013)

To whom it may concern:

I oppose both alternative routes of the proposed gas pipeline (Line 3602). Alternative routes through Mission Trails Regional Park and surrounding park expansion areas are not acceptable.

The first proposed alternative would disrupt the use of and degrade Mission Trails Regional Park's West Sycamore Area including parts of the new Stowe Trail, as well as the Goodan Ranch, and Fanita Ranch. These preserved areas and parklands are used by hundreds of visitors daily. Maintaining the integrity of the preservation of these natural lands is imperative for existing wildlife, flora, and habitat.

The second proposed alternative is equally unacceptable and would degrade Mission Trails's Spring Canyon and East Fortuna Staging Area, and also East Elliott, part of MTRP's larger ecosystem. The park and its surrounding expansion area must be protected. A new gas pipeline does not belong in these natural habitats which are used recreationally by park visitors.

Please drop or oppose these alternative routes. Thank you.

[REDACTED]
Resident of San Carlos, San Diego
Sent from my iPhone

From: [REDACTED]
Sent: Saturday, June 10, 2017 3:15 PM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: Proposed Pipeline

To the CPUC and EIR;

We are residents of Marlynn Court, a street off Encino in Escondido. To say we are concerned about the proposed gas pipeline coming down Encino is an understatement.

Some of our concerns:

1. Major traffic problems caused by the construction of the pipeline on a narrow street such as Encino.
2. Bear Valley Pkwy., where you plan to place this pipeline, is an extremely busy two lane congested road. Especially during commuter times. As a matter of fact more than 50,000 cars access the I15 freeway from Bear Valley Pkwy./Via Rancho Pkwy. daily.
3. Felicita is also a high traffic street. It is a main connecting street between I15, Centre City Pkwy., and Bear Valley Pkwy. It also is congested during morning and evening commuter traffic.
4. Felicita and Encino are located in a high density residential area. There are numerous homes, apartments, schools and churches on this proposed route. One church has 5000 + regular attendance every Saturday and Sunday. There is always lots of activity and traffic around that church.
5. We believe the disruption of traffic on Felicita and Encino, due to the construction of the pipeline, will cause undue hardship for the residents in this area.
6. Our main concern is the possible catastrophe caused by a natural gas pipeline accident so close to residents, schools and churches.

We just don't understand why you would jog an existing pipeline route coming from Centre City Pkwy. onto Felicita, Encino and Bear Valley Pkwy. Centre City Pkwy. is a wide street with lots of room for a 36" pipeline. Felicita, Encino and Bear Valley Pkwy. are only two lane roads where you propose to put this pipeline.

Please rethink this planned route.

Sincerely,

[REDACTED]
Escondido, CA 92025

[REDACTED]

[REDACTED]

From: [REDACTED]
Sent: Monday, June 5, 2017 2:22 AM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: RE: Natural Gas Line 3602 (Application No. A.15-09-013)

RE: Natural Gas Line 3602 (Application No. A.15-09-013)

Dear CPUC,

SDG&E's fracked gas pipeline project should be abandoned. The pipeline expansion is not needed. Natural Gas use is declining in the region. The likely conversion of ratepayer-financed infrastructure to export LNG would be contrary to California's climate goals and contrary to the public interest. Our parks are not intended to be sacrificed for utility profits.

Sincerely

[REDACTED]
San Diego, CA

From: [REDACTED]
Sent: Monday, June 5, 2017 12:25 PM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: pipeline expansion NO

RE: Natural Gas Line 3602 (Application No. A.15-09-013)

Dear CPUC,

SDG&E's fracked gas pipeline project should be abandoned. The pipeline expansion is not needed. Natural Gas use is declining in the region. The likely conversion of ratepayer-financed infrastructure to export LNG would be contrary to California's climate goals and contrary to the public interest. Our parks are not intended to be sacrificed for utility profits.

Sincerely,

[REDACTED]
San Diego
[REDACTED]

From: [REDACTED]
Sent: Monday, June 5, 2017 5:27 PM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: RE: Natural Gas Line 3602 (Application No. A.15-09-013)

Dear CPUC,

SDG&E's fracked gas pipeline project should be abandoned. The pipeline expansion is not needed. Natural Gas use is declining in the region. The likely conversion of ratepayer-financed infrastructure to export LNG would be contrary to California's climate goals and contrary to the public interest. Our parks are not intended to be sacrificed for utility profits.

Please vote no to this gas pipeline project.

Sincerely,

[REDACTED]

From: [REDACTED]
Sent: Sunday, June 11, 2017 7:18 PM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: public scoping comment

Dear CPUC, I attended the public scoping meeting at USIU last month. I have been studying this issue, and I have the following comments.

A 36 inch high pressure natural gas transmission line is extremely dangerous, and many safeguards must be employed in its installation and operation.

The recent explosion and fire in San Bruno, CA. is just one of many pipeline accidents. Wikipedia lists "110 serious incidents with gas transmission, resulting in 41 fatalities, 195 injuries, and \$448,900,333 in property damage" since 1994. The San Bruno incident has many similarities with the neighborhood locations proposed for the new SDG&E pipeline.

I live in western Poway, 2970 feet west of Pomerado Rd. I am very familiar with the proposed route through Rancho Bernardo, Poway, and Scripps Ranch. Much of Pomerado Rd travels through valleys and canyons with no east west access. There are many neighborhoods where Pomerado Rd is the only evacuation route. Those families would be trapped in their houses if the pipeline exploded. The flames in San Bruno reached 1000 feet in the air, and burned for nearly 18 hours. Some of the victims were burned alive. The proposed 36 inch pipeline is 20% larger in diameter than the 30 inch San Bruno pipeline, and will be carrying 44% more natural gas.

Like San Bruno, Pomerado Rd also has major water lines. The San Bruno explosion ruptured a water main, requiring fire hoses to be laid 4000 feet to working hydrants.

These are serious environmental impacts. CEQA requires you to identify these issues and their mitigation plan. The pipeline incidents I read about had no evacuation plan, and no emergency management plan. If there are neighborhoods that will be stranded and isolated by a pipeline explosion, construction of an escape route is necessary. If houses/schools/hospitals/businesses are located too close to the pipeline, they must be purchased and relocated as part of the project. If a water main can be ruptured, a new water main must be installed in a protected location.

Thousands of people live, work, study, and worship very close to the proposed pipeline route. Their very lives are at risk. No one should have a pipeline installed so close to their home that they face certain incineration if there is an incident. How far from the pipeline is safe? That should be the width of the pipeline corridor open space.

If the cost of creating that corridor is prohibitive, then we can't afford the pipeline in that location.

[REDACTED]
Poway, CA.

From: [REDACTED]
Sent: Tuesday, June 6, 2017 12:52 AM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: No to Pipeline!

[REDACTED]

[REDACTED]
Phone: [REDACTED]

From: Ronald B. Garnett <rgarnett@supplierdiversitysd.org>
Sent: Friday, June 9, 2017 7:47 PM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: Pipeline Safety and Reliability Project
Attachments: Low Res Sm Logo.tiff; SDG&E - PSRP.pdf

Please see the attached letter of public comment.

Regards,

Ronald B. Garnett
President & CEO

10679 Westview Parkway
Second Floor
San Diego, CA 92126
(858) 537-2281
www.supplierdiversitysd.org
rgarnett@supplierdiversitysd.org

"It all starts with a crazy creative idea, then the relentless pursuit and refusal to give up on it, no matter how tough or how challenging... that's what ultimately changes the world for the better." - Ronald B. Garnett

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Thursday, June 8, 2017

Robert Peterson
California Public Utilities Commission
RE: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome St., Suite 300
San Francisco, CA 94111

Dear Robert Peterson,

SDG&E submitted an application with the California Public Utilities Commission (CPUC) in August 2015 for a proposed 47-mile natural gas transmission pipeline that would enhance the safety and reliability of the natural gas system to better meet the needs of the residents, businesses and institutions in the entire San Diego region. The Pipeline Safety & Reliability Project (PSRP) would start at the Rainbow Metering Station near the Riverside County line and connect with SDG&E's natural gas system on Marine Corps Air Station (MCAS) Miramar.

As I understand the purpose of the project, it is to comply with the State of California and CPUC's safety requirements following the fatal 2010 pipeline explosion in San Bruno. The new pipeline will replace an existing transmission line constructed in 1949, which no longer complies with state law, CPUC requirements or modern standards of safety. The new pipeline will replace this 70-year old line with a new, state-of-the-art line.

In addition to enhancing safety, the new pipeline will improve energy reliability throughout the San Diego region. SDG&E's existing natural gas transmission system primarily relies on one pipeline for 90 percent of the natural gas delivered to San Diego every day and the older pipeline constructed in 1949 for the rest. The new pipeline would replace the smaller, aging line with a larger pipeline constructed with state-of-the-art materials and technology. The proposed pipeline would reduce the region's over-dependence on one primary pipeline, making the natural gas system more reliable and better able to handle the changing energy needs of homes and businesses in San Diego.

The Council for Supplier Diversity is a 501 (c) 3 nonprofit organization. Our mission is to use the disciplines of Supplier Diversity initiatives as an engine for economic development in under represented communities. We are dedicated to expanding business opportunities for women, minority, service disabled veteran and other diverse business enterprises. Like other needed infrastructure projects, this one could offer potential economic opportunity for our regional diverse businesses, while improving safety and reliability. Natural gas is a cost effective energy choice that diverse businesses count on every day to stay viable and competitive in the region.

We support replacing the existing 1949 line with the proposed new line and urge CPUC to act expeditiously to bring the existing pipeline into compliance with safety standards.

Regards,

A handwritten signature in black ink, appearing to read "Ronald B. Garnett".

Ronald B. Garnett
President/CEO

From: Drew Garrison <dg@sandiegobusiness.org>
Sent: Monday, June 12, 2017 7:27 PM
To: Rainbow Natural Gas Pipeline. CPUC
Cc: Lucas Coleman; Nikia Clarke; Catherine DeYoung
Subject: Pipeline Safety and Reliability Project Letter - World Trade Center San Diego
Attachments: Letter for SDG&E Pipeline Reliability - June 2017 - WTC San Diego.pdf

Please see attached letter for comments regarding Pipeline Safety and Reliability Project – New Natural Gas Line 3602 and De-Rating Line 1600.

Feel free to contact World Trade Center San Diego if you have any questions.

Thank you.

Drew Garrison | Manager, World Trade Center San Diego

San Diego Regional EDC

(619) 615-2957 – direct

(858) 859-1372 – cell

530 B Street • Suite 700 • San Diego, CA 92101



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WORLD TRADE CENTER®
SAN DIEGO

June 9, 2017

Robert Peterson
California Public Utilities Commission
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

Re: Pipeline Safety and Reliability Project – New Natural Gas Line 3602 and
De-Rating Line 1600

Dear Mr. Peterson:

I am reaching out on behalf of World Trade Center San Diego (WTC) in support of the Pipeline Safety and Reliability Project.

It is our understanding based on the recent public meetings sponsored by CPUC that possible alternatives to building a new line are being considered, including pressure-testing the existing line, relying on gas from Mexico, or the use of alternative energy to displace natural gas. By virtue of our work with local business and industry, WTC has been involved in many of the conversations around the pipeline project. Based on our interactions and understanding of the potential overall impacts on our regional economy, we recommend that the CPUC eliminate these alternatives from further deliberation.

Please consider the following points of information supporting this recommendation:

- Pressure-testing costs more than \$100 million and would only extend the life of the 1949 line without addressing the known manufacturing defects and non-state-of-the-art materials.
- Relying on foreign gas supplies and/or infrastructure located in a foreign country – even one where we have very strong relationships – is not a reliable approach to meet the region’s basic energy needs.
- While alternative energy has and will continue to displace some natural gas, it is highly unlikely that natural gas will go away entirely. A safe and reliable natural gas transmission system is a critical part of the bigger energy picture for the region.

San Diego requires energy infrastructure that can keep up with the region’s diverse and evolving needs for decades to come. Besides public safety, a new pipeline will bring other critical benefits to the region, including increased reliability and resilience of the natural gas system, the ability to supply domestically produced energy, and the creation of quality jobs.

Additionally, CPUC has stated an anticipated date of August 2018 for a draft EIR. It is our understanding that this timeline would mean that Line 1600 would likely not be de-rated until at least 2021 – a less than ideal timeframe to bring the line into compliance, given the pipeline explosion in San Bruno several years ago.

WTC's mission is to ensure the San Diego region is globally competitive. In alignment with our efforts on behalf of our partners and industry representatives, we respectfully ask that the CPUC discontinue consideration of the alternatives listed above and move forward with the Pipeline Safety and Reliability Project.

Thank you for your time.

Sincerely,

A handwritten signature in black ink, appearing to read "N. Clarke", written over the word "Sincerely,".

Nikia R. Clarke, Ph.D.
Executive Director, World Trade Center San Diego
Vice President, Economic Development, San Diego Regional Economic
Development Corporation

From: [REDACTED]
Sent: Tuesday, June 6, 2017 4:07 PM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: Jordan Cove Gas Pipeline

I strongly urge you not to build this pipeline. For the very few permanent jobs created consider this: it will disrupt tribal lands and very likely endanger ability of the tribes to survive, plus these are sacred to the Native Americans. I think given all our history with them, we owe them this much, not to disturb their way of life any further. Plus this will contribute greatly to the increase in global warming, already reaching crisis proportion. I don't understand how you can risk the future of your children and grandchildren for the sake of such short term profit. Thank you for your consideration in this matter. Sincerely, [REDACTED]

From: [REDACTED]
Sent: Monday, June 12, 2017 10:23 PM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: Pipeline

I have I been a resident of Poway for over 41 years. I strongly oppose the projected route of the pipeline through Pomerado Road. Presently, it is difficult enough to get out of the housing development onto Pomerado Road from Kaitz or Roberto. When the road was recently partially blocked off for repair, it was a nightmare. In addition, Palomar Hospital (previously known as Pomerado Hospital) is on Pomerado Road. I believe road construction of the depth that is planned would not only be disruptive to residents of the area, but would put many rescue vehicles attempting to get to the hospital in danger of causing serious consequences to its patients. Please reconsider the routing of the pipeline to much less populated areas to avoid impacting such a large population of residents.

Thank you for your consideration.

From: Hadland, Michael <Michael.Hadland@asm.ca.gov>
Sent: Friday, June 9, 2017 3:07 PM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: RE: Pipeline Safety & Reliability Project (PSRP) ▪ SUPPORT ▪
Attachments: CpucPRSPSupport.pdf

Please see the attached letter the California Public Utilities Commission. Assemblymember Chavez expresses support for the PRSP in San Diego County. Please feel free to reach out with any questions or comments.

Best,

Michael Hadland
Chief of Staff
Office of Colonel Rocky J. Chávez
Assemblymember, 76th District
P. 760-433-7601
F. 760-433-7607



Capitol Office
State Capitol, Room 2111
Sacramento, CA 95814
(916) 319-2076
Fax (916) 319-2176

District Office
804 Pier View Way, Ste 100 Oceanside, CA
92054;
(760) 433-7601
Fax (760) 433-7607

California Legislature



Colonel Rocky J. Chávez
Assemblymember, 76th District

Committees
Veterans Affairs, Vice Chair
Education, Vice Chair
Budget
Budget Sub #2 – Education Finance
Higher Education
Utilities and Energy

June 9, 2017

California Public Utilities Commission
770 L St.
Sacramento, CA 95814

RE: Pipeline Safety & Reliability Project (PSRP) -SUPPORT-

Dear Members of the California Public Utilities Commission,

I am writing today to express my support for the Pipeline Safety & Reliability Project (PSRP). After the issues that were seen in 2010 in San Bruno, it is imperative in moving forward with the replacement of the 70 year old pipeline in favor of a new, state of the art pipeline.

This new pipeline will enhance safety and energy reliability throughout the San Diego region. While many detractors are against a natural gas pipeline, I still believe that a diverse energy portfolio in the State of California is an asset for our region. I am certainly behind the goals of renewable energy in this State, but to rule out natural gas entirely would be dire for our energy reliability. As a member of the Assembly Committee on Utilities and Commerce, I know the importance of a diverse energy portfolio.

The region needs to prepare now with the PSRP before we see the same situation we had in San Bruno. Therefore, I am offering my full support to explore the different options in creating a new natural gas pipeline in San Diego County.

Sincerely,

A handwritten signature in cursive script that reads "Rocky J. Chavez".

Colonel Rocky J. Chávez
Assemblymember, 76th District

From: [REDACTED]
Sent: Saturday, June 10, 2017 4:42 PM
To: Rainbow Natural Gas Pipeline. CPUC
Cc: waterlinesunlimited@yahoo.com
Subject: Pipeline letter June 2017 - Invitation to view

[REDACTED] has invited you to **view** the following document:



[Pipeline letter June 2017](#)

[REDACTED] Please see the attached letter outlining our concerns about the proposed Pipeline Safety and Reliability Project.

[Open in Docs](#)

This email grants access to this item without logging in. Only forward it to people you trust.

Google Docs: Create and edit documents online.

Google Inc. 1600 Amphitheatre Parkway, Mountain View, CA 94043, USA

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To Whom it May Concern:

Upon hearing about the proposed Pipeline Safety and Reliability Project (PSRP)

- New Natural Gas Line 3602 and De-rating Line 1600, we were immediately concerned by the route choice of this project. It seems that making a turn onto Felicita Road then turning onto Encino Drive would have a tremendous impact on residents and commuters. Outlined below are some of our concerns.

Along the proposed route there are:

- Five schools
- Four houses of worship
- Many businesses
- Hundreds of homes

Also,

- Felicita Ave / 17th Ave is a busy two lane street connecting east and west Escondido.
 - There are a number of private drives and cul de sacs as well as homes along the north and south sides of Felicita Ave
- Encino Dr is a narrow two lane street
 - There are three cul de sacs and homes along this street as well as two houses of worship. How are we to get in and out of homes, our streets, or houses of worship during construction?
 - Should there be an emergency, how would the necessary vehicles be able to get through?
- Bear Valley Parkway is a very busy thoroughfare bringing traffic from Valley Center, as well as north and east Escondido to get to Interstate 15.
 - Along that stretch there are four schools, at least two houses of worship, Fire Station, Kit Carson Park and Sports Center, Vineyard Golf Course, and Westfield North County Mall that would be affected.
- An environmental concern is the riparian habitat across the street from Marlynn Court that is overseen by CA Fish and Wildlife.
- The watertable in the surrounding area of Marlynn Court and Encino Drive is very close to the surface and feeds a natural spring just east of Encino Dr.

Envisioning the project, it appears that running the pipeline down Center City Parkway and Escondido Blvd would give the project more breadth of room to work with, and (at least on South Escondido Blvd) less traffic, therefore affecting fewer commuters and residents. It also seems it would be less expensive because it would be more direct. As citizens and taxpayers, we strongly recommend that you reroute the project along the most direct and least disruptive route.

Sincerely,

[REDACTED]

From: [REDACTED]
Sent: Monday, June 5, 2017 5:33 PM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: Natural Gas Line 3602 (Application No. A.15-09-013)

Dear CPUC,

SDG&E's fracked gas pipeline project should be abandoned. The pipeline expansion is not needed. Natural Gas use is declining in the region. The likely conversion of ratepayer-financed infrastructure to export LNG would be contrary to California's climate goals and contrary to the public interest. Our parks are not intended to be sacrificed for utility profits.

Sincerely,

[REDACTED]
Santee, CA

From: [REDACTED]
Sent: Sunday, June 4, 2017 12:27 PM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: RE: Natural Gas Line 3602 (Application No. A.15-09-013)

Dear CPUC,

SDG&E's fracked gas pipeline project should be abandoned. The pipeline expansion is not needed. Natural Gas use is declining in the region. The likely conversion of ratepayer-financed infrastructure to export LNG would be contrary to California's climate goals and contrary to the public interest. Our parks are not intended to be sacrificed for utility profits.

Sincerely,

[REDACTED]

Everyone in Santee not employed by SDGE

From: [REDACTED]
Sent: Tuesday, June 13, 2017 3:56 AM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: Reconsider Placement of Natural Gas Pipeline

To Whom It May Concern:

Marlyn Ct is a cul-de-sac of 13 homes occupied by caring, community involved, tight-knit residents; yet, we somehow were unaware of the concerning proposal by the State of CA Public Utilities Commission in cooperation with SDG&E & SCGC to install the Pipeline Safety and Reliability Project - New Natural Gas Line 3602 and De-Rating Line 1600 (PSRP). Thankfully, one resident friend on Encino Dr alerted us to the proposed large natural gas pipeline to be placed in Encino Dr alongside our Marlynn Ct neighborhood.

Indeed, I wondered if our other adjacent neighbors located in the homes, townhouses, condos, and apartment buildings bordering Felicita Ave and 17th Ave, Encino Dr and Bear Valley Pkwy had any idea about your intentions. Could it be this route was specifically chosen for its particular concentration of rental properties or because it has many churches, schools, a fire department, parks, a golf course and putting greens, and businesses like the mall to whom you do not believe you will have to answer or believe aren't as answerable to others? From what little can be made out on the map, it appears the other routes were destined for less residentially populated areas, evidently with fewer churches and schools. Figure 5-2 Proposed Project Route Segment Alternatives Map on your website is baffling. First, one can hardly see any street names to intelligently debate this matter with certainty. That said, pictures are worth a thousand words. How can the Commission justify the jagged purple protruding u-shape on the map which represents the peculiar avenue chosen as an alternative route to place the large natural gas pipeline through not only high traffic areas, school zones, and church, residential and business districts but also our quiet neighborhood as opposed to choosing one of the other original more direct and straight routes through the City of Escondido? No doubt the unbent route would cost less. To guess one's intentions may be impossible, but by looking at the unmarked map and knowing this city for decades, I'm left with nothing but questions and, frankly, the mentioned suspicion as to motives for choosing this route.

For example, I can hardly believe one would choose to come down Encino Dr, when one of the largest churches in North San Diego County, Emmanuel Faith, has just begun approved major renovations to be completed in approximately 2020. It will be difficult enough for the roughly 5000 parishioners per week to deal with church construction, let alone trying to get to and from church due to the construction placement of the large natural gas pipeline without being

inconvenienced and/or disenfranchised. Does the Commission realize there is another church, the Kingdom Hall of Jehovah's Witnesses, only a block away? These are only two of four houses of worship on this serpentine detour off what should be the large natural gas pipeline's straightforward route.

Furthermore, between the two discussed churches is approximately 4.14 acres containing a protected riparian habitat and a running body of water. The habitat may well be disturbed, as it has been before by workers, which is of concern to some neighborhood residents. Be that as it may, what came to light after the Feb 2017 record rainfall was that this Marlynn Ct neighborhood - the one sitting perpendicularly across from the riparian habitat which contains a running body of water - sits atop a high water table. This fact prompted problems for a few neighbors and can be confirmed with the City of Escondido Utility Department, who sent out workers to check the water emanating from the ground, which was confirmed to be potable. Bottom line, why would it be wise to dig such a deep trench for a large natural gas pipeline when the water table is so high? Could the water degrade or undermine the large natural gas pipeline and/or cause a potentially dangerous situation for residents and the surrounding environment?

To be clear, my preeminent concern is safety. How could Marlynn Ct residents be afforded emergency services, let alone anyone living on cul-de-sacs off Encino Dr during this construction? Encino Dr is too small a roadway for such a large natural gas pipeline, in my lay opinion. Surely the residents of the townhouses, condos and apartment buildings along Felicita Ave and 17th Ave must also be concerned about emergency service access to their homes, not to mention their children's schools like Juniper Elementary. In addition, because Bear Valley Pkwy turns into a one lane road in either direction and is a high traffic roadway charged with traffic for four schools and traffic from Valley Center and beyond to the I15, it's unfathomable to think this route could have ever been considered. Congesting this already congested roadway during the morning school and rush-to-work commute seems a dangerous proposition. Keep in mind, a fire department is located on the corner of Bear Valley Pkwy and Mary Ln and must be able to access the roadway with ease despite school traffic and without the burden of any added long-term construction.

Please reconsider rerouting the large natural gas pipeline to it's seemingly original, least expensive, least invasive, likely safest route to one of the straightest and more direct routes through the City of Escondido: down Centre City Pkwy and/or Escondido Blvd. Whatever is decided, if the Commission stands firm in it's decision to choose this oddly shaped offshoot route, which is, at the very least, visually confirmed on your map, I would appreciate and request a response with an explanation as to why this route was chosen over the others.

Very Respectfully,



P.S. If, for some reason, you receive this email after Monday 6-12-17, please accept it's receipt for consideration because: 1) We learned of this proposed plan belatedly, and 2) We are both medically disabled and find great difficulty in corresponding while ill.

From: [REDACTED]
Sent: Sunday, June 4, 2017 4:39 PM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: RE: Natural Gas Line 3602 (Application No. A.15-09-013)

Dear CPUC,

It is my opinion that SDG&E's fracked gas pipeline project should be abandoned. The pipeline expansion is not needed. Natural Gas use is declining in the region. The likely conversion of ratepayer-financed infrastructure to export LNG would be contrary to California's climate goals and contrary to the public interest. This would damage our natural areas, which are for wildlife and recreation. Our parks are not intended to be sacrificed for utility profits.

Sincerely,

[REDACTED]
Lakeside, CA

From: Scott Johnson <sjohnson@CityofSanteeCa.gov>
Sent: Tuesday, June 6, 2017 11:24 AM
To: Rainbow Natural Gas Pipeline. CPUC
Cc: Melanie Kush; CDurckel@semprautilities.com
Subject: RE: Notice of Preparation for SDG&E's Pipeline Safety and Reliability Project (PSRP)

Robert,

When I attended the Scoping meeting I was able to see the detailed route of the 36-inch pipeline utilizing Google Earth. Is there a link on the website to view the proposed route(s)?

Thanks,

Scott A. Johnson, PE, QSD
Principal Civil Engineer
Department of Development Services
City of Santee
(619) 258-4100 ext. 179
Cell (619) 520-0010

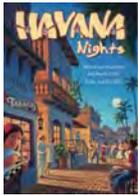
From: Rorie Johnston <rorie@escondidochamber.org>
Sent: Friday, June 9, 2017 4:14 PM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: Fwd: SDG&E Pipeline Safety and Reliability Project
Attachments: SDG&E PSRP 060817.pdf; SDG&E PSRP 060817 (2).pdf

I am resending the letter as the first scan did not copy correctly.

Sincerely,

Rorie Johnston
CEO/President

 **ESCONDIDO**
Chamber of Commerce
760-745-2125
rorie@escondidochamber.org



escondidochamber.org/annual-dinner

----- Forwarded message -----

From: Rorie Johnston <rorie@escondidochamber.org>
Date: Fri, Jun 9, 2017 at 12:53 PM
Subject: SDG&E Pipeline Safety and Reliability Project
To: SDgaspipeline@ene.com

Good Afternoon,

Please find attached, a letter addressed to CPUC, Robert Peterson in support of the SDG&E Pipeline Safety and Reliability Project.

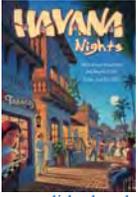
Sincerely,

Rorie Johnston
CEO/President



[760-745-2125](tel:760-745-2125)

rorie@escondidochamber.org



escondidochamber.org/annual-dinner

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Glenn Torrez
Prava ConstructionServices, Inc.



Robert Peterson
California Public Utilities Commission
RE: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome St., Suite 300
San Francisco, CA 94111

June 08, 2017

Dear Robert Peterson,

On behalf of the Escondido Chamber of Commerce members and the community, I would like to express our support for the Pipeline Safety and Reliability Project.

Since nearly 8 miles of the outdated 16-inch pipeline runs through Escondido, safety and reliability are of the utmost importance. Businesses and residents daily rely on this natural resource. With a new pipeline, future demand will be met and an aging source will be better utilized by reducing the pressure on a pipeline that was opened in 1949.

We support replacing the existing 1949 line with the proposed new line and urge CPUC to act expeditiously to bring the existing pipeline into compliance with safety standards. To that end, we urge CPUC to eliminate alternatives that do not make sense for Escondido or the San Diego region at large:

- Pressure-testing the line to comply with the law is not a good alternative. Pressure-testing is costly, requires taking the line out of service, which could mean service interruptions to customers, and will only extend the life of a line that has known manufacturing defects and anomalies.
- Relying on natural gas infrastructure located in Mexico to meet the region's energy needs is not a good alternative. Mexico's energy demands are rapidly evolving, and California has no guarantee that pipelines in Mexico will be available to meet San Diego's energy needs.

Sincerely,

A handwritten signature in black ink that reads 'Rorie Johnston'.

Rorie Johnston
CEO & President

From: [REDACTED]
Sent: Sunday, June 4, 2017 10:11 AM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: RE: Natural Gas Line 3602 (Application No. A.15-09-013)

Dear CPUC,

SDG&E's fracked gas pipeline project should be abandoned. The pipeline expansion is not needed. Natural Gas use is declining in the region. The likely conversion of ratepayer-financed infrastructure to export LNG would be contrary to California's climate goals and contrary to the public interest. Our parks are not intended to be sacrificed for utility profits. I also do not want to see the elimination of open space for the profit of utilities. There are so many open spaces being taken away from our family and we use these parks all the time.

Sincerely,

[REDACTED]



Virus-free [REDACTED]

From: [REDACTED]
Sent: Sunday, June 11, 2017 3:31 AM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: NO on R & S: SDG&E Pipeline Safety & Reliability project

Hi,

I am expressing my wish that I do NOT want the pipeline to go through Mira Mesa, so please vote NO to options R and S. I don't think another pipeline is even needed since there already is one in Scripps Ranch, but I definitely do not want one in Mira Mesa.

The traffic on Mira Mesa Blvd is already horrendous during rush hour. Those areas of Mira Mesa are already going to be part of the construction for the 230kV line undergrounding and the Pure Water Project pipeline. Mira Mesa can't function with three consecutive projects under construction in this highly traveled area.

Thank you,
[REDACTED] resident

Sent from my iPhone

From: [REDACTED]
Sent: Saturday, June 10, 2017 1:14 PM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: Mira Mesa says NO to the pipeline

All things considered, I wish to vote against the proposed pipeline. Traffic in Mira Mesa is already a nightmare. This would increase the problem tremendously~

Respectfully submitted,
[REDACTED]
East Mira Mesa resident

From: [REDACTED]
Sent: Saturday, June 10, 2017 4:02 PM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: NO to Options R and S – SDG&E Pipeline Safety & Reliability project

To whom it may concern,

We are residents in Mira Mesa.

We say NO to Options R and S. Those areas of Mira Mesa are already going to be part of the construction for the 230kV line undergrounding AND the Pure Water Project pipeline. Mira Mesa can't function with three consecutive projects under construction in this highly traveled area.

Thank you.

Sincerely,

[REDACTED]
Mira Mesa

From: Kurtz, Terry <Terry.Kurtz@naes.com>
Sent: Monday, June 12, 2017 10:00 AM
To: Rainbow Natural Gas Pipeline. CPUC
Cc: jhutson@orangegroveenergy.com
Subject: Pipeline Project Letter of Support
Attachments: CPUC Letter 061217.docx

Attached on behalf of the Orange Grove Energy Facility and NAES Corporation is our letter of support to Mr. Peterson for the proposed project. The 47 mile gas transmission pipeline project will contribute significantly to the reliability and safety of the electric transmission system in California. Please advise if additional information to support this important project is needed from our Orange Grove power generation plant.

Regards,

Terry
Terrence Kurtz
Senior Vice president – Plant Operations
NAES Corporation

Robert Peterson
California Public Utilities Commission
RE: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome St., Suite 300
San Francisco, CA 94111

June 12, 2017

Dear Mr. Peterson,

I am writing today on behalf of the Orange Grove Energy Facility located in Pala, CA. to express support for the Pipeline Safety & Reliability Project proposed by SDG&E. NAES is the third-party operator of OGE and has firsthand experience in operating and maintaining the facility. NAES is the world leader in power plant operations, as our organization operates over 130 power plants in various countries around the world.

The Orange Grove Energy Facility (OGE) is a 96 Megawatt electric generation facility, consisting of 2 natural gas-fired, simple cycle General Electric LM6000 combustion turbine-generators. OGE is a “peaking” plant and is called upon daily to support grid stability in balancing the SDG&E electric control area. **OGE is vital to the electrical grid, especially during critical times when renewables have subsided and the region is more dependent on natural gas generation.** OGE is a Black Start facility and thus plays a critical role in helping to facilitate a safe and timely grid recovery in the event of a blackout or shut down condition. To ensure reliable operations and properly support the grid, OGE requires dependable delivery of high-pressure transmission level natural gas service. There is no other source of fuel at OGE such as diesel fuel or liquified natural gas. OGE was developed and is owned by J-Power USA Development CO., LTD. NAES is contracted to operate the facility on behalf of the owners.

As you are aware, SDG&E submitted an application with the California Public Utilities Commission (CPUC) in August 2015 for a proposed 47-mile natural gas transmission pipeline that would enhance the safety and reliability of the natural gas system to better meet the needs of the residents, businesses and institutions in the entire San Diego region. The Pipeline Safety & Reliability Project (PSRP) would start at the Rainbow Metering Station near the Riverside County line and connect with SDG&E’s natural gas system on Marine Corps Air Station (MCAS) Miramar.

OGE understands the purpose of the project is to comply with the State of California and CPUC’s safety requirements following the fatal 2010 pipeline explosion in San Bruno. The new pipeline will replace an existing transmission line constructed in 1949, which no longer complies with state law, CPUC requirements or modern standards of safety. The new pipeline will replace this 70-year old line with a new, state-of-the-art line.

In addition to enhancing safety, the new pipeline will improve energy reliability throughout the San Diego region. SDG&E’s existing natural gas transmission system primarily relies on one pipeline for 90 percent of the natural gas delivered to San Diego every day and the older pipeline constructed in 1949 for the rest. The new pipeline would replace the smaller, aging line with a larger pipeline constructed with state-of-the-art materials and technology. The proposed pipeline would reduce the region’s overdependence on one primary pipeline, making the natural gas system more reliable and better able to handle the changing energy needs of homes and businesses in San Diego.

OGE agrees with SDG&E's recommendation that Line 1600 be removed from transmission service, and replaced with Line 3602. We believe this is a viable solution to help ensure both public safety and continued reliable fuel supply to one of the regions electrical grid's pieces of "critical infrastructure."

As part of the construction of the L3602, we believe the project should provide for the reconnection of OGE to high-pressure transmission level natural gas service by SDG&E. To be clear, we request that SDG&E be required to connect the OGE gas pipeline lateral to Line 3602 prior to converting Line 1600 to "distribution service".

In conclusion, I would like to reiterate our support for this project. OGE urges the CPUC to act expeditiously in working with SDG&E to help ensure that these pipelines provide a safe and reliable system to support the future energy needs of the San Diego region.

Sincerely,

Terrence Kurtz
Senior Vice President – Plant Operations
NAES Corporation
1180 NW Maple St., Suite 200
Issaquah, Washington 98027

From: [REDACTED]
Sent: Sunday, June 4, 2017 9:45 PM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: NO to Fracking!!! 😊

Dear CPUC,

SDG&E's fracked gas pipeline project in the area of Mission Trails Park must be abandoned! The pipeline expansion is not needed. Natural Gas use is declining in the region. The likely conversion of ratepayer-financed infrastructure to export LNG would be contrary to California's climate goals and contrary to the public interest. Our parks are not intended to be sacrificed for utility profits. Join Governor Jerry Brown and other forward thinking, fact driven legislators regarding the massive benefits accorded to our great State by pursuing green energy projects.

As a voting resident in the area, I implore you to not allow fracking in our treasured space.

Thanks and sincerely,

[REDACTED]
Sent from my iPhone

From: Frank Landis
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: CNPSSD comments to Pipeline Safety and Reliability" Project – New Natural Gas Line 3602 (Application No. A.15-09-013)
Date: Monday, June 12, 2017 6:25:54 PM
Attachments: [CNPSSD Response to PSRP 20170612.pdf](#)

Dear Mr. Peterson,

Attached are scoping comments on the PSRP. Please let me know if you received them and can open the attachment.

Please also add this address to receive all notifications on this project.

Thank you.

Frank Landis
Conservation Chair,
CNPSSD

California Native Plant Society

San Diego Chapter of the California Native Plant Society
P O Box 121390
San Diego CA 92112-1390
conservation@cnpssd.org | www.cnpssd.org

June 12, 2017

Mr. Robert Peterson
California Public Utilities Commission
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111
SDgaspipeline@ene.com

RE: "Pipeline Safety and Reliability" Project – New Natural Gas Line 3602 (Application No. A.15-09-013)

Dear Mr. Peterson,

Thank you for the opportunity to comment on the draft of the San Diego Gas and Electric Company ("SDG&E") and Southern California Gas Company ("SCG") Pipeline Safety and Reliability Project – New Natural Gas Line 3602 and De-rating Line 1600 ("PSRP") and its associated Notice of Preparation ("NOP"). CNPS promotes sound plant science as the backbone of effective natural areas protection. We work closely with decision-makers, scientists, and local planners to advocate for well informed and environmentally friendly policies, regulations, and land management practices. Our focus is on California's native plants, the vegetation they form, and climate change as it affects both.

In this project, we support the No Project Option, and believe that the existing PSRP documentation, particularly with regards to damage to sensitive plants, sensitive habitat and to the greenhouse gas emissions impacts, are woefully inadequate. We are also appalled by some of the alternatives, and strongly encourage the project proponents to come up with less destructive alternatives.

Sensitive Plants

The alternatives that route a 36 inch pipeline through either Sycamore Canyon and Goodan Ranch Regional Parks (the "Rainbow to Santee Non-Miramar option") or through West Sycamore Canyon in Mission Trails Regional Park (the "Spring Canyon Firebreak" option). What could possibly go wrong with having a potentially leaky gas main running under a firebreak, aside from rendering the firebreak potentially explosive the event of a wildfire? **Actually, it would also further endanger state and federally endangered willow monardella (*Monardella viminea*), riparian forests, and vernal pools, among other things. These impacts must be analyzed and avoided, not mitigated: these parklands are a central**



Dedicated to the preservation of California native flora

part of the South County Multi-Species Conservation Program, so there is no other off-site place to mitigate damage to them. This is why these two alternatives are so undesirable.

The proposed MSRP would also seriously complicate revision of the Mission Trails Regional Plan, currently being written by the City of San Diego, since this would conflict with their trail construction, maintenance, and management ideas. **These impacts must be analyzed in coordination with the City of San Diego and mitigated for through a joint planning process.**

Since the majority of surveys were conducted during the drought, we hope that surveys were performed in 2016 to catch annual species that did not germinate in the last few years. Additionally, there is no restoration plan for mitigation for the 29-odd sensitive species for us to comment on. The EIR must contain a real restoration plan for all the plants and vegetation communities it plans to impact, rather than simply requiring that one be created.

Finally, significant core populations, such as the San Diego Goldenstar, should simply be avoided. Why is no alternative route shown? This project could easily force the listing of this species, and that is a serious impact.

Sensitive Habitats

It is difficult to tell how much vernal pool habitat will be affected, as Table 4.4-1 shows 0.3 acres while Table 4.4-4 shows 0.0 acres. This needs to be clarified. Additionally, five feet of fencing around a vernal pool is an inadequate buffer. The entire watershed of the vernal pool must be declared off limits. Heavy equipment is notorious for altering the hydrology in these pools, since they depend both on water seeping through clay soils and on overland flow, and tracks and compression from vehicles can devastate both. Furthermore, the fencing should be of a type that does not pierce the underlying hardpan that makes the vernal pools possible, and this needs to be further defined.

With regard to riparian vegetation, how does a project run under rivers, under Lake Hodges, through seasonal drainages and through parts of regional parks known for their riparian vegetation without causing significant wetland impacts? This is what the documents claim. We strongly recommend that better surveys be done (possibly now, as work such as wetland surveys were done in 2015 at the height of the drought), and that the impacts from all alternatives be very explicitly recorded. This is true not just for wetlands, but for uplands as well. The impacted acreage is extraordinarily low, and extraordinary claims require extraordinary evidence. Please properly document the vegetation impacts, work to avoid them, give the biological monitors the proper authority to deal with impacts, and include a detailed vegetation restoration plan as part of the EIR.

Greenhouse Gas Emissions

The central issue is that natural gas demand in California is going down in every sector except electricity generation. While generating electricity and insuring the reliability of the grid sounds important, natural gas is increasingly less essential for this task. On May 25, 2017, Patrick Lee, Sempra Energy vice president for major project controls, said at the 26th La Jolla Energy Conference, "I am speaking with confidence now. We have a solution now to adjust the intermittency of solar and wind energy that is no longer a technology challenge. Now it is an

economic decision. So installing a base load power plant is no longer your only option. You can now look at solar, wind and storage as alternatives, and still be able to manage the reliability of the grid. So that is the takeaway I would like you to have."¹

This is a critical point: burning natural gas is no longer the only option. **The PSRP must include a "no pipelines at all" option that analyzes how energy generated by burning natural gas can be generated using renewables, using Sempra's new alternative technology for managing base load without running base load plants powered by natural gas.**

The greenhouse gas emissions analysis is beyond pathetic, since the natural gas in the pipeline is a far more potent greenhouse gas than carbon dioxide, and the vast majority of natural gas in the lifespan of this project will either leak or be burned, becoming actually greenhouse gas emissions in the process. Yet the analysis accepted by the PUC looks only at the construction emissions. This is a dereliction of CEQA.

The PSRP should properly analyze and mitigate for all the natural gas flowing through the pipeline as well. All the pipeline gas burned is greenhouse gas. **If its impacts are not mitigated in construction of the pipeline, the PSRP MUST identify *all* of the places where these impacts will be mitigated, so that the greenhouse gas impacts from all the gas delivered will not fall through the cracks.** We suggest that a cumulative impacts analysis might be a reasonable approach to this.

Natural gas leaks and venting from the PSRP and all its alternatives MUST be analyzed in the greenhouse gas, and real mitigations must be included. Over 12,800,000,000 cubic feet of natural gas leaked from American pipelines between 2010 and 2015.² While we do not think the PSRP will leak 12,800,000,000 cubic feet itself, it will inevitably leak, and it is probably designed to vent to the atmosphere to relieve pressure issues. These are direct greenhouse gas emissions. SCG certainly has enough data to create a model of how much gas likely will be leaked both from existing and proposed pipelines. These data must be used in the EIR, which must also include mitigation measures related to detecting and stopping leaks, along with mitigations for the potent greenhouse gas leaked out of the pipelines.

Thirdly, the PSRP needs to discuss, in detail, how this massive movement of greenhouse gases will meet the State of California's rules on climate change, as well as San Diego County's Climate Action Plan (which is not even released yet) and the City of San Diego's Climate Action Plan, as well as any other Climate Action Plans or analogous documents governing the lands over which the PSRP and its alternatives travel.

Former Secretary of State John Kerry once asked, in relation to the Vietnam war, "How do you ask a man to be the last man to die for a mistake?" We in the environmental community are faced with an analogous problem with the PSRP. How does a company like SDG&E ask to build the last greenhouse gas pipeline, when Sempra's own executives now say that it is no longer necessary? California has pledged to go to 100% renewably generated energy. As inconvenient as that is, the problems this goal imposes are trivial when compared with what will happen to California under climate change. Our state is an intensely complicated, frighteningly

¹ <http://inewssource.org/2017/05/26/sempra-100-percent-renewables-pxise/> and <https://www.iamericas.org/lajolla/>, accessed June 12, 2017

² <http://www.hcn.org/articles/natural-gas-pipeline-incidents-scary-exacerbate-climate-change-methane>, accessed June 12, 2017

fragile place, and we cannot figure out how building a bigger pipeline, especially through parks, will make it any more resilient.

Thank you for taking these comments. Please keep CNPSSD informed of all developments with this project, at conservation@cnpsd.org and franklandis03@yahoo.com.

Sincerely,

A handwritten signature in blue ink that reads "Frank Landis". The signature is written in a cursive style and is placed on a light-colored rectangular background.

Frank Landis, PhD
Conservation Chair
California Native Plant Society, San Diego Chapter

From: [REDACTED]
Sent: Monday, June 5, 2017 4:14 PM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: PSRP Comments

Dear CPUC,

I, as a ratepayer to discourage the spending of over \$600 million for an unneeded gas pipeline.

I especially object to the optional route that would encroach on Open Space Preserves in Goodan Ranch, Sycamore Canyon Creek, the Stowe Trail through Fanita Ranch, Santee Lakes and Mission Trails Park. That option should never have been considered as it would destroy scenic wildlife habitat and endanger plants, animals and the public.

Demand for Natural Gas is falling in the region. The real purpose seems to be to set up exportation of LNG to Asia - at our expense!

This new SDG&E's gas pipeline project should be abandoned. The pipeline expansion is not needed. Natural Gas use is declining in the region. The likely conversion of ratepayer-financed infrastructure to export LNG would be contrary to California's climate goals and contrary to the public interest. Our parks and open space are not governmentally protected only to be sacrificed for utility profits

[REDACTED]

[REDACTED]

From: Thomas Lawson <Thomas@cngvc.org>
Sent: Wednesday, June 7, 2017 8:25 PM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: CNGVC Comments on the Pipeline Safety & Reliability Project
Attachments: CNGVC Pipeline Letter 6.7.17.pdf

Hi,

On behalf of the California Natural Gas Vehicle Coalition, I would like to submit the attached comments on the Pipeline Safety & Reliability Project.

Thank you.

Thomas Lawson, *President*
California Natural Gas Vehicle Coalition
1201 K St., Suite 1990
Sacramento, CA 95814
888-538-7036 office
916-529-6035 cell



June 7, 2017

Robert Peterson
California Public Utilities Commission
RE: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome St., Suite 300
San Francisco, CA 94111

Dear Robert Peterson:

The California Natural Gas Vehicles Coalition (CNGVC) would like to comment in support of SDG&E/SoCalGas' Pipeline Safety and Reliability Project (PSRP). CNGVC is an association of natural gas vehicle and engine manufacturers, utilities, fuel providers and fleet operators united in the belief that wider adoption of clean-running natural gas vehicles is key to helping California reduce greenhouse gas emissions, air pollution and petroleum dependence. PSRP is a leap forward in improving California's access to cleaner fuels, and preparing our infrastructure to support the latest in low-emission natural gas technology. We hope the Draft Environmental Impact Report will reflect our concerns and ensure the completion of the project in the safest manner possible.

Enhancing the safety and reliability of the natural gas transmission system is one of our top priorities. The San Diego region currently has only two pipelines, Line 3010 and the nearly 70-year-old Line 1600, to service 100% of their natural gas transport. If the region is required to rely on Line 3010 alone, San Diego would have to rely on gas from Mexico as a back-up, even though availability could be easily jeopardized by political instability or natural gas supply and infrastructure requirements outside of San Diego's control. The CPUC should not consider relying on foreign supplies of natural gas or infrastructure in place of our own energy independence. PSRP's construction of Line 3602 would ensure the transfer of American natural gas to California through a new modern pipeline in San Diego. In addition, the proposed pressure reductions for Line 1600 create safer operating conditions and reduce stress on the old pipeline. However, we advise against conducting a hydrotest on Line 1600 because it would place unnecessary pressure on the existing pipeline and it would not be prudent to try to extend its life beyond 70 years.

Expanding natural gas infrastructure with PSRP helps California reach its clean air goals with renewable natural gas (RNG). Natural gas vehicles support the needs of all types of fleets, even the largest heavy-duty trucks that cannot be powered by electricity. RNG can be injected and transported in Line 3602 and the existing natural gas infrastructure system, giving trucks increased access to fuel

with a significantly lower carbon load than diesel. Enabling the construction of more RNG stations with the pipeline incentivizes some of the highest polluting vehicles to switch to natural gas engines. Cummins Westport has developed a suite of heavy-duty natural gas engines that produces near-zero emissions and are 90% cleaner than the EPA NOx standard. Line 3602 is a step toward reducing dependence on petroleum-based fuels, and opening opportunities for RNG.

PSRP and CNGVC are working toward the same energy goals for California. Increasing access to cleaner fuels ensures that our state remains a leader in greenhouse gas emission reduction. Reliability of access through Line 3602 keeps our natural gas availability stable, and brings our infrastructure up to date with exciting innovations in RNG alternatives. We urge the CPUC to move forward with PSRP to promote safe and dependable natural gas transportation throughout the San Diego region.

Please don't hesitate to reach out to me, if you have any questions or concerns at thomas@cngvc.org or at 888-538-7036.

Sincerely,

A handwritten signature in black ink, appearing to read 'T. Lawson', with a horizontal line extending to the right.

Thomas Lawson
President, California Natural Gas Vehicle Coalition

From: Carol Legg <CLegg@poway.org>
Sent: Monday, June 12, 2017 11:03 AM
To: Rainbow Natural Gas Pipeline. CPUC
Cc: cdurckel@semprautilities.com; Barry Leonard; Dave Grosch; Jim Cunningham; John Mullin; Steve Vaus
Subject: Emailing - CPUC Pipeline Poway opposition letter 06-08-17.docx.pdf
Attachments: CPUC Pipeline Poway opposition letter 06-08-17.docx.pdf

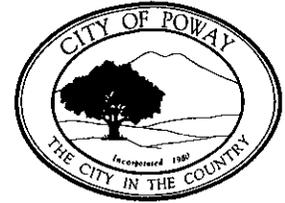
I have attached a letter from Poway Mayor Steve Vaus regarding the proposed SDG&E Gas pipeline route.

Regards,

Carol Legg
Executive Assistant to the City Manager
City of Poway
13325 Civic Center Drive
Poway, CA 92064
858-668-4504 voice
858-668-1205 fax

STEVE VAUS, Mayor
BARRY LEONARD, Deputy Mayor
JIM CUNNINGHAM, Councilmember
DAVE GROSCHE, Councilmember
JOHN MULLIN, Councilmember

CITY OF POWAY



June 12, 2017

Robert Peterson
California Public Utilities Commission
Re: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

Submitted via email to: SDgaspipeline@ene.com

Dear Mr. Peterson:

I am writing on behalf of the Poway City Council to comment on the CPUC Pipeline Safety and Reliability Project (A 1509013) during the public scoping period.

As currently designed, the pipeline (Line 3602) would travel approximately six miles through Poway. Along that route, the pipeline will pass within 500 feet of more than 2,000 Poway residences, over 350 businesses, ten churches, 14 schools, numerous retirement homes, retail centers, sports fields, and medical offices, a fire station, and the City's only hospital.

At the City Council meeting of June 6, 2017, the City Council expressed its support of San Diego Gas & Electric's investment in the safety and reliability of natural gas supplies to the region. The City Council's concern is with the proposed route on Pomerado Road in Poway. Council voted unanimously to express official opposition to the proposed route and strongly encourage consideration of an alternative route which will not negatively impact Poway. For example, two far more logical alignments exist: the existing route for Line 1600 or along Interstate 15.

Without shortchanging the opportunity for public input and comment, the City Council also supports an expedited review process for the Pipeline Safety and Reliability Project.

If you have any questions regarding the City Council's opposition, please contact me at (858) 668-4522 or via email at svaus@poway.org.

Sincerely,

A handwritten signature in black ink, appearing to read "Steve Vaus".

Steve Vaus
Mayor

C: Members of the City Council
Cameron Durckel, SDG&E

From: Tom Lemmon <tom@sdbuildingtrades.com>
Sent: Tuesday, June 13, 2017 10:36 AM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: Support letter
Attachments: Support for Pipeline Safety and Reliability Project.doc; ATT00001.htm



June 5, 2017

VIA US MAIL AND EMAIL

California Public Utilities Commission
c/o Ecology and Environment, Inc.
505 Sansome Street., Suite 300
San Francisco, CA 94111
SDgaspipeline@ene.com

Re: Support for Pipeline Safety and Reliability Project

To Whom It May Concern:

On behalf of the San Diego County Building & Construction Trades Council, we are writing to express our support for the Pipeline Safety & Reliability Project proposed by San Diego Gas & Electric Company. We believe this is a critical project for the San Diego region, and that the California Public Utilities Commission should move expeditiously to approve it.

First and foremost, this project is about public safety. SDG&E proposes to build a new 36-inch natural gas transmission pipeline so that an existing 16-inch pipeline constructed in 1949 can be taken out of transmission service and brought into compliance with safety standards and requirements that were enacted following the fatal 2010 pipeline rupture in San Bruno, California.

When it comes to safety, we stand shoulder-to-shoulder with SDG&E. San Diego's natural gas system should be brought into compliance with safety standards as soon as possible.

Besides public safety, a new pipeline will bring other critical benefits to the region. The project will improve the reliability and resilience of the natural gas system, supply the region with domestically produced energy, create quality jobs, and be built to best-in-class standards that protect the environment and local communities.

Just as it has on past projects, SDG&E has committed to using Union labor to build this pipeline. Projects that rely on Union labor are built by trained, skilled workers to high standards. Union labor projects also bring economic benefits to working families. This pipeline project alone will support hundreds of construction workers and their families.

We are concerned that the CPUC may be considering alternatives that include "not constructing a new pipeline". We understand that one of those alternative is to pressure-test the existing 16-inch line so that it can remain part of the transmission system. Another alternative is to lower the pressure of the existing

16-inch line and rely on natural gas that is imported into the SDG&E system from Mexico to meet San Diego's energy needs.

Both of these alternatives should be eliminated from further consideration. The San Diego region – with its significant population, economy, and military presence – should not be dependent on a non-state-of-the-art 1949 pipeline or foreign infrastructure to meet its energy needs. These alternatives are not reasonable or feasible and should be rejected.

It is time to invest in the safety and reliability of San Diego's natural gas system with a new pipeline for the region. We urge you to SDG&E's efforts to construct the Pipeline Safety & Reliability Project without any further delay.

Sincerely,



Tom Lemmon
Business Manager

cc: Senator Ben Hueso
Assemblymember Lorena Gonzalez Fletcher

From: [REDACTED]
Sent: Saturday, June 10, 2017 4:25 PM
To: Rainbow Natural Gas Pipeline. CPUC
Cc: [REDACTED]
Subject: Fw: SDG&E Proposed Pipeline

To CPUC
Attn.: Robert Peterson,

As a resident of Poway I am very concerned about the proposal to install a major gas pipeline under one of our busiest streets. The Pomerado Road corridor is the evacuation route for our city as well as the alternate route for I-15 in the event of serious congestion on the freeway.

I recently attended the CPUC Scoping Meeting at Alliant University and I have the following questions.

Demand:

What is the future demand for natural gas in SD county?
Is there data to support this estimate?
How much of the demand will be met using alternate energy sources, such as wind and solar?
Is there data to support this estimate?

Need:

Is there a demonstrated need for a new 36" high pressure gas line?
How will this new line directly benefit the citizens of San Diego County?

Cost:

What is the total estimated cost of this pipeline project?
What is the expected profit to SDG&E based on the above cost?
Why should the rate payers pay a direct profit to SDG&E for a construction project?

Existing 16" line, (Line 1600):

What is the estimated cost to pressure test the existing 16" line to ensure its safety?
What is the cost to repair/harden this line rather than install a new 36" line?
What is the impact to the citizens of SD County to fix the existing line?

Alternative Paths to Pomerado Road in Poway:

Via the I15 corridor from Lake Hodges to Miramar, (parallel to Pomerado road)
Via Highland Valley Road (northerly route) to SR 67 south,
Via SR 76 east to 78 south

In closing, if this project is truly about Safety and Reliability then why doesn't SDG&E spend less time and money to repair or replace the existing 1600 line? I am in favor of Safety and Reliability for an old gas line. I am not in favor of the installation of a new line that will affect our city without any benefit to our city.

Respectfully,



From: Julia Levin <jlevin@bioenergyca.org>
Sent: Monday, June 12, 2017 6:49 PM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: Bioenergy Association support for PSRP
Attachments: BAC support for PSRP (Jun2017).pdf

Dear Mr. Peterson,
Attached please find the Bioenergy Association of California's letter in support of the Pipeline Safety and Reliability Project.

Best regards,

Julia A. Levin
Executive Director
Bioenergy Association of California
510-610-1733
jlevin@bioenergyca.org
www.bioenergyca.org



June 12, 2017

Mr. Robert Peterson
California Public Utilities Commission
c/o Ecology and Environment, Inc.
505 Sansome St., Suite 300
San Francisco, CA 94111

RE: Pipeline Safety and Reliability Project

Dear Mr. Peterson:

I am writing on behalf of the Bioenergy Association of California to offer its support for the Pipeline Safety and Reliability Project (PSRP). The PSRP will help to meet the state's public safety goals by replacing 70-year old pipeline. It will also further the state's climate change and air quality goals by facilitating the use of low carbon and carbon negative pipeline biogas.

The Bioenergy Association of California represents more than 60 private companies, public agencies, local governments, utilities and others working to convert organic waste to energy. BAC has several members in San Diego County, including wastewater treatment facilities and bioenergy technology companies, that are developing additional biogas production facilities that would benefit from the PSRP.

The State's Short-Lived Climate Pollutant (SLCP) Strategy, adopted by the California Air Resources Board in March, underscores the importance of diverting organic waste from landfills, capturing landfill and wastewater biogas, and capturing methane emissions from dairies.¹ The SLCP Strategy urges the CPUC to facilitate pipeline injection of that gas for use as transportation fuel, heating, cooling and other purposes.² The Air Board has also determined that biogas used for transportation fuel is the single lowest carbon transportation fuel of any kind, sometimes even carbon negative.³

¹ *Short-Lived Climate Pollutant Reduction Strategy*, adopted by ARB March 2017. Available at: <https://www.arb.ca.gov/cc/shortlived/shortlived.htm>.

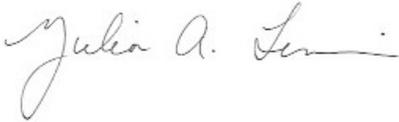
² *Id.* at page 3.

³ <https://www.arb.ca.gov/fuels/lcfs/lcfs.htm>.

Increasing the use of biogas in California will require updated the state's pipeline network to ensure that it is safe and reliable. That is exactly what the PSRP will do and, in the process, help to facilitate the transition to low carbon and renewable fuels.

For all these reasons, we urge the CPUC to approve the PSRP.

Sincerely,

A handwritten signature in cursive script that reads "Julia A. Levin". The signature is written in black ink and is positioned above the printed name and title.

Julia A. Levin
Executive Director

From: Courtney Mael <cmael@padre.org>
Sent: Friday, June 9, 2017 11:54 AM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: Padre Dam Municipal Water District comments

I attempted to submit these comments online but the page had an error so I am not sure if the comments were submitted.

Padre Dam Municipal Water District (Padre Dam) reviewed the proposed SDG&E project and determined that the Rainbow to Santee alternate alignment impacts our District. Please see our comments below.

- 1) The project CEQA must examine the impact to the existing projects along the proposed alignment including the Fanita Ranch Subdivision and Padre Dam's proposed Advanced Water Purification Project. Both of these projects will have utilities in the Fanita Parkway corridor.
- 2) The Advanced Water Purification project is designed to bring 30% of the water supply for this region and is currently scheduled to be in construction by 2019. Per the presentation at the Public Scoping meeting it would seem that the projects would be in construction at the same time and would cause an increased impact to the residents of Santee as well as to both of the project schedules.
- 3) The utility corridors of Fanita Parkway and Carlton Hills are already congested with many utilities including SDG&E gas and electric, cable, telephone, City of Santee Storm Drains, and Padre Dam water, sewer and recycled water mains. Meeting the required separation may not be feasible.
- 4) Santee Lakes owns and operates the Santee lakes Recreation Preserve and the camp ground and recreation businesses would be significantly impacted by the construction along Fanita Parkway.
- 5) Padre Dam recommends that the Rainbow to Santee alternate alignment is not used.

Thank you for the opportunity to comment. You are welcome to contact me if you have any questions.



Courtney Mael, PE
Engineering Manager
Development and Construction

- Desk (619) 258-4640
- Cell (858) 610-6235
- Fax (619) 449-9469
- Web www.padredam.org

All email to and from Padre Dam may be considered public information and may be disclosed upon request.

From: Mike McDowell <mikesdlodging@hotmail.com>
Sent: Saturday, June 10, 2017 7:37 PM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: Pipeline Safety & Reliability Project
Attachments: Lodging Industry Association Letter.pdf

Please see attached.

S A N D I E G O
Lodging Industry Association

May 30, 2017

Robert Peterson
California Public Utilities Commission
RE: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

To Whom it May Concern,

I am the CEO of the San Diego Lodging Industry Association and I would like to express my support for SDG&E's natural gas pipeline project.

San Diego is one of the top travel destinations in the country. With a record breaking 35 million tourists in 2016, the hospitality industry is tasked with ensuring that our region's visitors experience a pleasant stay in San Diego and ultimately choose to come back. Hotels and resorts throughout San Diego County accomplish this with the help of natural gas. It is a clean and cost-effective energy source that helps cook food, heat water and generate electricity.

Our region's hospitality industry relies on natural gas to provide exceptional service to the millions of tourists that visit us each year. As our region's future energy needs are considered, I'd like to underscore the value natural gas provides to our area businesses and residents. Please vote to approve this project to ensure that San Diego's access to natural gas is secure for decades to come.

Sincerely,



Mike McDowell
President & CEO
San Diego Lodging Industry Association

From: Mike McDowell <mikesdlodging@hotmail.com>
Sent: Saturday, June 10, 2017 7:35 PM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: Pipeline Safety & Reliability Project
Attachments: Atlas.pdf

Please see attached.



May 31, 2017

Robert Peterson
California Public Utilities Commission
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

RE: Pipeline Safety and Reliability Project

Dear Mr. Peterson,

I write this letter to express my support for SDG&E's new natural gas pipeline project, which if approved would significantly help businesses like mine stay competitive by keeping energy costs down.

San Diego's hospitality industry thrives on natural gas because it is clean, reliable and most importantly, cost-effective. As President of Atlas Hotels, which owns and operates the Town and Country Resort & Convention Center in Mission Valley, this could not be more important. We use natural gas in various capacities to enhance the experience of our customers. From reliably cooking food in our restaurants to affordably heating water for cleaning and sanitization purposes, natural gas is an effective tool for our daily operations.

As the CPUC considers this project, I urge leadership to keep in mind the many San Diego County businesses like mine that count on the reliable, clean and cost-effective attributes of natural gas. Jeopardizing access to this resource would potentially harm the economic wellbeing of countless individuals.

Sincerely,

A handwritten signature in blue ink, appearing to read 'C. Terry Brown', is written over the typed name.

C. Terry Brown
President, Atlas Hotels

From: Mike McGhee <mmcgree@sdfire.org>
Sent: Friday, June 9, 2017 3:39 PM
To: Rainbow Natural Gas Pipeline. CPUC
Cc: Alan Arrollado
Subject: San Diego City Firefighters Local 145 Letter of Support
Attachments: Letter of Endorsement SDGE Pipeline Safety Reliability Project to CPUC.pdf

Good afternoon,

Please find a letter of support from the Executive Board of San Diego City Firefighters Local 145.

Respectfully,

Mike McGhee

Director of Labor Relations
San Diego City Fire Fighters, I.A.F.F. Local 145
10405 San Diego Mission Road, Suite 201
San Diego, CA 92108
Office (619) 563-6161
Fax (619) 563-0351
Mobile (619) 379-6063

SAN DIEGO CITY
10405 SAN DIEGO MISSION RD., STE. 201
PHONE 619-563-6161



FIRE FIGHTERS
SAN DIEGO, CALIFORNIA 92108
FAX 619-563-0351

LOCAL 145, I.A.F.F.

Affiliated with: INTERNATIONAL ASSOCIATION OF FIRE FIGHTERS AFL-CIO, SAN DIEGO-IMPERIAL COUNTIES LABOR COUNCIL, CALIFORNIA LABOR FEDERATION, CALIFORNIA C.O.P.E., SAN DIEGO COUNTY C.O.P.E., CALIFORNIA PROFESSIONAL FIRE FIGHTER'S / P.A.C. 

June 9, 2017

Mr. Robert Peterson
California Public Utilities Commission
RE: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

SUBJ: Letter of Support - SDG&E Pipeline Safety & Reliability Project

Dear Mr. Peterson:

On behalf of the 900-plus men and women serving as San Diego City's firefighters, Local 145 provides this letter in support of San Diego Gas & Electric's Pipeline Safety & Reliability Project.

As the region's largest municipal fire department we are focused on providing high quality emergency services to the city's 1.3 million residents. Our ability to provide those critical and timely services relies on our ability to have a reliable source of energy, and a redundancy system in place should one line need to be taken out of service. Besides San Diego's pre-hospital emergency medical environment, many of San Diego's key industries will be severely crippled if we are subject to disruptions due to system limitations or reliance on emergency supplies from Mexico.

As you may know, San Diego is home to a robust life-sciences/bio-tech industry, military facilities & infrastructure, public hospitals, and three million-plus county residents. All of these industries need safe, independent and reliable energy, and a single pipeline will just not provide that for San Diego. As a result the Executive Board of Local 145 voted to support SDG&E's plan to replace the existing 1949 line with the proposed new line and we urge the CPUC to act expeditiously to bring the existing pipeline into compliance with safety standards.

We also urge the Commission to eliminate the alternatives that do not make sense to the San Diego region like relying on Mexico's natural gas infrastructure, or pressure testing the old 1949 line. These options do not provide the reliability necessary for San Diego's key industries, nor are they safe for San Diegans.

Thank you for your consideration.

Respectfully,

A handwritten signature in black ink, appearing to read 'AA', with a stylized flourish at the end.

Alan Arrollado
President

AA:mm

cc: Executive Board, Local 145
Mike McGhee, Director of Labor Relations
File

From: McHale, Sterling <Sterling.McHale@mail.house.gov>
Sent: Friday, June 9, 2017 10:06 AM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: Pipeline Safety and Reliability Project c/o Ecology and
Attachments: CA52DCSharp@mail.house.gov_20170607_152441.pdf

Good morning,

Please find attached to this email a letter from the San Diego Congressional Delegation. This letter has also been sent via post. Please let me know if you have any questions or comments.

Best,

Sterling McHale
Legislative Assistant

REP. SCOTT PETERS

San Diego | Coronado | Poway



Sign up for updates [HERE](#).

p. 202-225-0508

Congress of the United States
Washington, DC 20515

June 7, 2017

Robert Peterson
California Public Utilities Commission
505 Sansome St., Suite 300
San Francisco, CA 94111

RE: Pipeline Safety and Reliability Project c/o Ecology and Environment, Inc.

Dear Mr. Peterson:

We write in regard to the application for the Pipeline Safety & Reliability Project submitted by San Diego Gas & Electric (SDG&E) and Southern California Gas Company (SoCalGas). As San Diego's congressional delegation, we have an acute interest in this project, what it provides for the region and what impacts it may have on our communities, industry, and military. At this time, we support the California Public Utilities Commission (CPUC) moving forward in its review of the application and a thorough analysis of all pipeline options enclosed.

As you know, SDG&E and SoCalGas intend to construct a new natural gas pipeline that ensures delivery of gas from Rainbow Station to Southern San Diego County. Today, the San Diego region relies on one natural gas pipeline for 90 percent of its capacity, with the other ten percent transported through a 70-year-old pipeline that has reached the end of its viable life. We support development of a new pipeline because it will help ensure energy reliability, redundancy and most importantly, increased safety for the region.

Any new natural gas pipeline in San Diego must attain modern standards for safety – in line with state law and CPUC mandates, particularly considering the fatal events following the 2010 pipeline explosion in San Bruno, CA. Additionally, we expect to have a full understanding of potential impacts, not only during construction of any pipeline, but also for the life of the line and for operations and maintenance measures.

San Diego is the eighth largest city in the United States and second largest in California, and San Diego County is the fifth most populous county in the nation. San Diego's thriving economy includes one of the most important life sciences and biotechnology regions in the country and is home to the largest concentration of military in the world, with more than 60% of the ships in the U.S. Pacific Fleet and more than one-third of the combat power of the U.S. Marine Corps homeported here. There are more than 100,000 active duty Navy and Marine Corps personnel assigned to ships and bases in the San Diego region and an estimated \$25 billion in direct spending related to defense was directed to San Diego County in 2015.

Mr. Robert Peterson
June 7, 2017
Page 2

The San Diego region deserves and needs a complete and reliable energy infrastructure in order to properly serve residents, businesses, and critical national defense operations, which are expected to increase dramatically between now and 2025. These new needs will require dynamic and reliable energy generation. As you analyze future investments in the future of San Diego's energy infrastructure, please keep these considerations in mind. We appreciate a transparent and thorough process moving forward.

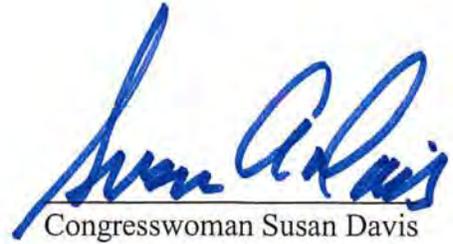
Sincerely,



Congressman Juan Vargas



Congressman Scott Peters



Congresswoman Susan Davis



Congressman Duncan Hunter



Congressman Darrell Issa

From:

Sent:

To:

[REDACTED]
Monday, June 12, 2017 12:29 AM

Rainbow Natural Gas Pipeline. CPUC

I agree with and support what the Sierra Club has submitted about this proposed pipeline.

I also agree with and support what the California Chaparral Institute said in their letter to Mr. Peterson of the CPUC regarding the pipeline.

From: Namara Mercer <nmerc@sdhma.com>
Sent: Monday, June 12, 2017 1:29 PM
To: Rainbow Natural Gas Pipeline. CPUC
Cc: Eustice Joe - Wyndham San Diego Bayside
Subject: Support Letter for SDGE Pipeline Safety & Reliability Project
Attachments: SDGE Support Letter.PDF

To whom it may concern,

Please see our attached letter in support of the SDG&E Pipeline Safety & Reliability Project.

Thank you for your consideration

Namara Mercer
Executive Director
San Diego County Hotel-Motel Association
619-224-2811 office
619-224-9314 fax
619-607-2143 cell

**SAN DIEGO COUNTY
HOTEL-MOTEL ASSOCIATION**

June 9, 2017

Mr. Robert Peterson
California Public Utilities Commission
RE: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome St., Suite 300
San Francisco, CA 94111

Dear Mr. Peterson:

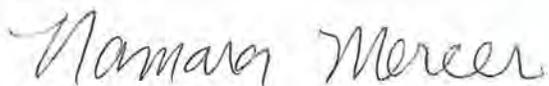
On behalf of the 200 plus members of the San Diego County Hotel-Motel Association, we urge the CPUC to approve the San Diego Gas & Electric Pipeline Safety and Reliability Project.

As with other business sectors, the hospitality industry relies heavily on natural gas to run its operations. The new pipeline will provide a safe, reliable, and long-term energy transmission system for our region.

We strongly support replacing the existing line built in 1949 with the proposed new line and ask the CPUC to act quickly to bring the existing pipeline into compliance with current safety standards.

Thank you for your consideration of our position.

Sincerely,



Namara Mercer
Executive Director

From: [REDACTED]
Sent: Wednesday, June 7, 2017 9:58 PM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: Natural Gas Pipe Line 3602 (Application No. A.15-09-013)

I say "NO" to an expansion of the gas pipeline running through Santee.

We don't need it and don't want it destroying our park land and having the fear of a gas explosion should an earthquake occur.

[REDACTED]

From: [REDACTED]
Sent: Saturday, June 10, 2017 1:54 PM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: Options R and S

I like to express my NO to Options R and S. Those areas of Mira Mesa are already going to be part of the construction for the 230kV line undergrounding AND the Pure Water Project pipeline. Mira Mesa would be too vulnerable with these three projects AND Miramar. This is not what's safest for the entire community. We should spread resources out for better continuity of operations in the event of anything catastrophic.

Respectfully,

[REDACTED]

[REDACTED]

From: [REDACTED]
Sent: Monday, June 5, 2017 5:26 PM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: SDG&E Proposed Gas Pipeline

To: Robert Peterson
California Public Utilities Commission
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

Re: Pipeline Safety and Reliability Project- New Natural GAs Line 3602 (Application No. A. 15-09-013)

Dear Mr. Peterson,

The gas pipeline proposed by SDG&E should be rejected for the following reasons:

- There is an immediate need to decrease our reliance on fossil fuels and transition to renewable energy.
- This proposed pipeline is unnecessary and would saddle the ratepayers with costs through 2063, totaling over \$600 Million.
Natural gas usage is in steep decline in California and SDG&E has determined that the existing pipeline can operate reliably for twenty more years. At the rate of renewable innovation, this form of energy may even be obsolete by then. It most certainly will be by 2063!

Ratepayers must NOT be asked to subsidize SDG&E plans which are not necessary and are counterproductive to California climate goals.

I urge you to reject this proposal for the new gas pipeline.

Thank you for your consideration.

Sincerely,

[REDACTED]

[REDACTED]

From: [REDACTED]
Sent: Monday, June 5, 2017 5:10 PM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: SDG&E proposed Gas Pipeline

To: Robert Peterson
California Public Utilities Commission
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 92111

Re: Pipeline Safety and Reliability Project- New Natural Gas Line 3602 (Application No. A 15-09-013)

Dear Mr. Peterson,

The gas pipeline proposed by SDG&E should be rejected for the following reasons:

-In the current climate, we have an immediate need to decrease our reliance on fossil fuels and transition to renewable energy.

-This proposed pipeline is unnecessary and would saddle the ratepayers with costs throughout 2063 totaling over \$600 Million. Natural gas usage is in steep decline in California and SDG&E has determined that the existing pipeline can operate reliably for twenty more years. This entire system could be obsolete by that time!

Ratepayers must not be asked to subsidize SDG&E plans which are not necessary and are counterproductive to California climate goals. I urge you to reject this proposal for a new gas pipeline.

Thank you for your consideration.

Sincerely,

[REDACTED]

[REDACTED]

From: [REDACTED]
Sent: Tuesday, June 6, 2017 3:24 PM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: Concerned homeowner and San Diego citizen

Dear CPUC,

SDG&E's fracked gas pipeline project should be abandoned. The pipeline expansion is not needed. Natural Gas use is declining in the region. The likely conversion of ratepayer-financed infrastructure to export LNG would be contrary to California's climate goals and contrary to the public interest. Our parks are not intended to be sacrifices for utility projects.

Sincerely,

[REDACTED]

From: [REDACTED]
Sent: Wednesday, June 7, 2017 9:14 PM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: No

I say no no no no

[REDACTED]

From: Margarette Morgan [REDACTED]
Sent: Monday, June 12, 2017 5:23 PM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: CPUC Notice of Preparation of an Environmental Impact Report and Public Scoping Meetings for SDG&E's Pipeline Safety and Reliability Project (PSRP) - New Natural Gas Line 3602 and De-rating Line 1600. San Diego County, California

Greetings,

I understand that the comments for Notice of Preparation (NOP) of an EIR on SDG&E's proposed Pipeling Safety & Reliability Project (PSRP) New Natural Gas Line 3602 and De-rating Line 1600 comment deadline is June 12, 2017 which is today.

As the Bonsall Community Sponsor Group, chair I would like to review the County of San Diego's response this afternoon when legal has completed their review and add our community comments. If an extension of time of one day is not allowed would you please add to your comment section this brief statement.

The Bonsall Community Sponsor Group would like to request a review of integrating a trail system over the approved pipeline that is located in the un-incorporated area of North County San Diego. If it could start at the Riverside/San Diego border to the City of Escondido and any other area along the pipeline that would allow recreational hiking and include the possibility of connecting with the County of San Diego Master Trails system or local cities master trails plans it would be appreciated.

Thank you for your consideration and the inclusion of our brief comments.

Margarette Morgan, Chair
Bonsall Community Sponsor Group

From: [REDACTED]
Sent: Monday, June 5, 2017 10:37 AM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: Natural Gas Line 3602

This email is to register my disagreement with SDG&E's proposed fracked gas pipeline project. The pipeline is not compatible with California's climate goals and is a serious risk to the future of my community. I deeply oppose the gas pipeline project.

Respectfully,

[REDACTED]

From: [REDACTED]
Sent: Monday, June 12, 2017 6:14 PM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: Natural Gas Line 3602 (Application No. A.15-09-013)

Dear CPUC,

I am opposed to the pipeline expansion.

As a SDG&E ratepayer, I am oppose to paying for projects that contribute to climate change. I want to see more renewal energy projects and more support for solar for our region.

Sincerely,

[REDACTED]

From: Mosley, Deborah <deborah.mosley@sdcounty.ca.gov>
Sent: Monday, June 12, 2017 12:33 PM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: Pipeline Safety and Reliability Project (A.15-09-013) Comment Letter
Attachments: Pipeline Comments Letter - Goodan PC 06-06-17 (3).pdf

Importance: High

Hello,

Please find attached the comment letter for the Pipeline Safety and Reliability Project (A.15-09-013) from the Goodan Ranch Policy Committee. The Committee is made up of representatives from the County of San Diego, California Department of Fish and Wildlife, City of Poway and City of Santee. A hard copy of the letter is also being mailed out today.

Please confirm receipt of this letter. If you have any questions please feel free to contact me at 858-966-1374 or at Deborah.Mosley@sdcounty.ca.gov.

Deborah Mosley

Acting Chief, Resource Management Division

County of San Diego, Parks and Recreation

5500 Overland Ave., Ste. 410

San Diego, CA. 92123

(858) 966-1374

www.sdparks.org





June 07, 2017

Robert Peterson
California Public Utilities Commission
RE: Pipeline Safety and Reliability Project:
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

Submitted via email to: SDgaspipeline@ene.com

Dear Mr. Peterson:

COMMENTS ON THE PIPELINE SAFETY AND RELIABILITY PROJECT (A1509013)

The Goodan Ranch Policy Committee, made up of representatives from the County of San Diego, California Department of Fish and Wildlife (CDFW), City of Poway and City of Santee appreciates the opportunity to comment on the CPUC Pipeline Safety and Reliability Project (A1509013) during the public scoping period. The Sycamore Canyon Goodan Ranch Preserve (Preserve) is owned and managed by the County of San Diego in partnership with the respective agencies. The Cities of Poway and Santee border the Preserve.

The Goodan Ranch Policy Committee is opposed to any alignments that are located through the Preserve, specifically the "Rainbow to Santee" and "Rainbow to Santee Non-Miramar" alternatives as proposed. Goodan Ranch has a rich history of habitat preservation, cultural resource protection and recreational uses. Additionally, endangered animals and plants such as the California Gnatcatcher and San Diego Thornmint are found in this Preserve. The proposed alternatives noted above would cause significant impacts to said resources and operations.

Any pipeline alignments and construction easements need to follow existing public roads to limit impacts to biological resources, cultural resources trails, and structures/facilities. Impacted public road(s) and other areas will need to be replaced or restored to the satisfaction of the local jurisdictions that are affected by the project.

In summary we believe that other alternatives are more realistic and we strongly urge CPUC not to pursue the proposed route through Goodan Ranch. If you have any

questions regarding these comments, please contact Deborah Mosley, Acting Chief Resource Management Division, at (858) 966-1374, or via email at deborah.mosley@sdcounty.ca.gov.

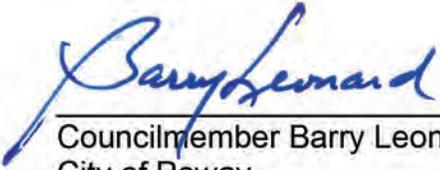
Sincerely,



Supervisor Dianne Jacob
County of San Diego



Tim Dillingham
California Department of Fish & Wildlife



Councilmember Barry Leonard
City of Poway



Councilmember Stephen Houlahan
City of Santee

cc: Brian Albright, County of San Diego
Ed Pert, California Department of Fish & Wildlife
Bill Maertz, City of Santee
Belinda Romero, City of Poway

From: [REDACTED]
Sent: Tuesday, June 6, 2017 5:49 PM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: Comment on Pipeline Safety and Reliability Project (Application No. A. 15-09-013_

Robert Peterson
California Public Utilities Commission
RE: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

RE: Pipeline Safety and Reliability Project (Application No. A.15-09-013)

Mr. Peterson:

I oppose both alternative routes of the proposed gas pipeline (Line 3602). Alternative routes through Mission Trails Regional Park and surrounding park expansion areas are not acceptable.

The first proposed alternative would disrupt the use of and degrade Mission Trails Regional Park's West Sycamore Area including parts of the new Stowe Trail, as well as the Goodan Ranch, and Fanita Ranch. These preserved areas and parklands are used by hundreds of visitors daily, including many of the 1200 members of the San Diego Mountain Biking Association. Maintaining the integrity of the preservation of these natural lands is imperative for existing wildlife, flora, and habitat as well as well-managed recreational opportunities.

The second proposed alternative is equally unacceptable and would degrade Mission Trails's Spring Canyon and East Fortuna Staging Area, and also East Elliott, part of MTRP's larger ecosystem. The park and its surrounding expansion area must be protected. A new gas pipeline does not belong in these natural habitats which are used recreationally by park visitors.

Please drop or oppose these alternative routes. Thank you.

[REDACTED]

From: [REDACTED]
Sent: Tuesday, June 6, 2017 4:14 PM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: Natural Gas Line 3602 (Application No. A. 15-09-130)

Dear CPUC,

SDG&E's fracked gas pipeline project should be abandoned. The pipeline expansion is not needed. Natural Gas use is declining in the region. The likely conversion of ratepayer-financed infrastructure to export LNG would be contrary to California's climate goals and contrary to the public interest. Our parks are not intended to be sacrificed for utility profits.

Sincerely,

[REDACTED]

From: [REDACTED]
Sent: Saturday, June 10, 2017 4:02 PM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: Gas Pipeline

My wife and I, [REDACTED] have been Poway residents since April, 1972 and strongly oppose the current proposed high pressure gas line through Poway and one block from our house. I did attend the public meeting on May 25th. To run this shallow 36 in. high pressure pipeline down the second busiest street and major thoroughfare in Poway is dangerous and irresponsible. Numerous schools, hospitals, medical centers, gas stations, businesses and residents are on this route down Pomerado Road.

From: [REDACTED]
Sent: Tuesday, June 6, 2017 1:10 PM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: RE: Natural Gas Line 3602 (Application No. A.15-09-013)

Dear CPUC,

SDG&E's fracked gas pipeline project should be abandoned. The pipeline expansion is not needed. Natural Gas use is declining in the region. The likely conversion of ratepayer-financed infrastructure to export LNG would be contrary to California's climate goals and contrary to the public interest. Our parks are not intended to be sacrificed for utility profits.

Sincerely,

[REDACTED]

From: Toni Padron <tpadron@carlsbad.org>
Sent: Thursday, June 8, 2017 5:35 PM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: FW: Message from KMBT_C280
Attachments: PSRP LETTER .pdf

Importance: High

Please accept our letter of Support!

“Don’t cry because it’s over, smile because it happened.” – Dr. Seuss

Toni Padron
Executive Vice President/COO
Carlsbad Chamber of Commerce
tpadron@carlsbad.org
(760)931-8400
(760)931-9153 FAX

From: ITADMIN
Sent: Thursday, June 08, 2017 2:34 PM
To: Toni Padron <tpadron@carlsbad.org>
Subject: Message from KMBT_C280



June 7, 2017

California Public Utilities Commission
RE: Re: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome St., Suite 300
San Francisco, CA 94111

To Whom It May Concern,

Thank you for the opportunity to comment on San Diego Gas & Electric's (SDG&E) Pipeline Safety and Reliability Project. The Carlsbad Chamber of Commerce is pleased to support this project in concept and appreciates the Commission's timely review of this application.

The Carlsbad Chamber of Commerce is the second largest chamber in San Diego County and the 10th largest within the state of California, with a membership of over 1,300 businesses employing over 65,000 individuals. It is critical that these businesses have reliable delivery of energy to ensure that they are able to best serve their customers.

We support SDG&E's goal of enhancing and maintaining the safety and reliability of our region's natural gas infrastructure to meet our current and future energy needs. More than 40 percent of the natural gas in San Diego is used to produce electricity, including when renewable resources like solar and wind are not available. The rest of the natural gas is used by San Diego residents, businesses, military and institutions for space heating, cooking, hot water, manufacturing and transportation. Currently, SDG&E's existing natural gas transmission system primarily relies on one pipeline for 90 percent of the natural gas delivered to San Diego every day and another older pipeline constructed in 1949 for the remaining natural gas. We support SDG&E's efforts to reduce the dependence on one primary transmission line to enhance our natural gas system.

The Carlsbad Chamber of Commerce supports the Pipeline Safety and Reliability Project in concept and the continued need for reliable natural gas infrastructure.

Sincerely,

A handwritten signature in blue ink, appearing to read "Ted Owen", is written over a faint, larger version of the signature.

Ted Owen, President/CEO
Carlsbad Chamber of Commerce

From: [REDACTED]
Sent: Tuesday, June 6, 2017 5:04 PM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: Pipeline Safety and Reliability Project

Greetings,

Regarding the "Pipeline Safety and Reliability Project" proposal to building a new line through Poway residential areas on Pomerado road, I am writing to indicate I am adamantly against this plan. This section of Pomerado road is highly populated with residences, schools, hospital/medical centers, retirement centers, etc. and the risk to endangering so many is much too great. Please use the existing transmission line path (build alongside?), along I-15, or the Black Mountain option to minimize the impact and risk to the local residents.

Thank you,

[REDACTED]

From: [REDACTED]
Sent: Tuesday, June 6, 2017 6:41 PM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: RE: Natural Gas Line 3602 (Application No. A.15-09-013)

[REDACTED]

June 6, 2017

RE: Natural Gas Line 3602 (Application No. A.15-09-013)

Dear CPUC,

I do hereby oppose SDG&E's fracked gas pipeline project and it should be abandoned. Natural Gas use is declining in the area. The pipeline expansion is not needed. The likely conversion of ratepayer-financed infrastructure to export LNG would be contrary to California's climate goals and contrary to the public interest. Utility profits that will take away of parks is not welcome in any form. The disruption of our lives with the construction of this pipeline would be very unwelcome.

Sincerely,

[REDACTED]

From: [REDACTED]
Sent: Thursday, June 8, 2017 11:45 AM
To: Rainbow Natural Gas Pipeline. CPUC
Cc: [REDACTED]@aol.com
Subject: [REDACTED] Family Comments on Natural Gasline 3602
Attachments: 20170608095024962.pdf

Dear Mr. Peterson and Members of the PUC:

We are enclosing with this e-mail our letter commenting on the Pipeline Safety and Reliability Project - natural gas line 3602 on behalf of the [REDACTED] family. We are also mailing this letter to you. We are requesting that the PUC not select the West Lilac route segment as part of the project for all of the reasons specified in our letter and the response we previously received from SDG&E. Thank you for considering our comments on this project.

Sincerely,

[REDACTED]

[REDACTED]

PRIVILEGED COMMUNICATION

The contents of this e-mail message, including any attachments, are intended solely for the use of the person to whom the e-mail was addressed. It contains information that may be protected by the attorney-client privilege, work-product doctrine, or other privileges, and may be restricted from disclosure by applicable state and federal law. If you are not the intended recipient of this message, be advised that any dissemination, distribution or use of the contents of this message is strictly prohibited. If you received this e-mail in error, please permanently delete all copies of the e-mail and any attached documentation. Thank you.

[REDACTED]

June 8, 2017

Sent Via U.S. Mail and E-mail to SDgaspipeline@ene.com

Robert Peterson
California Public Utilities Commission
505 Sansome St. Suite 300
San Francisco, Ca 94111

RE: SDG&E 36 inch Natural Gas Line from Riverside down to Poway and MCAS Miramar

Dear Mr. Peterson and Members of the PUC:

We represent the [REDACTED] family who own several subdivided properties along the apparent San Diego Gas & Electric route to build a 36 inch natural gas line from Riverside down to Poway and MCAS Miramar.

Specifically, the [REDACTED] family owns approximately 93.2 acres of land in [REDACTED] California designated as the West Lilac property described as [REDACTED] [REDACTED] [REDACTED]. On June 27, 2012 the County of San Diego approved a tentative map (TM 5276 RPL) dividing this property into 28 single-family lots ranging in size from 2.1 to 5.9 acres. The [REDACTED] family also owns what they refer to as the "[REDACTED] property" located [REDACTED] [REDACTED] containing approximately 21.44 acres previously legally divided into eight separate parcels. The [REDACTED] parcels consist of [REDACTED] [REDACTED].

We have recently been informed that SDG&E is asking the PUC for approval to build a 36 inch natural gas line from Riverside down to Poway and MCAS Miramar. As we understand it, SDG&E's preferred approach is to install the natural gas line along Old Highway 395. However, we also understand there is an alternative route being proposed that will extend west from Old Highway 395 along West Lilac Road and then turn south along Old Grove Road that runs east of the [REDACTED] property through the West Lilac property subdivision and then south between the [REDACTED] property and a property owned by [REDACTED].

This letter is to inform you that the [REDACTED] family does not want any of the 36 inch diameter natural gas line to be installed under either the West Lilac or the [REDACTED] subdivision properties. The [REDACTED] family is concerned about both impacts and liability issues associated with the installation of such a large gas line under its planned home sites.

We previously sent a letter to San Diego Gas & Electric Company on September 21, 2015 expressly objecting to the use of the West Lilac Road alternative. I am providing you with a copy of this September 21, 2015 letter. On October 20, 2015 we received a response from SDG&E indicating they did not select the West Lilac route segment because of concerns related to constructability associated with steep slopes along that segment and the fact this alternative would create additional impacts to agricultural land and residential land uses. I am providing you with a copy of the October 20, 2015 response we received from SDG&E.

We are therefore respectfully requesting that the Public Utility Commission not select the West Lilac Road alternative for all of the reasons enumerated in this letter and in the SDG&E response.

Sincerely,

[REDACTED]



Pipeline Safety and Reliability Project – New Natural Gas Line 3602 and De-rating Line 1600 (PSRP) CPUC Public Scoping Comment Form

Comments must be postmarked or received by **Monday, June 12, 2017**, to be considered in the Draft Environmental Impact Report. Comments may be submitted at the public scoping meetings, or mailed to the address below. Please note that comments and corresponding contact information received during the public scoping period will become part of the public record and may be made publicly available. Comments submitted anonymously will be accepted and considered.

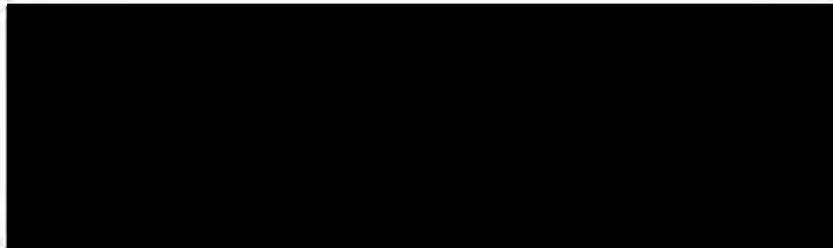
Please Print Clearly – Use the Other Side of This Form if Additional Space for Comment is Needed

Date: 6/8/17

Please include the attached letter on behalf of the [redacted] family as part of the public comments.

Name: [redacted]
Organiz: [redacted]
Mailing: [redacted]
City, St: [redacted]
Email A: [redacted]

Please place this completed form in a comment box at a CPUC PSRP public scoping meeting, or mail by June 12, 2017, to:
Robert Peterson
California Public Utilities Commission
RE: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome St., Suite 300
San Francisco, CA 94111
You may also submit comments online at <http://sandiegopipeline-psrp.com>
or email comments to SDgaspipeline@ene.com



September 21, 2015

Jennifer Quijano
San Diego Gas & Electric Company
8330 Century Park Court
San Diego, CA 92123

Sent Via Overnight Mail

RE: SDG&E 36 inch Natural Gas Line from Riverside down to Poway and MCAS Miramar

Dear Ms. Quijano:

We represent the [REDACTED] family who own several subdivided properties along the apparent San Diego Gas & Electric route to build a 36 inch natural gas line from Riverside down to Poway and MCAS Miramar.

Specifically, the [REDACTED] family owns approximately 93.2 acres of land in [REDACTED] California designated as the [REDACTED] property described as Tax Assessor's Parcel Nos. [REDACTED]

[REDACTED] On June 27, 2012 the County of San Diego approved a tentative map (TM 5276 RPL) dividing this property into 28 single-family lots ranging in size from 2.1 to 5.9 acres. The [REDACTED] family also owns what they refer to as the "[REDACTED] property" located south of the [REDACTED] property on [REDACTED] containing approximately 21.44 acres previously legally divided into eight separate parcels. The [REDACTED] parcels consist of parcel nos. [REDACTED]

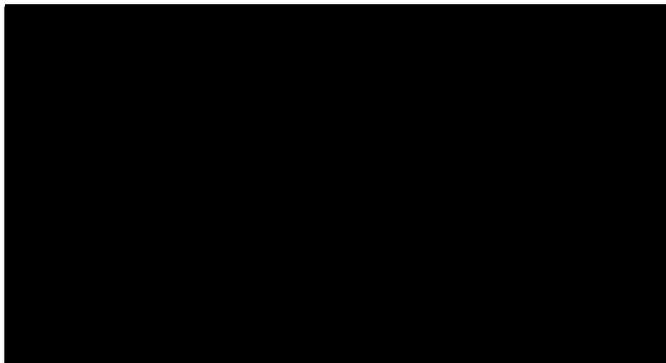
We have recently been informed that SDG&E is proposing to build a 36 inch natural gas line from Riverside down to Poway and MCAS Miramar. As we understand it, SDG&E's preferred approach is to install the natural gas line along Old Highway 395. However, we also understand there is an alternative route being proposed that will extend west from Old Highway 395 along West Lilac Road and then turn south along Old Grove Road that runs east of the [REDACTED] property through the [REDACTED] property subdivision and then south between the [REDACTED] property and a property owned by [REDACTED]

This letter is to inform you that the [REDACTED] family does not want any of the 36 inch diameter natural gas line to be installed under either the [REDACTED] or the [REDACTED] subdivision properties.

The [REDACTED] family is concerned about both impacts and liability issues associated with the installation of such a large gas line under its planned home sites.

Please promptly e-mail us plans showing both the preferred and alternative routes SDG&E is considering for the 36 inch natural gas line and inform us if any of these routes plan to use any of the [REDACTED] family properties for any of the route.

We understand that you are making a formal proposal on this pipeline to the PUC on September 30, 2015. Please promptly provide us with information on the agenda for this PUC hearing and the date, time, and place of the hearing. If you would like to discuss any of this with us please give us a call.





Erica L. Martin
Counsel
6550 Century Park East, CP32B
San Diego, CA 92123-1530
Tel: (619) 651-1813

VIA U.S. MAIL

October 20, 2015

[REDACTED]
[REDACTED]
[REDACTED]

Re: SDG&E and SoCal Gas 36 inch Natural Gas Line from Riverside County Line
down to Poway and MCAS Miramar

Dear Mr. [REDACTED]:

We received your letter dated September 23, 2015 in which you inquired on behalf of your clients, the [REDACTED] family, about a proposal by San Diego Gas & Electric Company (SDG&E) and Southern California Gas Company (SoCalGas) to construct a natural gas pipeline project.

On September 30, 2015, SDG&E and SoCal Gas filed a joint application (A.15-09-013) with the California Public Utilities Commission (CPUC) to construct a new, approximately 47-mile natural gas transmission pipeline from the existing Rainbow Metering Station near the Riverside County line to Marine Corps Air Station (MCAS) Miramar. The project is called the Pipeline Safety & Reliability Project (PSRP or Project). In the application, SDG&E and SoCal Gas identified a Proposed Route for the PSRP. In the process of identifying the Proposed Route, SDG&E and SoCal Gas evaluated several Route Segment Alternatives that they ultimately did not select for a variety of reasons, including issues with the constructability of the segment and potential impacts to the environment.

The [REDACTED] property" (parcel nos. [REDACTED]) and the "[REDACTED] property" (parcel nos. [REDACTED]) referenced in your letter are more than 300 feet away from the Proposed Route identified in the PSRP application. However, those parcels are adjacent to one of the Project's Route Segment Alternatives that is called the West Lilac Route Segment Alternative (see attached map). This Route Segment Alternative was not selected by SDG&E and SoCal Gas because of concerns related to constructability associated with steep slopes along that segment. In addition, the segment was not selected because, as compared to the Proposed Route, the analyses revealed that it would create additional impacts to agricultural land and residential land uses. Thank you for providing us with

October 20, 2015

Page 2

additional information about those parcels, which supports the decision not to select those Route Segment Alternatives.

Please be advised that the CPUC is in the process of independently reviewing the Project and will ultimately accept, reject or modify the Project and SDG&E and SoCal Gas' Proposed Route.

The application to construct PSRP is currently in the early stages of the CPUC's review process. As such, no hearings have been scheduled at this time. I encourage you to stay informed about the Project and to participate during the public comment period that will be part of the CPUC's environmental review process, which SDG&E and SoCalGas have requested begin in the first quarter of 2016. You can learn more about the Project and any relevant schedule information by visiting the project website at www.sdge.com/pipeline-project.

Thank you for your interest in our Project.

Very truly yours,



Erica L. Martin
Counsel

Encls.

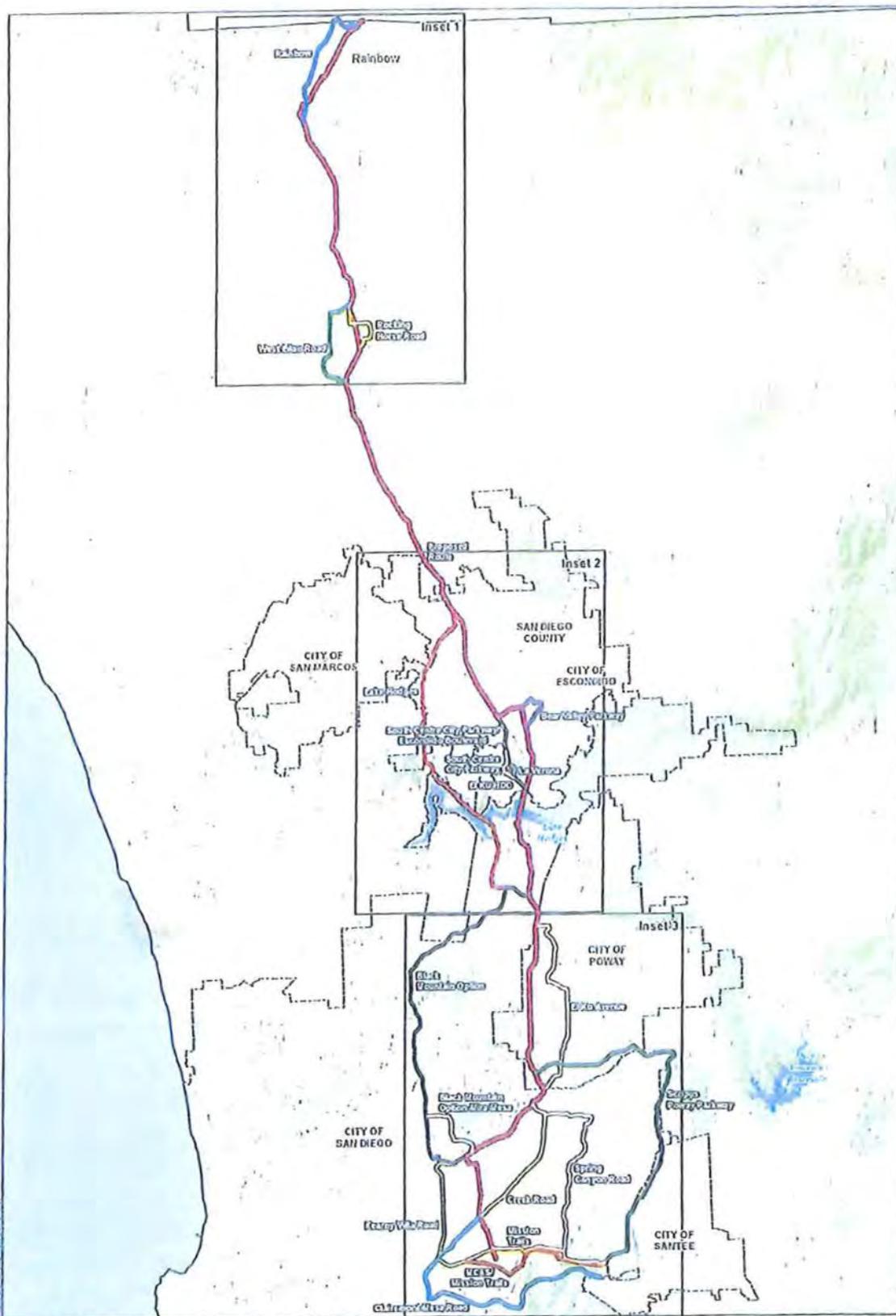
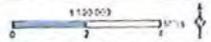


Figure 5-2: Proposed Project Route Segment Alternatives - Overview Map

Pipeline Safety & Reliability Project

- | | | | | |
|------------------|--|--------------------|---------------------------------|----------------------|
| Proposed Route | South Center City Parkway, Grand St. Boulevard | Dixie Avenue | Mission Trails | City/County Boundary |
| Route A | South Center City Parkway | Sagehen Parkway | CASM Mission Trails | Park |
| Rocky Flats Road | La Verde | Spring Canyon Road | Cabrillo Vista Road | M. Day |
| Westview Road | Lola Ridge | Oak Road | Black Mountain Option West Pass | Escondido Blvd |
| Poway Parkway | D F 1000 | Reynolds Road | East Mountain Option | |



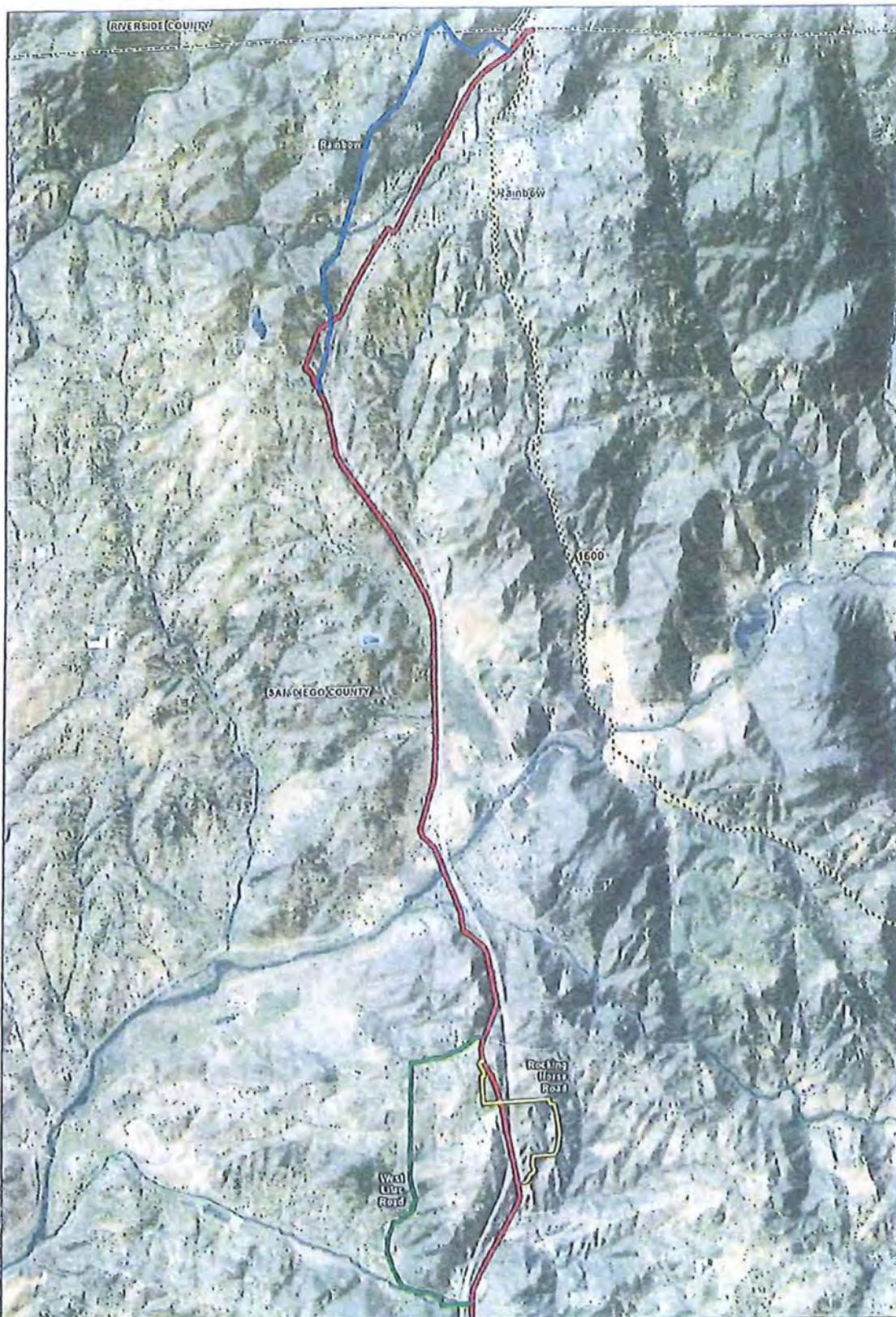


Figure 5-2: Proposed Project Route Segment Alternatives - Inset Map 1 of 3 **Pipeline Safety & Reliability Project**

Proposed Route	South Center City Parkway/Excess to Road	El Fin Avenue	Mission Falls	Existing Transmission Lines
Rainbow	South Center City Parkway	El Fin Parkway	WASS Mission Falls	City/County Boundary
Rocking Horse Road	La Victoria	Spring Canyon Road	Del Norte Mission Road	
Westlake Road	La Jolla Pkwy	Oak Road	Back Mountain Option West Mesa	
East Valley Parkway	El Fin CD	Pease Valley Road	Back Mountain Option	

1:50,000

From: [REDACTED]
Sent: Tuesday, June 6, 2017 7:20 AM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: Robert Peterson

Robert Peterson
California Public Utilities Commission
RE: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

RE: Pipeline Safety and Reliability Project (Application No. A.15-09-013)

I oppose both alternative routes of the proposed gas pipeline (Line 3602). Alternative routes through Mission Trails Regional Park and surrounding park expansion areas are not acceptable.

The first proposed alternative would disrupt the use of and degrade Mission Trails Regional Park's West Sycamore Area including parts of the new Stowe Trail, as well as the Goodan Ranch, and Fanita Ranch. These preserved areas and parklands are used by hundreds of visitors daily. Maintaining the integrity of the preservation of these natural lands is imperative for existing wildlife, flora, and habitat.

The second proposed alternative is equally unacceptable and would degrade Mission Trails's Spring Canyon and East Fortuna Staging Area, and also East Elliott, part of MTRP's larger ecosystem. The park and its surrounding expansion area must be protected. A new gas pipeline does not belong in these natural habitats which are used recreationally by park visitors.

I moved to Santee in 1979 because it is a beautiful community. I don't want it ruined by this project. This is way too close to water sources. This west end of Santee doesn't have electric lines making it another reason I love looking around to our mountains without pipelines.

Thank you,

[REDACTED]

From: [REDACTED]
Sent: Monday, June 5, 2017 10:20 PM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: The new 36" gas pipeline Project (A1509013)

As a resident of [REDACTED] and survivor of the 2007 Witch Creek Fire, I would like to comment on this project. It has been stated that the pipeline route effecting Rancho Bernardo is to be installed across Lake Hodges, closing the Highland Valley intersection at the Big Tree Farm and then south closing part of the road for construction. Pomerado Rd is our ONLY evacuation route and when we had the 2007 fire with 70+ mile an hour winds, large trees fell closing the north bound Pomerado Rd, so we were limited to the Southbound side. The north end of Rancho Bernardo is Heavily populated, including multi story condo units for 55+ of age residents. We have had fires recently in San Diego County, so to say, there is only one or two times a year we are at risk, is not correct. EVERYDAY WE ARE AT RISK.. and the thought of closing any part of Pomerado Rd, which would hamper the emergency vehicles and resident traffic is unthinkable. We have been told that this project would be expedient, well, that is what SDG&E said about their installation of new transformers and many of us were without power for 12+ hours, not the 6 hours we were told and City of SD adding another lane to the intersection of RB road and Bernardo Center. They said, several weeks, it is now 2 1/2 months and they aren't done yet. The crew found something underground that was not on the City Plan, so had to hand dig. If this could happen there, it could happen on Pomerado Rd. At the recent meeting, we asked about the other opinions for this pipeline, didn't get an answer that we could understand. Other than Highway 15, this is our North/South Route, but to reach Highway 15, all residents of North Rancho Bernardo have to travel on Pomerado Rd. Know that everyday traffic is disrupted on Pomerado, many thousand residents of this area are AT RISK.

With all the wind energy, I was rather shocked to think we needed this large gas line. Yes, I have told our "old" line from 1949 is not to your current standards, but we have had no notice of a problem and most of the area that is serviced by this line, to the best of our knowledge, is built out. So I don't understand why now? Could it be that the need for GAS in BAJA California is the REAL reason for this line. For years, the residents of Carlsbad, have heard that their gas generators are going to be closed down. Now, I hear from our City Representative, San Diego is building a new gas powered plant. WHY and WHERE, no one has answered this question. Can we get an answer?

I am writing this for our entire community and "The Trails" my community in North Rancho Bernardo. "The Trails" was hard hit by the 2007 fires, many are still rebuilding or were to emotional effected; selling their lots and moving away. Please rethink this route, there has to be a

better way.



From: Jim Peugh <peugh@cox.net>
Sent: Monday, June 12, 2017 1:33 AM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: FW: San Diego Audubon Society comments on San Diego Gas and Electric Pipeline Safety and Reliability New Natural Gas Line 3602 and De-Rating Line 1600 (Application No. A.15-09-013)
Attachments: SDGE pipeline comments, June 10, 2017.doc

Hello Mr. Peterson and California Public Utilities Commission staff,
Please accept the attached comments from the San Diego Audubon Society on the San Diego Gas and Electric Pipeline Safety and Reliability New Natural Gas Line 3602 and De-Rating Line 1600 (Application No. A.15-09-013). Also please verify that you have received and are able to open the attached comment letter and will include it in the record for this project.

Thanks,
Jim Peugh
Conservation Chair
San Diego Audubon Society
peugh@cox.net
619-224-4591

June 12, 2017

Mr. Robert Peterson
California Public Utilities Commission
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111
via email: <http://sdgaspipeline.cores.ene.com/SubmitComment/>

RE: San Diego Gas and Electric Pipeline Safety and Reliability New Natural Gas Line 3602 and De-Rating Line 1600 (Application No. A.15-09-013)

Dear Public Utilities Commission Staff,

The San Diego Audubon Society Conservation Committee appreciates the opportunity to provide comments on the above referenced San Diego Gas and Electric (SDG&E) New Natural Gas Line 3602 Project. The San Diego Audubon Society is a staunch advocate of natural resource stewardship and wise environmental planning for the conservation of wildlife and their natural habitats. The San Diego Audubon Society shares the concerns expressed by several other local and regional conservation NGOs and is skeptical of the actual intent of this project. SDAS urges that SDGE thoroughly assess the following issues for the proposed project:

Alternatives: Recently several local media outlets have reported that senior management at Sempra Energy (SDG&E's parent company) have stating that the San Diego region could be fully supplied by renewable energy sources at present. We urge that the Commission seriously consider this environmentally superior alternative. We if that alternative is not adopted we urge that the Commission identify and analyze an alternative project that would be routed along public rights of way and/or through developed areas to reduce the project's environmental impacts.

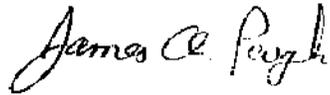
Cumulative impacts: We urge that the Commission consider the impacts of any "*other past, present, and reasonably foreseeable future actions*" that are likely to result from the project. It is vital that the assessment of impacts not piecemeal components of a larger project to transport natural gas for export to international markets (which would obviously fall outside of the project's stated intent of "safety and reliability").

Impacts to protected MSCP preserve lands, regional parks, and any other open space lands and sensitive habitats. It appears that the proposed project and various alternatives will have significant direct impacts on MSCP Preserve lands and other regional parklands including Sycamore Canyon, Goodan Ranch Preserve, and Mission Trails Regional Park. We urge that alternatives that will adversely impact wildlife habitat, wildlife itself, wildlife corridors, bird strikes, wildfires, recreational uses, aesthetics, and myriad other resources associated with these parks and preserves be fairly assessed and rejected to avoid these needless impacts.

Thank you for considering of our comments. Feel free to contact the San Diego Audubon Society if you have questions about our scoping concerns for the proposed project or if you wish

to discuss our knowledge of wildlife resources within the project area. Also, please include the San Diego Audubon Society, at the address in the letterhead, on the distribution list for future information and notices related to this application. In case of questions or follow-up, the undersigned can be reached at 619-224-4591 or peugh@cox.net.

Respectfully,

A handwritten signature in black ink that reads "James A. Peugh". The signature is written in a cursive style with a large, prominent initial "J".

James A. Peugh
Conservation Committee Chair

From: Lori Pike <lpike@escondido.org>
Sent: Tuesday, June 13, 2017 3:56 PM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: Pipeline Safety and Reliability Project
Attachments: 061217.RobertPeterson.pdf

Please find attached a letter from Mayor Abed RE: Pipeline Safety and Reliability Project.

Lori Pike

Executive Assistant to the City Manager

City of Escondido | City Manager

760-839-4590 | lpike@escondido.org



Confidentiality Statement: This communication contains information that may be confidential, and it may also be legally privileged or otherwise exempt from required disclosure. If you are not the intended recipient, please do not read, distribute or copy this communication and please delete the message from your computer.



Sam Abed, Mayor
201 North Broadway, Escondido, CA 92025
Phone: 760-839-4610 Fax: 760-839-4578

June 12, 2017

Robert Peterson
California Public Utilities Commission
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

RE: Pipeline Safety and Reliability Project

Dear Commissioner Peterson:

I am writing on behalf of the Escondido City Council regarding the San Diego Gas & Electric (SDG&E) Pipeline Safety & Reliability Project (PSRP).

Since the proposed route for the new pipeline passes through Escondido, we have been following the project closely. The PSRP will allow SDG&E to reduce the pressure of an existing 16-inch pipeline that was constructed in 1949. With nearly eight miles of that aging pipe in our community, we are eager to see the system modernized with state-of-the-art infrastructure. The safety of our residents is of paramount concern to us as elected leaders, as is having a reliable supply of natural gas for residents and businesses.

The necessity of a new, modern pipeline is critical for both safety and reliability in our region. I respectfully encourage you to move the PSRP application forward as expeditiously as possible.

Sincerely,

A handwritten signature in blue ink that reads "Sam Abed". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

Sam Abed
Mayor

cc: City Council Members

From: [REDACTED]
Sent: Sunday, June 11, 2017 10:26 PM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: Pipe Line threw Mira Mesa

Not wanted.

ATTACHMENT C

to the Supplemental Testimony of SDG&E and SoCalGas (February 2017)

Review of Risk Factors for Line 1600



Review of Risk Factors for Line 1600

Michael J. Rosenfeld, PE
February 20, 2017



0609-1701

Intentionally blank

Final Report

on

REVIEW OF RISK FACTORS FOR LINE 1600

to

SAN DIEGO GAS & ELECTRIC COMPANY

February 20, 2017

Prepared by



**Michael J. Rosenfeld, PE
Chief Engineer**

Approved by



**Carolyn E. Kolovich
Vice President, Pipeline**

**Kiefner and Associates, Inc.
4480 Bridgeway Avenue, Suite D
Columbus, OH 43219**

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Review of Risk Factors for Line 1600

Michael J. Rosenfeld, PE

INTRODUCTION

San Diego Gas & Electric (SDG&E) Line 1600 is a 16-inch outside diameter (OD) natural gas transmission pipeline constructed in 1949 and operating historically with a maximum allowable operating pressure (MAOP) of 800 psig. It runs approximately 50 miles from the Rainbow Metering Station in northern San Diego County into the city of San Diego. The pipeline primarily consists of flash welded seam pipe meeting API 5LX Grade X52, along with some pre-1970 electric-resistance-welded (ERW) seam pipe.

In response to the 2010 failure of a Pacific Gas & Electric (PG&E) 30-inch OD natural gas transmission pipeline in San Bruno, CA that was installed in 1956, the California Public Utilities Commission (CPUC) required that natural gas pipelines that lack documented hydrostatic pressure tests performed after installation which support the MAOP either be tested to modern standards or be replaced.¹ SDG&E has no documentary evidence that Line 1600 was hydrostatically pressure tested. In fact, Line 1600 was installed several years before the State of California required pressure testing as part of the pipeline commissioning process (in 1961),² and before such practices were adopted in the gas pipeline industry. SDG&E therefore faces a choice between pressure testing Line 1600 to present-day requirements or replacing it. Either response constitutes a major undertaking. Thus SDG&E is compelled to carry out thorough analyses of expected costs and benefits associated with these two choices and potential variations and alternatives in order to identify optimal courses of action.

This report provides an element of SDG&E's optimization analysis by comparing the risk benefits or disadvantages of two specific cases: (a) pressure testing Line 1600 and maintaining it in transmission service, versus (b) derating Line 1600 to distribution service without pressure testing it and replacing its transmission function with a new 36-inch OD pipeline designated Line 3602. Other variations of or alternatives to these paths to meeting CPUC requirements were not considered in this review. Also, this review did not examine matters related to cost, feasibility, or impact on providing continuously reliable service.

¹ CPUC Decision 11-06-017; California Public Utilities Code § 958.

² Public Utilities Commission of the State of California, General Order No. 112, Adopted Dec. 28, 1961.

CONCLUSIONS

A review and analysis of risk factors and a risk assessment were performed to evaluate whether it makes sense from a public risk standpoint to pressure test the existing Line 1600, or derate it to distribution service without pressure testing it and build a new 36-inch transmission pipeline, Line 3602. The two options were compared in terms of inherent resistance or susceptibility to certain integrity threats based on typical characteristics and attributes of the two pipelines, historical performance trends affecting similar pipelines, and a relative risk model widely used in the natural gas industry.

The review of risk factors concluded that Line 1600 has greater vulnerability or susceptibility to several key failure mechanisms compared with the proposed Line 3602 including:

- Brittle fracture
- Coating failure and corrosion
- Selective seam corrosion
- Seam manufacturing defects
- Mechanical damage from excavators
- Natural events
- Unknown condition of seams and welds

Susceptibility to several of these factors is reduced in Line 1600 by lowering the operating pressure to distribution service with hoop stress levels below 20% of specified minimum yield strength (SMYS).

The relative risk assessment assumed that the pipelines would be of roughly similar length, traverse similar areas of land use or development, and cross the same or similar hazard zones (e.g. rivers, slopes, soil liquefaction areas). The risk model resulted in risk scores for the option of building the proposed Line 3602 that were meaningfully lower than the option of testing Line 1600 and retaining it in transmission service. The model did not take credit for the reduction in consequences that would be associated with derating Line 1600 to distribution service.

While there is no evidence that Line 1600 is unsafe, there is much that is unknowable about the line, including the ability of girth welds to withstand loadings from natural events, and features in the longitudinal seams. Risk is proportional to what is unknown, at least in part. The proposed Line 3602 will not have such gaps in relevant integrity data. After testing, Line 1600

will still be 68 years old, with limited resistance to many of the above concerns compared with the proposed Line 3602.

BACKGROUND

San Diego Gas & Electric (SDG&E) Line 1600 is a 16-inch outside diameter (OD) natural gas transmission pipeline constructed in 1949 and operating historically with a maximum allowable operating pressure (MAOP) of 800 psig. It runs approximately 50 miles from the Rainbow Metering Station in northern San Diego County into the city of San Diego. SDG&E relies on Line 1600 for 10% of its gas supply and on another pipeline installed in 1961 for the remaining 90%.

The pipeline primarily consists of flash welded seam pipe along with some pre-1970 ERW seam pipe. Both types of pipe are generally regarded as potentially susceptible to integrity concerns related to the pipe manufacturing process, which will be discussed later in this report with respect to the flash-welded pipe as it comprises the largest proportion of the line.

Approximately 95% of the aggregate length of the line consists of pipe having a wall thickness of 0.250 inch, 2% has a wall thickness of 0.312 inch, and small segments have thicker wall. Approximately 97% of the aggregate length of the line consists of pipe designated as API 5LX³ Grade X52 having specified minimum yield strength (SMYS) of 52,000 psi. In 1949, API 5LX did not provide detailed specifications for grades stronger than X42 and having SMYS of 42,000 psi. Higher strength grades were permitted, subject to agreement between manufacturer and purchaser as to steel chemistry and mechanical properties. Small segments of the line consist of pipe grades having higher or lower strengths than X52.

At the historical operating pressure of 800 psig, the majority of the pipeline operates at a hoop stress of 25,600 psi or 49.2% of SMYS. SDG&E recently reduced the MAOP to 640 psig in order to increase the factor of safety pending completion of integrity assessments by internal inspection. If the line is derated to distribution service, the MAOP will be 320 psig and the hoop stress will be below 20% SMYS.

Line 1600 traverses a wide range of land uses, consisting of 10.0 miles of vacant land, 10.2 miles of agricultural land, 22.6 miles of residential land, 5.2 miles of commercial land, and 1.8 miles of recreational land.

³ American Petroleum Institute, "Specification for High-Test Line Pipe", API Standard 5LX, 2nd Edition, May 1949.

TECHNICAL ANALYSIS

The technical analysis consisted of the following steps:

- Review risks to the public posed by natural gas pipelines
- Review risk factors associated with vintage pipelines
- Identify specific risk factors associated with Line 1600 and compare them with proposed Line 3602
- Perform a risk assessment comparing SDG&E's options for responding to the CPUC directive

Discussion of Pipelines and Public Risk

SDG&E's transmission pipelines (including the existing Line 1600 and Line 3602 if it is constructed) are part of a nationwide network of approximately 301,000 miles of pipelines.⁴ These pipelines supply a natural gas distribution system consisting of approximately 2.2 million miles of gas distribution mains and service lines to 67.6 million natural gas customers, mostly households. The US transmission pipeline network alone, including 209,000 miles of hazardous liquid transmission pipelines, represents approximately two-thirds of the world's aggregate mileage of transmission pipelines in service and is enough to encircle Earth approximately 12 times. An exact count of the number of people in the US living or working in close proximity to natural gas transmission pipelines is unavailable, but it would be a relatively straightforward exercise to estimate that the number is several tens of millions.

Federal pipeline safety regulations⁵ define a natural gas transmission pipeline as a pipeline transporting natural gas at a hoop stress in excess of 20% of the pipe material SMYS, or one that, regardless of the operating stress level, transports gas within a storage field for the purpose of well injection or withdrawal and that is not a gathering line, or transports gas to a large volume customer that is not downstream of a distribution center at which gas supply and gas delivery are demarcated by a block valve. Functionally, a gas transmission pipeline transports gas from a source of supply to a distribution system or an end user.

Of necessity, in order to fulfill its function as suggested above, a transmission pipeline must extend cross-country across lands having a variety of characteristics and uses, including deserts, mountains, rivers, wetlands, farmlands, suburbs, commercial areas, roads and

⁴ <http://www.phmsa.dot.gov/pipeline/library/data-stats>, Annual Report Summary.

⁵ Code of Federal Regulations, Title 49 – Transportation, Part 192 – Transportation of Natural and Other Gas by Pipeline: Minimum Federal Safety Standards, 49 CFR 192, October 1, 2015.

highways, public parks, and urbanized areas. Transporting a flammable gas under pressure through people’s yards entails some risk. As stated by the Transportation Research Board’s study on transmission pipelines and land use, “Risk can be mitigated but not eliminated”.⁶ Despite the potential risk, and the San Bruno incident notwithstanding, the industry does a creditable job of managing risk. This is indicated in Figure 1 by the steady decline in annual incidents involving fatalities or injuries caused by all categories of pipelines over time (of which gas transmission pipelines comprise approximately 11%), and in Figure 2 by the very low average numbers of annual fatalities associated with natural gas transmission pipelines in particular.

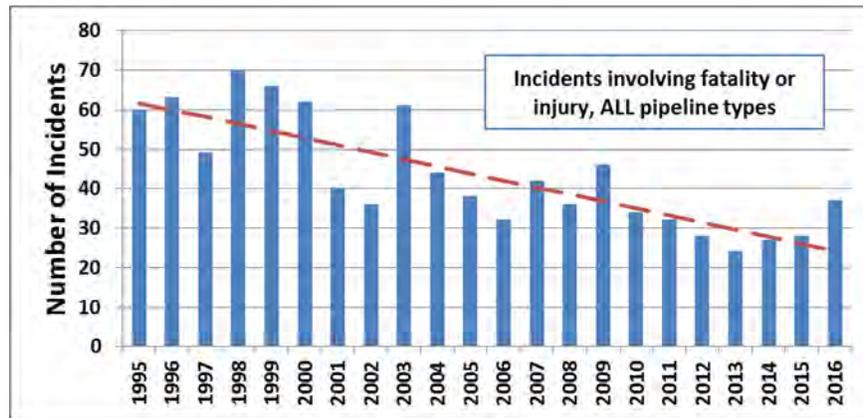


Figure 1. Serious Gas Transmission Pipeline Incidents, 1995-2016

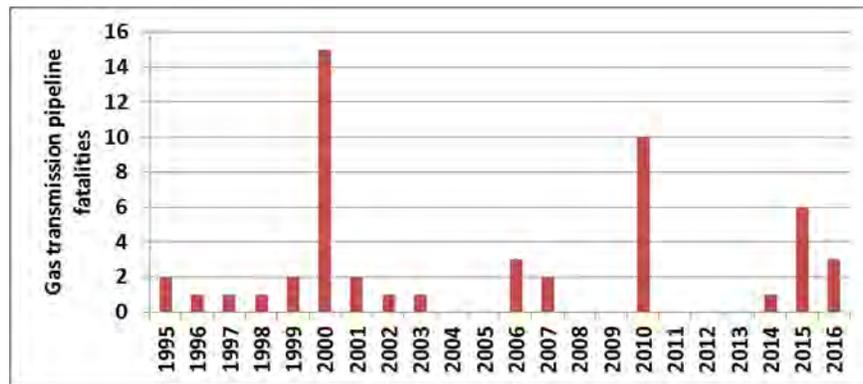


Figure 2. Fatalities Caused by Gas Transmission Pipelines, 1995-2016

Accounting for the expected size of population exposed to gas transmission pipelines, the pipelines pose a low societal risk compared with most other causes of accidental mortality (e.g.,

⁶ Transportation Research Board of the National Academies, Special Report 281, “Transmission Pipelines and Land Use: A Risk-Informed Approach”, 2004.

traffic accidents, food poisoning, falls).⁷ Nevertheless, the public and pipeline safety regulators understandably and reasonably expect that the risk must be managed and maintained as low as reasonably possible. There are several important ways to manage the risk. These include:

- Complying in all phases of design, construction, operation, and maintenance with applicable pipeline safety regulations and industry-developed good practices;
- Identifying segments of pipeline that could impact designated High Consequence Areas in the event of a pipeline rupture;
- Identifying potential threats to a pipeline's integrity considering the pipeline's design, construction, operating conditions, operating environment, and prior history;
- Performing risk assessment in order to identify risk-drivers and to determine locations for prioritizing risk mitigation;
- Conducting assessments of the pipeline condition with respect to integrity threats and in risk-prioritized locations as informed by the risk assessment;
- Developing mitigation strategies to lower risk.

The steps discussed above are the essential elements of "Integrity Management Planning", a formalized process specified under 49 CFR 192, Subpart O. Subpart O requires that "integrity threats" be identified. With reference to ASME B31.8S⁸, Subpart O lists and categorizes 21 specific integrity threats based on the causes of reported pipeline incidents. (Pipeline operators are also required to report incidents exceeding specified thresholds of severity.) Integrity threats are categorized as time-dependent if they can worsen over time if nothing is done about them (e.g., corrosion), time-stable if they do not worsen over time provided operating conditions do not change such that the stable condition is no longer stable (e.g., defects in material, welds, or equipment), or time-independent if they occur randomly (e.g., natural events or damage from excavators). The categorization with respect to time affects an operator's choices for integrity assessment and mitigation. Time-dependent threats must be reassessed for periodically; time-stable threats only require a one-time assessment provided conditions do not change over time; while time-independent threats may only be mitigated through prevention and surveillance.

In addition to following these practices, operators are compelled to continually seek opportunities to reduce risk even where a system is deemed to be safe and fit for its intended

⁷ National Safety Council, "Injury Facts 2016".

⁸ American Society of Mechanical Engineers, "Managing System Integrity of Gas Pipelines", Supplement to ASME B31.8, B31.8S-2016.

service, because safety is achievable at varying levels of risk. Risk may increase with time or it may vary widely depending on specific characteristics of the pipeline, all while the pipeline meets standards of safety.

Some factors that drive risk may be associated with the age of the pipeline. Pipeline age alone is not a determinant of a pipeline’s fitness for service, but a prudent operator will recognize that some characteristics or features associated with older vintage pipelines inherently pose greater risk than the corresponding characteristics in a modern pipeline. Furthermore, an absence of failures or problems in service up to this point in time due to any particular cause should not be interpreted to mean that a risk of failure due to that cause does not exist. Thus replacing older pipelines on a selective basis can lower risk. How this is the case with Line 1600 is discussed below.

Vintage Pipeline Concerns

Line 1600 is now 68 years old. It is 21 years older than the current average age of gas transmission pipelines in the US. The percentage of natural gas pipeline mileage in the US by decade of installation is shown in Figure 3.⁹ Approximately 11% of the pipeline infrastructure was installed prior to 1950. Thus Line 1600 is older than approximately 89% of natural gas transmission pipelines currently in service in the US today.

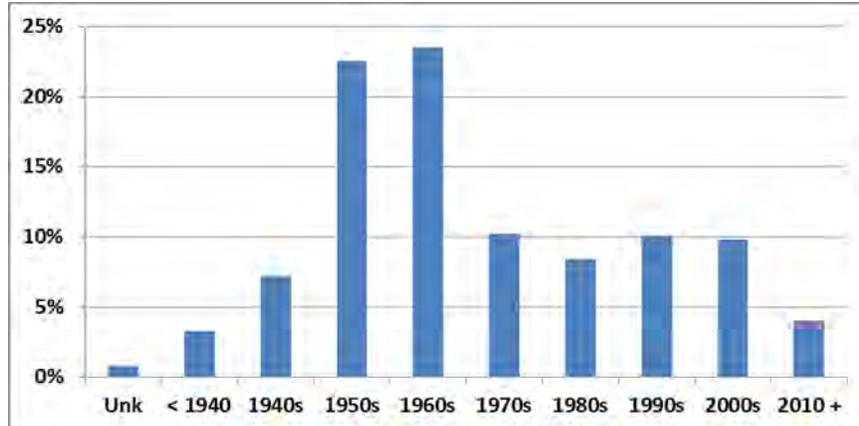


Figure 3. Percentage of Gas Transmission Pipelines by Installation Decade

The age of a pipeline is not a direct determinant of its fitness for service. Fitness for service is determined by how well the pipeline is maintained and defended against degradation or damage by various causes, mostly external in nature. However, age may indirectly affect susceptibility to specific degradation mechanisms owing to inherent limitations or inferiorities of technology associated with the pipeline era of construction, compared with the technology

⁹ <http://www.phmsa.dot.gov/pipeline/library/data-stats>, Annual Report Form 7000.2-1 submittals, 2015.

associated with modern pipelines.¹⁰ These technological areas include (in no particular order) fracture control, pipe manufacturing quality (particularly as it relates to longitudinal seams), girth weld quality and strength, resistance to natural events, resistance to mechanical damage, coatings performance, and capability for being inspected.

These inherent inferiorities do not automatically render older vintage pipelines unsafe; however they do increase susceptibility to or vulnerability to certain integrity threats or increase the difficulty of defending against those threats. This is reflected in higher rates of failure due to specific causes in older pipelines relative to more modern pipelines. Consequently it is accurate to state that a vintage pipeline poses a higher risk to the public than a new pipeline, even as it appears to be in a safe condition. Some vulnerabilities that can be considered applicable to Line 1600 are discussed below.

Fracture Control

At the time that Line 1600 was constructed, it was thought that the primary design concerns were adequate wall thickness and SMYS to operate with a hoop stress within specified limits according to the steel pipe design formula. It became shockingly apparent in 1960 that there could be more to pipeline design than specifying wall thickness and SMYS when a new Transwestern natural gas pipeline experienced a rupture that propagated 8.1 miles while being gas tested. About that time, a Michigan-Wisconsin gas pipeline experienced a 3-mile long rupture. The pipe involved in these incidents met requirements for new line pipe at that time.

Many years of research eventually determined that controlling long running fractures in gas pipelines requires that the pipe material exhibit ductile fracture properties of sufficient magnitude at the operating temperature. Since 1992, industry standards¹¹ have required specifying and testing gas transmission line pipe materials for 16-inch and larger pipe operating at a hoop stress of 40% SMYS or greater in order to assure that they possess adequate propagating fracture control properties.

The pipe installed in Line 1600 was not manufactured with fracture control in mind because the concept was not known at that time. While the pipe has good mechanical strength, its propagating fracture control properties do not meet modern criteria for gas transmission pipelines. Specifically, the temperature at which one would expect to observe 85% shear

¹⁰ Kiefner, J.F., and Rosenfeld, M.J., "The Role of Pipeline Age in Pipeline Safety", Interstate Natural Gas Association of America, INGAA Final Report No. 2012.04, November 8, 2012.

¹¹ American Society of Mechanical Engineers, "Gas Transmission and Distribution Piping Systems", Section 8, B31 Code for Pressure Piping, B31.8-1992 and subsequent editions.

appearance¹² in the full-scale pipe wall¹³ is well above the expected operating temperature of 55 degrees F. Testing of samples removed from Line 1600 show that the pipe body properties are consistent with those observed in Kiefner's data for A.O. Smith Corporation (AOS) flash welded pipe of vintages ranging from 1930 to 1967, Figure 4.

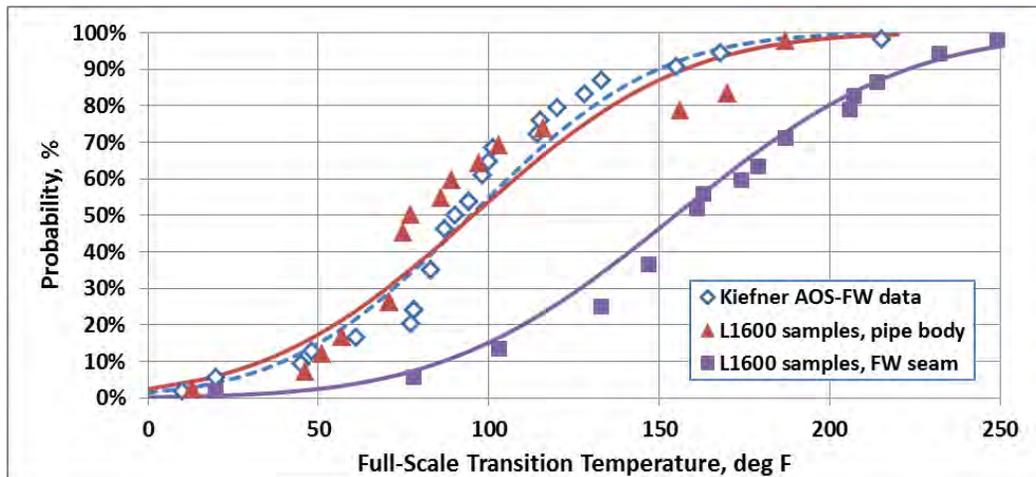


Figure 4. Flash Welded Pipe Fracture Propagation Transition Curves

The pipe body has approximately a 15% probability of exhibiting a fracture appearance transition temperature below an expected operating temperature of 55 degrees F, or put another way, there is an 85% probability that a rupture would propagate some distance. Moreover, there is approximately a 20% probability that the pipe exhibits a transition temperature more than 60 degrees F warmer than the expected operating temperature (or about 135 degrees F) in which case the pipe may be incapable of ductile fracture initiation at the operating temperature. This means that standard corrosion assessment methods would not be reliable for those pipes that cannot exhibit ductile fracture initiation. Charpy V-Notch (CVN) testing of the flash welded seams from the Line 1600 samples exhibited significantly higher transition temperatures than the pipe body, as shown in Figure 4. There is negligible probability of the seams exhibiting ductile propagating fracture characteristics at the expected operating temperature. The implication of these inherent properties of Line 1600 is that in the event of a failure, particularly in the seam but potentially even in the pipe body, a failure would result in a rupture and propagating brittle fracture, rather than a leak.

¹² A fracture surface that exhibits shear is said to be ductile. The 85% shear appearance temperature corresponds to the lowest temperature at which the full ductile fracture resistance would be expected to be observed in a notched impact test. Modern gas transmission line pipe is specified and manufactured to exhibit the fracture appearance transition temperature at or below the lowest expected service temperature.

¹³ The fracture appearance transition temperature is affected by metal thickness. The transition temperature exhibited by CVN specimens that are smaller than 70% of the pipe wall must be adjusted to account for this size effect in order to determine the transition temperature effective in the full-scale pipe wall dimension.

A propagating brittle fracture can be arrested if the material has sufficient fracture resistance, even in the nonductile condition. In the case of Line 1600 operating at 800 psig, the equivalent of 7 ft-lb absorbed impact energy from a full-size CVN coupon at operating temperature is estimated to be sufficient to arrest a propagating brittle fracture.¹⁴ In CVN notched impact tests of several Line 1600 specimens the material exhibited only 10% to 30% shear appearance at a temperature of 50 degrees F, which was substantially nonductile, but the fracture resistance was at least 10 ft-lb full-size equivalent meeting the brittle arrest criterion. The required brittle fracture arrest toughness varies with the square of the hoop stress, so at a reduced MAOP of 640 psig the requirement is less than 5 ft-lb and at the proposed distribution pressure of 320 psig it is only 1 ft-lb. The benefit of reducing the pressure in Line 1600 to distribution service is to greatly reduce the probability of a failure occurring as a rupture. This also reduces consequences in the event of a failure. However, at transmission service pressure, a rupture is more likely and could be expected to propagate the length of at least two pipe joints.

It is important to recognize that the considerations above do not render Line 1600 unsafe. There are thousands of miles of pipeline in service throughout the US that consist of pipe that was not manufactured with fracture control in mind. However, with such pipe, preventing a failure becomes even more important because of the resulting brittle fracture mode of failure. Reducing the operating stress to distribution levels greatly reduces the magnitude of a release, however.

Line 3602 would be constructed from pipe meeting the specifications of API 5L Grade X65, except for one mile of existing pipeline consisting of Grade X60. Modern Grade X65 (and X60) is a high-strength low-alloy (HSLA) steel consisting of a fine-grained microstructure. The pipe body material and seams can be expected to have high fracture toughness with a low transition temperature, and to be capable of meeting brittle and ductile fracture control requirements.

Pipe Manufacturing Defects

The technology of steelmaking and pipemaking has evolved significantly over the past 120 years. Many methods of steelmaking are no longer in use (such as the Bessemer process and open hearth). Likewise, many methods of pipe manufacturing involving certain seam-welding techniques are no longer in use, including lap welding, flash welding, single-submerged-arc welding, and low-frequency-welded electric-resistance welding (LF-ERW). Generally, manufacturing methods go by the wayside because newer developments make it possible to produce pipe faster and at lower cost. However, the industry now recognizes that pipe

¹⁴ Maxey, W.A., Kiefner, J.F., and Eiber, R.J., "Brittle Fracture Arrest in Gas Pipelines", NG-18 report No. 135, Pipeline Research Council, Inc. Catalog No. L51436, April 1983.

produced using some outmoded steelmaking and pipemaking practices can be susceptible to specific failure mechanisms that warrant special attention.

Certain types of vintage seams have been involved in serious pipeline failures. Consequently, integrity management planning requirements contained in 49 CFR 192, §192.917(e)(4) require that where certain seam types are present, the pipeline operator must consider that an integrity threat associated with the seams is present, and must perform an assessment using a technology capable of assessing seam integrity and seam corrosion. The regulation specifically names lap welded and LF-ERW seams, and any other seam types meeting the screening criteria in B31.8S Paragraphs A-4.3 and A-4.4. B31.8S Paragraph A-4.4 also names LF-ERW and flash welded seam pipe, among others. Thus the type of pipe installed in Line 1600 is of the type that the regulations specify must be presumed to be affected by the seam manufacturing defects integrity threat.

What is flash welded pipe?

It is worth briefly reviewing what flash welded pipe is and why it merits concern. Flash welded line pipe was manufactured by only one company, AOS, from 1930 until 1969. Flash welding is a joining process generally used in industrial manufacturing. Heating is produced by electrical resistance to produce fusion of base materials simultaneously over the entire area of abutting surfaces. The electrical flashing across a gap heats the material to the plastic state. The surfaces are then brought into contact and pressed together to forge a bond.¹⁵ Excess material extrudes lateral to the joint which must then be trimmed. The heating produces a heat affected zone. AOS applied the electric flash weld process to pipe production beginning in 1930. Pipes were produced in 40-foot lengths. Plate was formed in presses in a U and then O configuration. The flash weld process used a 1-million-amp current to heat the mating plate edges over the full length of the pipe.¹⁶ The edges were then bumped together to forge the joint and squeeze out oxides. The bumping action caused excess material to extrude radially to form an upset which was then trimmed not quite flush with the pipe interior and exterior surfaces. The process produced a seam having a characteristic square bead in a width approximately equal to the thickness of the pipe wall, after trimming. Figure 5 shows the external appearance of a flash welded seam on pipe in Line 1600, which is typical of AOS pipe made after 1940. Figure 6 shows the typical appearance of the flash welded seam in cross-section (figure not from Line 1600).¹⁷

¹⁵ <http://www.thefabricator.com/article/tubepipefabrication/comparing-flash-and-butt-welding>

¹⁶ A.O. Smith Company, Bulletin 576, 1945.

¹⁷ Rosenfeld, M.J., "Joint Efficiency Factors for A.O. Smith Line Pipe", www.kiefner.com, December 2012.

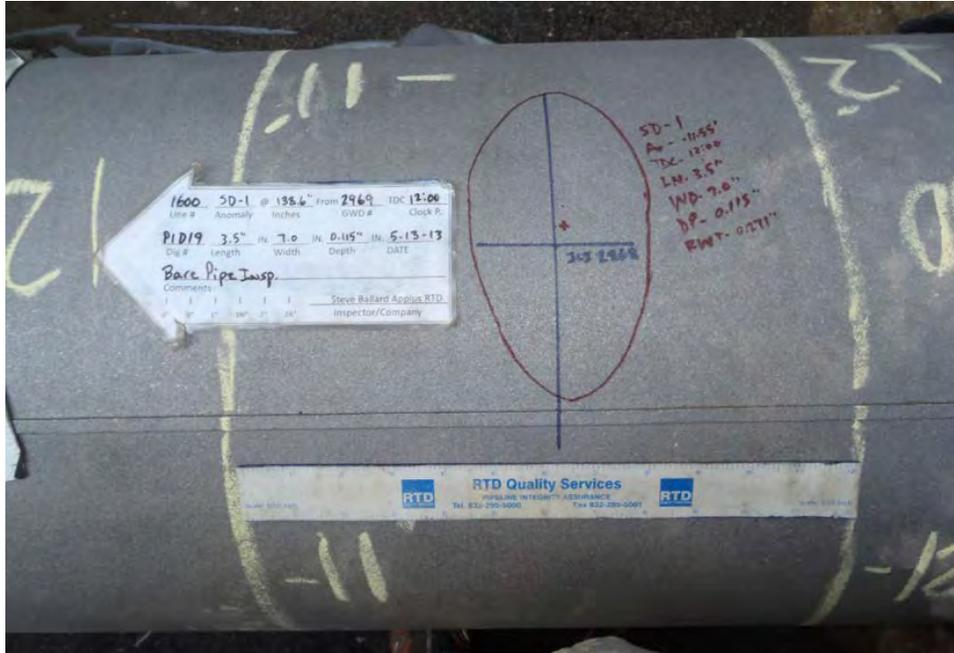


Figure 5. External Appearance of the Flash Welded Pipe Seam on Line 1600

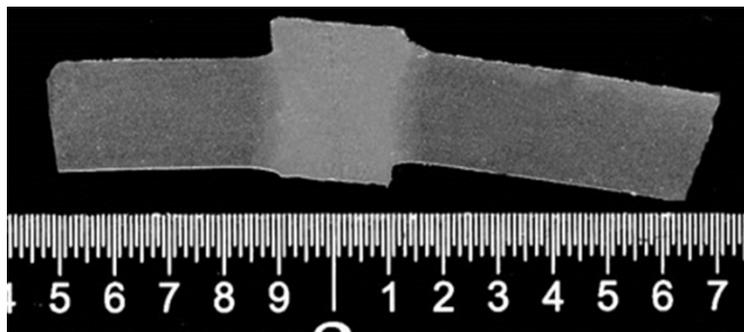


Figure 6. Typical Flash Welded Seam Cross Section, ca. 1946

Starting in 1930 in conjunction with implementing the flash welding process, AOS introduced hydraulic cold-expansion of the pipe (after seam welding). AOS stated in its promotional literature that it used “stronger steel” in their pipe.^{18,19} The cold expansion served both to control final dimensions and increase the strength of the pipe, and was a stringent test of the strength of the seam. It is unlikely that a severely defective seam could withstand cold expansion without failing. The amount of expansion was typically 1 to 1.7% of the diameter.

AOS also practiced hydrostatic pressure testing to a high percentage of the SMYS early on. Testing to 90% of SMYS became a standard AOS practice in 1940.²⁰ For many years, AOS was

¹⁸ Graham, W.T., “Pipe Line Welding”, Natural Gas, Nov. 1930.

¹⁹ A.O. Smith, Bulletin 576.

²⁰ Barkow, A.G., “History of Pipe Line Welding, Part I, 1700-1950”, Welding Journal, Vol. 56, No. 9, September 1977.

testing to higher pressure levels than the minimum test levels specified in API 5L or 5LX. Prior to 1942, API 5L only required mill pressure tests to 40% to 50% of SMYS. Starting in 1942, pressure testing of Grades A and B was increased to 60% SMYS; high strength grades of pipe were only required to be pressure tested to 85% SMYS in 1949, and large diameter pipe was not required to be pressure tested to 90% SMYS until 1956.²¹ Thus AOS mill testing practices significantly exceeded general industry requirements until 1956. Also, AOS performed burst tests of pipe as a measure of quality control, a practice that was never required in API 5L.²²

Line 3602 would be constructed using pipe manufactured to meet the present-day requirements of API 5L and 49 CFR 192. The current edition of API 5L requires pressure testing each pipe to a hoop stress of 90% of SMYS at the pipe mill. Pipe of the proposed size will be constructed using double-submerged-arc welded (DSAW) seams. DSAW seams have an excellent record and are not susceptible to the specific types of manufacturing flaws that can occur in flash welded seams.

Hook Cracks

It is likely that the combination of cold expansion and high-level pressure testing enabled AOS flash welded pipe to experience fewer seam-related problems than ERW pipe of similar vintages.²³ Nevertheless, industry experience has been that important seam flaws in the form of hook cracks have been frequently discovered in AOS flash welded seams, and numerous such defects have been identified by SDG&E in Line 1600. (The effectiveness of the inspection process will be discussed later in this report.) Hook cracks result from the use of steel having high sulfur content, which was common at the time Line 1600 was constructed. The sulfur combines with other elements such as manganese to form inclusions or laminations oriented with the layered microstructure in the plane of the plate. Such features in that orientation usually have no impact on the integrity of the pipe. However, if the features are near the edges of the skelp they become reoriented with the plastic flow of material in the upset region adjacent to the bondline of the flash welded seam. Reoriented, they act as a crack which can enlarge in service due to fatigue crack growth driven by operational pressure cycles, eventually resulting in a rupture. A large hook crack in a flash welded seam that extended by fatigue to failure is shown in Figure 7. (This defect is not from Line 1600.)

²¹ Kiefner, J.F., "Evaluating the Stability of Manufacturing and Construction Defects in Natural Gas Pipelines", Report to DOT and INGAA, Contract No. DTFAAC05P02120, April 26, 2007.

²² Barkow.

²³ Kiefner, J.F., and Clark, E.B., "History of Line Pipe Manufacturing in North America", ASME CRTD-Vol. 43, 1996.

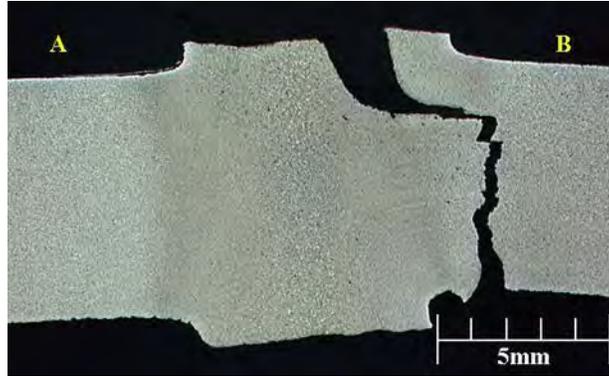


Figure 7. Cross Section of a Flash Welded Seam with a Hook Crack

Kiefner performed an analysis to determine the susceptibility of fatigue crack growth in Line 1600 due to pressure cycles acting on a defect such as a hook crack. The operational pressure fluctuations recorded over time were analyzed to determine the number and magnitude of pressure cycles. Initial flaws of a size that could have just survived the mill pressure test were postulated. The increment of crack growth with each cycle of pressure fluctuation was then determined in accordance with a recognized fatigue crack growth model until the flaw was estimated to be of a size that it could fail in service.²⁴ The result was a shortest predicted time to failure of 171 years, which suggests that seam fatigue should not be the primary focus of the integrity management plan for Line 1600.

While those results would appear to put concerns for hook cracks to rest, there are some residual concerns that cannot be easily addressed. One is that the estimates of time to failure relied on operating pressure data from 2015 and 2016 and assumed that the pipeline had always operated similarly. Early in its history the pipeline may have operated differently and in a manner that could be more severe from the fatigue standpoint. Secondly, a study of the causes of failures in ERW and flash welded seams performed for the Pipeline Hazardous Material Safety Administration (PHMSA)²⁵ found that commonly used ductile fracture initiation models gave unsatisfactory (i.e. overestimated) predictions of the failure stress levels of hook crack defects. There was essentially no correlation between predicted and actual failure stress levels. The PHMSA study also found that hook cracks oriented very close to low-toughness bondlines may fail spontaneously in a manner that cannot be predicted with present models and that such an interaction may have happened with a notorious pipeline incident involving ERW seams (the Dixie Pipe Line incident at Carmichael, Mississippi). Finally, multiple hook cracks may be present in parallel or aligned and in close proximity to each other. Recent

²⁴ Kiefner, J.F., Kolovich, C.E., Zelenak, P.A., and Wahjudi, T., "Estimating Fatigue Life for Pipeline Integrity Management", International Pipeline Conference, IPC04-0167, Calgary, October 4-8, 2004.

²⁵ Kiefner, J.F., and Kolovich, K.M., "ERW and Flash Weld Seam Failures", Subtask 1.4, U.S. Department of Transportation, Agreement No. DTPH56-11-T-000003, September 24, 2012.

research gives evidence that individual hook cracks can interact with other adjacent hook cracks so as to lead to failure in less time than would be expected with a single hook crack.²⁶ The most adverse combination is hook cracks occurring on the same side of the seam bondline but with one hook crack on the inside and the other on the outside pipe surfaces. With the geometric complexity presented by the flash welded seam bead, it is not entirely clear how well multiple hook cracks are characterized by either in-line inspection (ILI) or in-ditch non-destructive examination (NDE).

Line 3602 would be constructed from DSAW line pipe. DSAW seams are not susceptible to hook cracks.

Selective Seam Weld Corrosion

Flash welded seams are susceptible to an insidious form of corrosion known as selective seam weld corrosion (SSWC).²⁷ SSWC, also called preferential seam corrosion, is corrosion-caused metal loss, either internal or external, of or along an ERW or flash welded seam. The corrosion process attacks the seam bondline region at a higher rate than the surrounding body of the pipe, resulting in a corrosion crevice or groove aligned with the bondline. Figure 8 shows the typical external appearance of SSWC (at arrow). Figure 9 shows typical selective corrosion in cross section.



Figure 8. Typical external appearance of selective seam weld corrosion

²⁶ Ma, J., and Rosenfeld, M.J., "Threat/Anomaly Mitigation Decision-Making Process – Task 5: Deterministic and Probabilistic Approaches for Scheduling Mitigations of Crack-Like Anomalies", Interim Report, US DOT – PHMSA, DTPH5614H00005, July 13, 2015.

²⁷ Kiefner and Clark.



Figure 9. Selective seam weld corrosion viewed in cross section

Susceptibility to SSWC is enhanced by high sulfur content in the steel,^{28,29} similar to the steel used to make the pipe in Line 1600. Steel chemistry analyses performed on samples of pipe removed from Line 1600 indicated sulfur content between 0.02% and 0.05% by weight, which is ten times what would be present in modern line pipe steel. SSWC can evade detection by conventional magnetic ILI tools, but can usually be detected using circumferential magnetic-flux leakage (CMFL) tools. Making accurate measurements in the ditch of the depth of the SSWC groove can be difficult due to the narrow groove geometry and poor reference surface condition. The combination of SSWC and low toughness in the seam bondline, may create a serious defect that is more likely to cause a rupture than coincident corrosion in the body of the pipe, or cause a rupture at low hoop stress.³⁰ Conventional corrosion evaluation methods such as ASME B31G cannot be reliably used to evaluate SSWC if the flaw cannot be accurately sized or if the seam can exhibit low-toughness behavior. SDG&E has so far not reported the occurrence of SSWC on Line 1600, however the line should be regarded as susceptible based on its chemistry and seam type. With the potential for low seam toughness at the operating temperature, the occurrence of selective corrosion in Line 1600 could pose an integrity concern.

Line 3602 will be constructed using DSAW seam pipe and fusion-bonded epoxy (FBE) coating. It will not be susceptible to selective seam weld corrosion.

²⁸ Kato, C., Otaguro, Y., Kado, S., and Hisamatsu, Y., "Grooving Corrosion in Electric Resistance Welded Steel Pipe in Sea Water", *Corrosion Science*, vol. 18, 1978.

²⁹ Masamura, K., and Matsushima, I., "Grooving Corrosion of Electric Resistance Welded Steel Pipe in Water – Case Histories and Effects of Alloying Elements", Paper No. 75, NACE International Corrosion Forum, Toronto, April 6-10, 1981.

³⁰ Rosenfeld, M.J., and Fassett, R., "Study of Pipelines that Ruptured While Operating at a Hoop Stress Below 30% SMYS", Pipeline Pigging and Integrity Management Conference, Houston, February 13-14, 2013.

Other Pipe Manufacturing Defects

Pipe produced by AOS has been known to be affected by other undesirable conditions derived from manufacturing. One is excessive hard spots in the pipe body. AOS used pipe with high carbon and manganese content, which causes the steel to be readily hardenable when subjected to high cooling rates. Accidental local rapid quenching of the skelp while hot could then produce hard spots of varying sizes. Hard spots can be susceptible to hydrogen-induced cracking due to hydrogen generated by the cathodic protection system.

AOS pipe may also contain a type of flaw called a lamination. Laminations are the result of high sulfur content in the steel. The sulfur combines with manganese to form soft manganese sulfide inclusions which form very thin discontinuities within the layered microstructure of the plate as it is rolled to final thickness. Usually the laminations are not detrimental to the integrity of the pipe. The installation of hot taps or repairs that are welded to the pipe can encounter difficulties if they intersect a lamination. Also, hydrogen generated by the cathodic protection system can diffuse into the steel and become trapped in the layered discontinuity, leading to the formation of large blisters due to a buildup of pressure. Such blisters may crack and leak over time. SDG&E has not reported encountering this condition.

Corrosion Control

Pipelines buried in soil will corrode with time unless the pipe is externally coated. External coatings provide a primary barrier against corrosion, but coatings are imperfect and can be damaged by many common circumstances including: pipe handling during construction, contact against rocks in the ditch and backfill, stresses induced by expansion or contraction of soils, stresses from soil movement, contact from excavating equipment, or just weathering and deterioration over time. Therefore additional measures are required. Corrosion is an electrochemical process, meaning the flow of electrons is involved. Hence the corrosion process on the pipe exterior can be slowed or stopped by applying a voltage such that electrical current always flows onto the pipe surface where it is exposed to the soil environment at breaches in the coating. This is accomplished by a cathodic protection system utilizing external anodes and/or a rectified external current.

Corrosion inside the pipe may occur where free water collects in low spots where the flow of gas is not vigorous enough to push the water through the line. Cathodic protection is not effective for controlling corrosion inside the pipe. It may be controlled by one or more methods including diligent control of moisture levels in the gas entering the pipeline, use of corrosion inhibiting chemicals injected into the pipeline, or by use of internal cleaning tools propelled by the gas flow to sweep up collected water or residual solid matter deposited on the pipe bottom.

Line 1600 is coated with coal tar enamel. Coal tar enamel has a good performance record but it can weather, crack, disbond, peel, sag, or become penetrated over time. It also can partially shield the pipe from cathodic current. Coal tar enamel has been superseded by more modern coating technologies. The pipeline has been reliable from the standpoint of leaks due to internal and external corrosion. It is cathodically protected and is capable of being internally inspected to detect metal loss caused by corrosion.³¹ However, it seems reasonable to expect that the longevity and performance over time of coatings technology that dates from 1949 is likely to be inferior to that of modern coatings materials. Line 3602 would be coated using fusion-bonded epoxy (FBE), a reliable high-integrity coating system. FBE is resistant to disbonding from the pipe surface due to mechanical stress or cathodic overprotection. It also does not insulate or shield the pipe from cathodic current, so it is essentially fail-safe.

The Interstate Natural Gas Association of America (INGAA) pipeline age report determined that pipelines built prior to 1950 exhibit a rate of failure due to corrosion approximately 2.4 times greater than what would be expected based solely on their proportion of total pipeline mileage. On the other hand, modern pipelines constructed since 1990 exhibit on average only 0.25 times the rate expected based on their mileage pro-rata. Thus pre-1950 pipelines are approximately 9.5 times more likely to leak or fail due to corrosion than modern pipelines. A similar conclusion was arrived at in an American Petroleum Institute (API) study of the effects of pipeline age on the safety of petroleum pipelines.³² That study determined that pipelines built in the 1940s experience leaks due to corrosion at a rate of approximately 1.5 times that of pipelines built between 1970 and 1990 and about 14 times that of pipelines built after 1990. The findings from the API and INGAA studies are consistent, which makes sense considering natural gas and petroleum pipelines are constructed similarly.

Natural Events

Large scale natural events can adversely affect buried pipelines causing damage and sometimes failure of the pipe. Examples of natural events that could occur in San Diego County are listed in Table 1. While the precise mechanisms can vary, events such as those listed in Table 1 or their ensuing secondary effects lead to consistently similar outcomes, namely the introduction of large loads that can cause girth welds to crack or pull apart completely. Other outcomes are possible too. Where loadings in compression are sufficiently severe, the pipe section may buckle. A buckle is usually not an immediately catastrophic event in the way a girth weld separation is, but buckles often develop cracks and eventual leak. Cyclic or oscillatory

³¹ Line 1600 is not necessarily capable of accommodating all ILI tools. A recent inspection attempt using a new CMFL tool failed because the tool was unable to negotiate bends and wall thickness changes in the line. The previously used CMFL tool was superseded by the newer tool design and was no longer available. So currently Line 1600 can only be inspected using a conventional MFL tool.

³² Kiefner, J.F., and Trench, C.J., "Oil Pipeline Characteristics and Risk Factors: Illustrations from the Decade of Construction", American Petroleum Institute, December 2001.

movement caused by vortex-induced vibration in water currents flowing across an exposed pipe span can cause fatigue cracks to grow in girth welds which may then pull apart. Several notable pipeline failures have occurred due to that cause. More subtle ground movement, such as undermining by erosion, subsidence, or frost heave/thaw settlement (which is unlikely in San Diego) can introduce axial and bending stresses in the pipe that promote stress-corrosion cracking.

Table 1. Natural Event Hazards That Could Affect Line 1600

Event	Secondary Effect	Effect on Pipeline	Mode of Failure
Heavy rainfall	Flooding, riverbed scouring, exposure of pipeline to water current forces	Lateral displacement of pipeline	Girth weld separation
		Debris build up	Mechanical damage, girth weld separation
		Oscillation due to hydrodynamic effects	Fatigue crack growth leading to girth weld separation
	Slope instability	Axial and lateral displacement of pipeline	Buckling, girth weld separation
	Undermining	Subsidence	Buckling, girth weld cracking, stress corrosion cracking
Seismicity	Fault movement	Axial and lateral displacement of pipeline at a fault crossing	Girth weld cracking, possible separation
	Soil liquefaction	Axial and lateral displacement of pipeline	Buckling, girth weld separation
	Slope instability	Axial and lateral displacement of pipeline	Buckling, girth weld separation

Three sorts of incidents that are often categorized separately are in fact related to natural events: heavy rains and floods, earth movement, and girth weld failures. The reason why girth welds are included is that large external loads are the main cause of girth weld failures,³³ and natural events are the most likely source of large external loads acting on pipelines.

The INGAA pipeline age study determined that pipelines installed prior to 1950 had higher normalized rates of incidents in the heavy rains and floods, earth movement, and girth weld failure categories, while post-2000 pipelines had low normalized rates in the same categories. The ratio of normalized rates shows that pre-1950 pipelines have 1.7 to 3.3 times the rate of incidents due to those causes than do post-2000 pipelines, as shown in Table 2.

³³ The axial stress due to internal pressure in a buried pipeline is nominally only 30% of the hoop stress. Internal operating pressure alone cannot cause even a very weak girth weld to actually separate. Only external loadings can act to pull apart a girth weld.

Table 2. Vintage Pipeline Susceptibility to Failures Caused by Natural Events

Integrity Threat	<1950 Normalized	>2000 Normalized	Ratio <1950/>2000
Heavy rains/floods	2.23	0.67	3.3
Earth movement	1.28	0.77	1.7
Girth welds	1.67	0.80	2.1

The reasons for the increased susceptibility of older vintage pipelines to these three categories of integrity threat have to do with inherent limitations of older methods of pipeline construction, which have been significantly improved upon with modern construction methods. The first has to do with how pipelines used to be installed across flowing streams and rivers. Until 30 years ago (more or less) pipelines were installed across rivers in excavated trenches. The concrete weights were installed on top of the pipe to offset the buoyancy of the empty pipe and the pipe was lowered in and backfilled. Sometimes rock would be placed or dumped over the pipeline. It was difficult to excavate a trench very deeply below the river bottom. Flooding could scour away the river bed exposing the pipe, or if the river overflowed its banks it could carve a new channel exposing a portion of the pipeline that was not part of the actual river crossing and that had been buried to only a normal depth. Today, rivers are routinely crossed using horizontal directional drilling (HDD). An HDD pipeline river crossing is installed by pulling it through a borehole that subtends an arc located very deep below the river bed such that bottom scouring will not expose the pipe. In order to pull the pipe through the borehole the ends of the crossing must be positioned well away from the river banks laterally such that erosion of the stream or river banks will not expose the approach. The HDD pipe is usually heavier wall thickness than the normal construction as well. This installation technique provides better long-term protection for the pipeline and also eliminates the environmental damage caused by excavating a trench across a river. Line 1600 crosses several streams or rivers and was certainly installed in a trench that could be washed out, exposing the pipe. Line 3602 will be installed across rivers and streams using the HDD method.

The second important factor affecting susceptibility to the effects of flooding and soil movement is girth weld quality. As of 1949, radiographic inspection in the field was difficult and expensive. In fact, the technology had only just been introduced for inspecting pipeline girth welds in 1948 and there was a long period of adaptation, learning, and training on the part of the industry to properly take advantage of the technology.³⁴ At that time the practice was to cut a hole in the pipe to insert the radiological source, until it was concluded that patching the holes was more detrimental than leaving the welds uninspected. X-ray inspection could only be implemented with pipe 20 inches in diameter or larger.

³⁴ Barkow.

Welding quality is improved by inspection. The first workmanship standard based on radiography of pipeline girth welds was introduced in 1953, four years after Line 1600 was built. Workmanship standards did exist when Line 1600 was constructed but acceptance was usually based on visual examination or destructive examination of random cut-outs.³⁵ (Visual examination could include several observations capable of detecting a bad weld including burn-off of the electrode, fusion and penetration of the weld, formation and contour of the deposited bead, and sound of the arc. Preparation of the pipe ends for welding, and clamping the pipes to achieve good alignment, also contribute to weld quality. These practices were also just starting to become routine at the time of construction of Line 1600.) Today radiographic inspection of girth welds is a routine practice and can now be performed digitally which is useful for enhancing the image and for long-term retention of the inspection record. Also, where automated welding is practiced (typically with large-diameter long-distance pipelines), automated ultrasonic inspection is used. Sometimes advanced ultrasonic inspection supplements radiographic inspection for critical welds such as tie-ins or transition joints.

Electric arc welds from the era of Line 1600 and even earlier could exhibit favorable mechanical strength and ductility. Present day understanding, as informed by fracture mechanics, is that the ability of a girth weld to withstand large applied stresses is primarily governed by the presence and size of defects,^{36,37} i.e. the workmanship. Therefore, whether inspections were performed and to what criteria is the principle discriminator of welds that would be expected to perform well when subjected to significant loadings, e.g. when exposed to the effects of floods, soil movement, or seismic activity. The probability of a weld failing is then the probability of the weld containing defects combined with the probability of the high load event occurring. Thus the threat of girth weld failure can be considered an interacting integrity threat pair: welds of known low quality (or welds of undocumented quality because they were never inspected) and external loadings from natural events are each undesirable but potentially tolerable, but where the two are present together the probability of failure becomes high. This is the situation for Line 1600 wherever geotechnical hazards intersect the pipeline.

Mechanical Damage

Mechanical damage results from the pipe being struck by excavating equipment. The damage is in the form of a scrape or gouge, often within a shallow indentation. Mechanical damage, if severe, may result in immediate failure of the pipe. More often, the pipe initially withstands the damage which may then cause a failure weeks, months, or even years after the damage

³⁵ Amend, B., "Vintage Girth Weld Defect Assessment – Comprehensive Study", Contract PR-355-094502, Pipeline Research Council, Inc., March 5, 2010.

³⁶ Reed, R.P., McHenry, H.I., and Kasen, M.B., "A Fracture-Mechanics Evaluation of Flaws in Pipeline Girth Welds", Welding Research Council, Bulletin 245, January 1979.

³⁷ Lundin, C.D., "Fundamentals of Weld Discontinuities and Their Significance", Welding Research Council, Bulletin 295, June 1984.

occurred. In fact, mechanical damage is one of the most frequent causes of pipeline failure.³⁸ There is currently no completely reliable method for assessing the severity of mechanical damage. If it is discovered on a pipeline, it is usually considered to be injurious and requiring immediate repair.³⁹

The susceptibility of a pipeline to mechanical damage failure has been observed to be significantly greater for older vintage pipelines. The INGAA pipeline age study found that natural gas pipelines installed prior to 1950 were 4.1 times more likely to experience a failure due to being hit by a third-party excavator than pipelines installed after 2000, and 1.7 times more likely to rupture due to latent (previous) damage. The API pipeline age study observed that oil pipelines installed during the 1940s decade were approximately 3.8 times more likely to experience a failure due to being hit by a third-party excavator than pipelines installed after 1990.

The properties of the pipe strongly influence susceptibility to failure in the event that the pipeline is hit by an excavator. Testing and experience has shown that resistance to mechanical damage is proportional to the thickness, toughness, and ultimate tensile strength of the pipe material.^{40,41} Older vintage pipelines may exhibit reasonably high strength, but often do not possess the fracture toughness at the operating temperature or heavy wall thickness of modern pipelines. The various combinations of pipe wall thickness and grade present in Line 1600 and the proposed Line 3602 were evaluated for resistance to penetration by excavators, based on a probabilistic mechanics model.⁴² The results from applying that model are presented in Table 3. Table 3 shows that Line 1600 could be expected to be severely damaged by most pipeline excavators in use, whereas Line 3602 would resist penetration by almost any excavator.

³⁸ <http://www.phmsa.dot.gov/pipeline/library/data-stats/pipelineincidenttrends>

³⁹ Rosenfeld, M.J., Pepper, J.W., Lewis, K., "Basis of the New Criteria in ASME B31.8 for Prioritization and Repair of Mechanical Damage", Paper No. IPC2002-27122, International Pipeline Conference, Calgary, October, 2002.

⁴⁰ Maxey, W. A., "Outside Force Defect Behavior", Battelle Report to A.G.A. Pipeline Research Committee, Catalog No. L51518, August 15, 1986.

⁴¹ Spiekhout, J., Gresnigt, A. M., Koning, C., and Wildschut, H., "The Influence of Pipewall Thickness on Resistance to Damage of Gas Transmission Pipelines", NG-18/EPRG 6th Biennial Joint Technical Meeting on Line Pipe, September, 1985.

⁴² Chen, Q., and Nessim, M., "Reliability-based Prevention of Mechanical Damage to Pipelines", PRCI Catalog No. L51816, August 1999.

Table 3. Vulnerability of Line 1600 and Line 3602 to Excavator Damage

Pipe, OD x WT, inches	Grade	Penetration Force, lb	Excavator Weight, tons	Excavators that are Larger, pct.
Existing Line 1600				
16 x 0.250	X52	32,000	23 T	56%
16 x 0.312	X52	42,000	35 T	24%
16 x 0.250	X60	37,000	29 T	38%
16 x 0.250	X42	29,000	20 T	78%
Proposed Line 3602				
36 x 0.625	X65	96,000	147 T	0.03%
36 x 0.500	X60	72,000	86 T	1%

An important factor affecting the threat of mechanical damage is the intensity of land development activity adjacent to the pipeline. Older pipelines are more likely to have recent land development take place nearby that was not planned for when the pipeline route was selected and the line installed. Pipeline operators are required by law in California and all 50 states to participate in an excavation notification program that enables anyone wishing to dig to call a toll-free number (8-1-1) to request that all buried utilities (including water lines, electrical lines, cable or communications, not just pipelines) in the area of the planned excavation to be marked in advance. The operator of the buried utility has 48 hours to respond. It is also a state law that those planning to dig must request the marking in advance and wait for the buried utilities to be marked prior to digging. The number of marking requests (“tickets”) for excavations within 1,000 ft of Line 1600, tickets within 10 ft of Line 1600, and tickets requiring direct on-site supervision by SDG&E of excavation near Line 1600 for 2014 through 2016 are presented in Table 4. The intensity of excavation activity near Line 1600 shows no evidence of abating. This risk cannot be understated. Figure 10 shows prior mechanical damage on Line 1600 that was discovered by in-line inspection.

Table 4. Line Locate Requests near Line 1600 2014-2016

Year	Within 1,000 ft	Within 10 ft	Requiring Direct Supervision
2014	1833	65	16
2015	1596	43	27
2016	2003	52	18



Figure 10. Prior Mechanical Damage Discovered on Line 1600

Other factors external to the pipe may affect the likelihood of the pipeline being hit by an excavator in the first place. These include depth of cover, presence of signage or markers, and the accuracy of alignment maps. Older pipelines were often installed with shallower cover than is common practice today. In cultivated areas, plowing activity and wind erosion can reduce the cover over time. HDD installation methods are often used where a new pipeline must cross freeways and other land uses where excavation activity might be expected such that the pipeline depth is well below likely excavation depth.

Discussion of Testing and Inspection of Line 1600

SDG&E has no reliable records indicating that Line 1600 had been pressure tested following construction and prior to entering service, which is consistent with prevailing industry practices.⁴³ Hydrostatic pressure testing of cross-country pipelines was only first shown to be feasible and effective about a year later. Lacking such a test, SDG&E either must now test the pipeline or replace it in order to comply with the CPUC decision and California statute resulting from the San Bruno incident. For integrity management planning use, 49 CFR 192 recognizes in-line inspection as an acceptable method for assessing the integrity of pipelines covered by Subpart O, irrespective of whether the pipeline had or had not previously been pressure tested, provided the ILI tool is capable of assessing the condition of the pipeline with respect to applicable integrity threats, including seam defects. Unlike some pipelines of similar vintage,

⁴³ Rosenfeld, M.J. and Gailing, R.W., "Pressure Testing and Recordkeeping: Reconciling Historic Practices with New Requirements", Pipeline Pigging and Integrity Management Conference, Houston, TX, Feb. 14-15, 2013, and Journal of Pipeline Engineering, vol. 12, no. 1, March 2013.

Line 1600 is capable of being internally inspected using ILI tools (though not by all tool types). However, ILI has not been accepted by CPUC for responding to their orders to enhance the safety of pipelines not previously hydrostatically tested.

ILI tools today are complex and sophisticated instruments that are propelled through the pipeline by the flow of gas, and that can sense and record some conditions affecting the pipeline, depending on the design of the sensors installed in the tool. ILI can be more sensitive to some conditions or defects than hydrostatic testing. The types of ILI tools used with natural gas transmission pipelines are listed in Table 5. Not all technologies are available for all pipe sizes or pipeline configurations.

Table 5. ILI Tools Used with Natural Gas Transmission Pipelines

Tool type	Condition Assessed For
Caliper	Significant indentations and diameter restrictions
Geometry with inertial measurement	Same as caliper, plus slope and curvature
Longitudinal (conventional) magnetic flux leakage (MFL)	Internal or external metal loss due to corrosion, some capability for mechanical damage
Circumferential MFL (CMFL)	Selective seam corrosion, some capability for hook cracks
Electromagnetic acoustic transducer (EMAT)	Stress-corrosion cracking

SDG&E has internally inspected Line 1600 using caliper, conventional MFL, and CMFL tools. The CMFL tools are of particular interest in view of the vintage flash welded seams. SDG&E reported no findings of selective corrosion, and numerous indications of hook cracks. The presence and sizes of the flaws indicated by ILI were confirmed by NDE in the ditch using phased-array ultrasonic testing (PAUT). Many of the indicated flaws were then cut out and subjected to destructive examination in order to confirm the accuracy of the PAUT and to characterize the nature of the flaws. The destructive examination confirmed that the linear indications in the flash welded seam were hook cracks.

The CMFL ILI tool performed well in five important ways:

- a) a flaw of some type was present where it indicated something was there,
- b) it performed according to usual CMFL tool performance claims of 20% of the wall (a depth of 0.05 inch for this pipe),
- c) it discovered flaws that were much smaller than would cause the pipeline to fail,

- d) it discovered flaws that were smaller than could be discovered by a hydrostatic pressure test, and
- e) it indicated the sizes of the flaws reasonably accurately.

These points are illustrated in Figure 11 below.

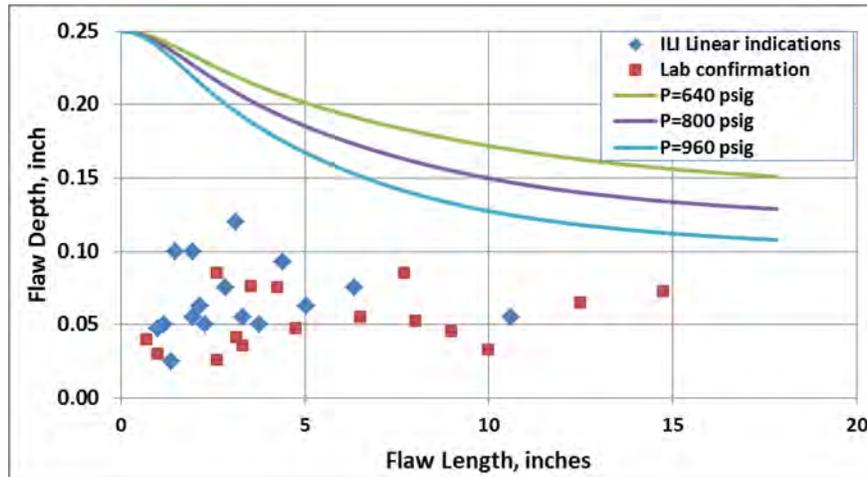


Figure 11. Performance of CMFL Tool for Detecting Hook Cracks

Figure 11 shows the sizes of the hook cracks as reported by the CMFL ILI tool as blue diamond symbols. The sizes of flaws that would fail at an MAOP of 640 psig, an MAOP of 800 psig, and a hydrostatic test pressure of 960 psig are shown as the green, purple, and light blue curves, respectively. That the indicated flaws were smaller than these critical sizes demonstrates that the CMFL tool was capable of detecting flaws that could affect the integrity of the pipe. The dimensions as confirmed by destructive examination are shown as red square symbols. The hook crack dimensions reported by the CMFL tool were in reasonable agreement with the actual dimensions, which is important for discriminating between minor and significant flaws.

On the other hand the CMFL tool exhibited a possible performance limitation: the sizes of flaws that it failed to indicate were approximately as large as the ones that it did indicate, as shown in Figure 12. It is important to understand that no ILI tool indicates all flaws, and both the probability of detection of a flaw and its significance to pipe integrity are proportional to the dimensions of the flaw. On the other hand, as Figure 12 shows, flaws discovered incidentally in the course of investigating the flaws indicated by the CMFL tool were not all substantially smaller than those that were indicated by the tool. After completing a CMFL inspection there will be flaws not reported and not investigated in the field. These incidental flaw discoveries are representative of those that will remain after running the CMFL tool and which will be unknown to SDG&E. Moreover, the CMFL tool requires that some air gap be present at the mouth of a flaw in order for magnetic flux to be sensed. The hook cracks discovered in Line

1600 were opened widely. Hence no CMFL tool vendor claims that the CMFL tool can detect true cracks, and the National Energy Board of Canada (the Canadian counterpart to PHMSA in the US) has denied use of CMFL technology for detecting cracks that could enlarge. A CMFL tool will not indicate hook cracks that remain tight or any part of a hook crack that was growing internally. This represents a risk to the extent that risk is proportional to what is unknown.

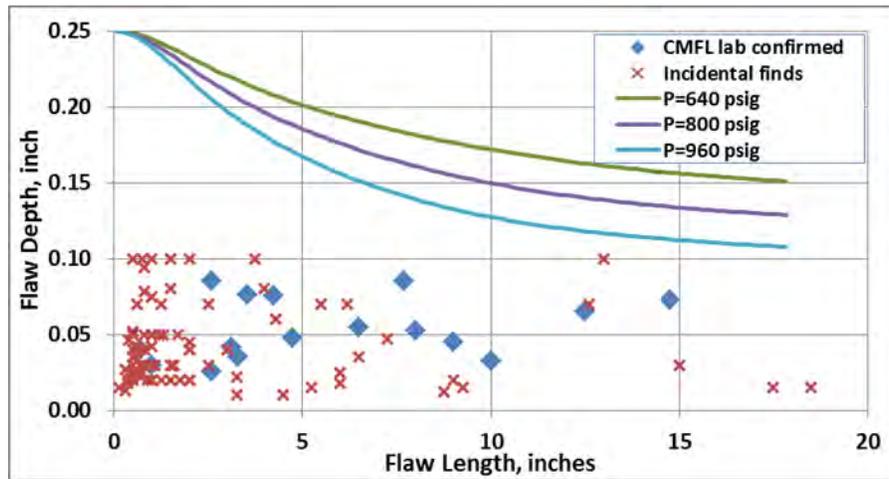


Figure 12. CMFL Indicated and Incidental Seam Flaws

SDG&E performed an inspection for metal loss due to corrosion using a conventional MFL tool designed for that purpose. It appears to have performed well in that it successfully indicated the presence of corrosion flaws that were too small to affect the integrity of the pipe or to be detected by a hydrostatic pressure test, as shown in Figure 13.

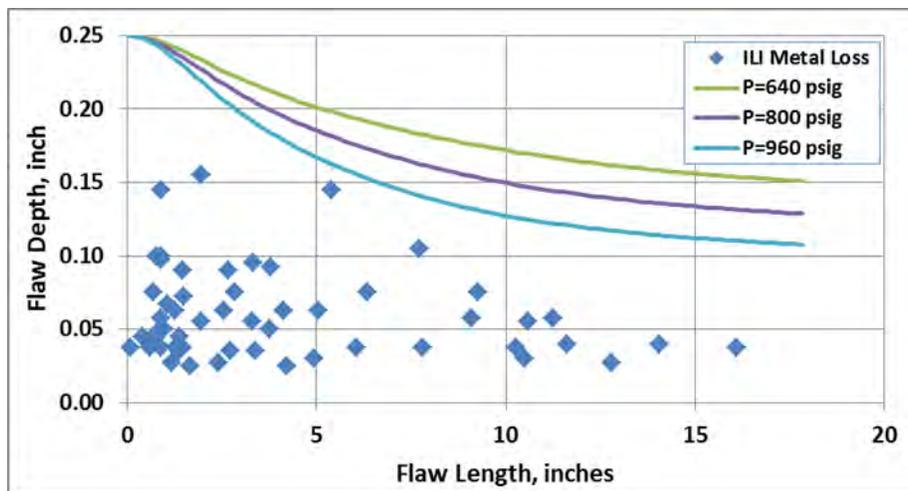


Figure 13. Performance of the MFL Metal Loss ILI Tool

Regarding the prospect of hydrostatic testing, it is important to recognize that a pressure test is a potentially-destructive proof of the integrity of the pipe so there is some risk of one or more failures occurring during the test. This is especially true with an older vintage pipeline that has never previously been pressure tested, although having been subjected to ILI reduces that probability for Line 1600. A test failure is potentially hazardous to people and property nearby. Numerous instances have occurred of property damage, personal injuries, or fatalities as a result of failure of the pipeline being tested or of the testing equipment, even when testing with water. While measures can be taken to isolate the pipeline under test and the testing site in remote areas, this becomes difficult in built-up areas. It may be impossible in some areas to shut down roads that cross or run adjacent to the pipeline. Recent pressure tests of pipelines in California have resulted in damaged roads and vehicles. Line 1600 is situated very close to homes, which probably should be evacuated while the line is being tested.

The proposed Line 3602 will be constructed so as to be capable of being internally inspected using ILI. Present regulations and industry standards require hydrostatic pressure testing of the line before it enters service. Certainly the potential hazard associated with pressure testing exists for Line 3602 as well, but the probability of a single test failure is much lower, let alone multiple test failures, than with a 68-year-old pipe. Finally, it is worth pointing out that after pressure testing Line 1600, it will still be 68 years old with uninspected girth welds, thin wall, and no fracture control.

Discussion of the Risk Benefits of the Proposed Project

Several different pipeline configuration and mitigation alternatives were evaluated on the basis of risk. Information provided to us about Line 1600, two proposed mitigation alternatives, and a proposed pipeline replacement alternative was inputted to the Kiefner-NGA⁴⁴ Risk Assessment model to compute probability of failure (POF) index scores. The model is a relative risk ranking model that uses pipeline attribute data to compute index scores that can be ranked. The model includes more input data fields than was available for the existing pipeline and alternatives, so default or estimated data were used where actual pipeline attributes were not available. The values selected for the defaults will influence the actual probability index score, but because the same default values were used for all the segments entered, the default data will not affect the relative ranking of the index scores.

The primary reasons for using the risk model to compute relative probability of failure index scores were 1) to evaluate the benefit (reduction in probability of failure) of the two proposed

⁴⁴ The model was developed by Kiefner for the Northeast Gas Association (NGA). It has been used for at least 15 years by NGA member and nonmember gas pipeline companies for ranking relative risk of their natural gas pipelines for integrity management purposes. The relative risk scores are calculated considering the actual effects of various facility attributes as reflected in mechanistic relationships or the frequency of occurrence of incidents reported to PHMSA. The model is used to identify specific pipeline segments requiring focused risk mitigation and to evaluate the potential benefits of specific mitigations.

mitigation alternatives, namely hydrostatic testing of the existing line and reducing the maximum operating pressure, and 2) to compare the relative probability of failure scores of the existing pipeline and mitigation alternatives to the replacement of the existing 16-in pipeline with a new 36-in pipeline.

The risk model uses a very simplistic approach to model the beneficial effects of hydrostatic testing, in-line inspection, and pressure reductions. The model considers the beneficial effects of these mitigation methods as follows.

A hydrostatic test removes critically-sized, axially-oriented flaws, including external and internal corrosion defects, by causing them to fail. A hydrostatic test may also remove manufacturing defects that have not previously been exposed to the test pressure level. Pipelines may experience pressure-cycle induced fatigue crack growth of flaws under certain conditions. The rate of crack growth can be related to the magnitude and frequency of operating pressure cycles. Thus, the benefits of hydrostatically testing pipelines are to remove defects experiencing time-dependent growth (e.g., corrosion, fatigue) and removing manufacturing defects by exposing the pipeline to pressures above the operating pressure level, removing causing critically-sized defects.

The MFL inspection will reduce the likelihood of failure from external and internal corrosion. The model considers that the MFL inspection will locate these types of defects in the pipeline and that the operator will respond by excavating and examining certain indications appropriately. The model applies a 90% reduction to both the external and internal corrosion index scores in the year in which the ILI is performed. The value of this inspection erodes over time because corrosion is a time-dependent integrity threat.

Some segments in Line 1600 have been assessed with an in-line inspection in 2012, and thus the probability of failure index scores for internal and external corrosion already incorporates a mitigation factor. The beneficial effects of a hydrostatic test are not additive so the reduction from the hydrostatic test is smaller than it would be if the pipeline had not already been inspected by a recent ILI.

An alternative of replacing the existing Line 1600 with a new pipeline was considered in the model. The new pipeline alternative was assigned the following attributes:

- 36-in OD x 0.625-in WT, Grade X65 line pipe
- Fusion-bonded epoxy external coating
- 90% of the girth welds inspected by radiography to API 1104

- 100% cathodic protection within 12 months of installation
- Pre-service hydrostatic test to 90% of the SMYS of the pipe
- Depth of cover measured during construction along entire route

These characteristics resulted in a very low probability of failure score for the new pipeline alternative.

The risk model results are summarized in Figure 14. The color bands for each segment in the figure represent the probability of failure contribution for different threats.

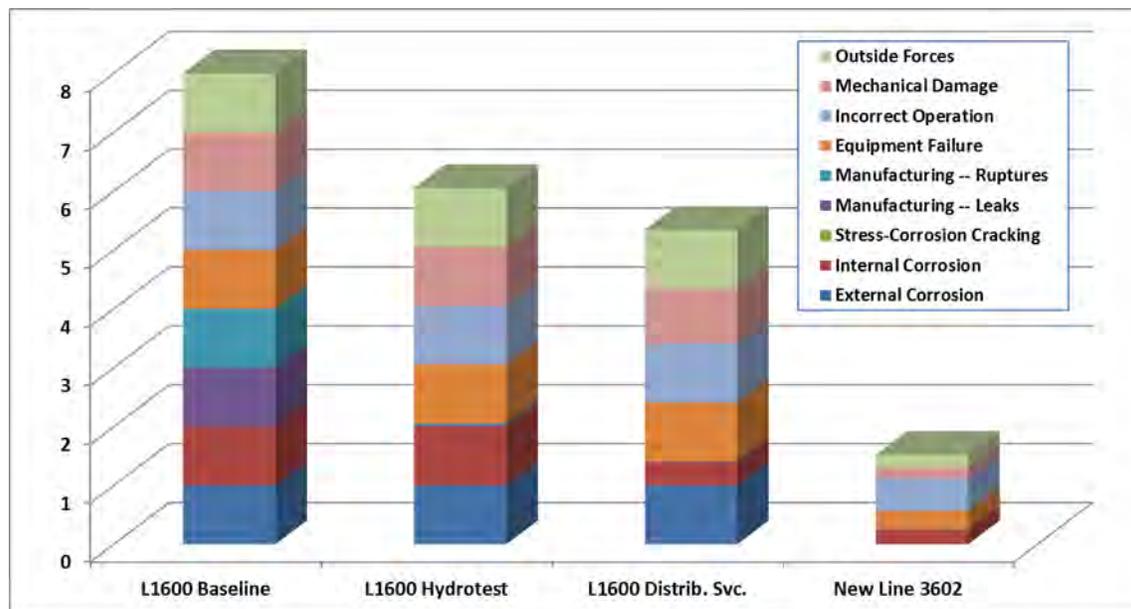


Figure 14. Summary of Probability of Failure Scores

The segment labeled “L1600 Baseline” represents the existing Line 1600 outside of steep slopes and fault crossing zones (which were not analyzed but certainly increase risk to the extent that the hazards are present). The columns labeled “L1600 Hydrotest” represents the POF scores after the line has passed a hydrostatic pressure test to an internal pressure of 1,200 psig. The column labeled “L1600 Distribution Service” represents the POF scores after Line 1600 has been derated to serve as a distribution line, with the MOP reduced from 800 psig to 320 psig. The column labeled “New Line 3602” represents the new 36-in diameter pipeline alternative.

As shown in the figure, both the hydrostatic pressure test and pressure reduction (to distribution service) alternatives reduce the POF scores somewhat. The pressure reduction alternative lowers the risk slightly more than the hydrostatic test scenario. The modest risk reduction with either alternative is due substantially to the fact that after mitigation it is still an

older vintage pipeline with limited resistance to excavator damage or to natural event loadings, poor fracture control, and an incompletely characterized seam. It may not be possible to in-line inspect the pipeline at the lowered operating pressure, which will have an impact on the POF scores after the credit for the 2012 ILI expires. The POF levels represented by the new pipeline alternative are notably lower than the existing Line 1600 and both mitigation alternatives. Although the pipeline risk will gradually increase over time, the new materials, heavy wall thickness, coatings, and cathodic protection system will result in a much lower increase in POF over time than the existing Line 1600.

The results of the analysis above do not account for all details of construction and location with either Line 1600 or the proposed Line 3602. However, they are illustrative of the sensitivity of relative risk associated with the differing scenarios. It is noted that these results are consistent with the conclusions from the PWC cost-effectiveness study.⁴⁵

Also, the model does not explicitly account for consequences. Conversion of Line 1600 to distribution service significantly lowers consequences in that the likelihood that a failure occurs as a rupture.

Summary

A review and analysis of risk factors and a risk assessment was performed to evaluate whether it makes sense from a public risk standpoint to pressure test the existing Line 1600, or derate it to distribution service without pressure testing it and build a new 36-inch transmission pipeline, Line 3602. The two options were compared in terms of inherent resistance or susceptibility to certain integrity threats based on typical characteristics and attributes of the two pipelines, historical performance trends affecting similar pipelines, and a relative risk model widely used in the natural gas industry.

The review of risk factors concluded that Line 1600 has greater vulnerability or susceptibility to several key failure mechanisms compared with the proposed Line 3602. Susceptibility to several of these factors is reduced in Line 1600 by lowering the operating pressure to distribution service with hoop stress levels below 20% of specified minimum yield strength (SMYS).

While there is no evidence that Line 1600 is unsafe, there is much that is unknowable about the line, including the ability of girth welds to withstand loadings from natural events, and features in the longitudinal seams. Risk is proportional to what is unknown, at least in part. The proposed Line 3602 will not have such gaps in relevant integrity data. After testing, Line 1600

⁴⁵ Price Waterhouse Cooper, "Cost-Effectiveness Analysis for the Pipeline Safety & Reliability Project", March 2016.

will still be an older vintage pipeline with limited resistance to many pipeline integrity concerns compared with the proposed Line 3602.

From: Raagas, Kirstie <KRagas@semprautilities.com>
Sent: Monday, June 12, 2017 9:03 PM
To: Rainbow Natural Gas Pipeline. CPUC
Cc: [REDACTED]
Subject: A.15-09-013: Scoping Comments of SDG&E and SoCalGas on the Notice of Preparation of an EIR
Attachments: A.15-09-013 PSRP Scoping Comments of SDGE-SoCalGas.pdf; Exhibits A-D and F.PDF; Exhibit E.PDF

Mr. Peterson,

Attached are the Scoping Comments of San Diego Gas & Electric Company (SDG&E) and Southern California Gas Company (SoCalGas) on the Notice of Preparation of an Environmental Impact Report (EIR) for the Pipeline Safety & Reliability Project (PSRP), Application 15-09-013. A hard copy of these Scoping Comments were submitted via FedEx today, June 12, 2017. As a courtesy, SDG&E and SoCalGas are providing an electronic copy of their submittal. The following documents are attached:

- Transmittal letter and Attachment A: Scoping Comments of SDG&E and SoCalGas on the Notice of Preparation of an EIR for PSRP
- Exhibits A – D and F to Attachment A
- Exhibit E to Attachment A

SDG&E and SoCalGas respectfully request that Energy Division/E&E provide copies of all comments received on the Notice of Preparation of an EIR. Please let me know how I may facilitate this request.

Best,

Kirstie C. Raagas

San Diego Gas & Electric | Major Project Development
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June 12, 2017

Via EMAIL and Federal Express

Mr. Robert Peterson
California Public Utilities Commission
RE: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111
SDgaspipeline@ene.com

Re: Scoping Comments of San Diego Gas & Electric Company and Southern California Gas Company on the Notice of Preparation of an Environmental Impact Report for the Pipeline Safety & Reliability Project, Application 15-09-013

Dear Mr. Peterson:

On behalf of San Diego Gas & Electric Company and Southern California Gas Company (Applicants), thank you for the opportunity to submit these comments on the Notice of Preparation of an Environmental Impact Report (EIR) for the Pipeline Safety & Reliability Project (Proposed Project).

Exactly three years ago today, the California Public Utilities Commission (Commission) approved our Pipeline Safety Enhancement Plan (PSEP) in the wake of the fatal pipeline rupture in San Bruno, California in 2010. The Commission's approval marked an important milestone towards the Commission's stated objective that "all natural gas transmission pipelines in service in California must be brought into compliance with modern standards of safety."¹

¹ Rulemaking (R.) 11-02-019, *Pipeline Safety Enhancement Plan of Southern California Gas Company (U-904-G) and San Diego Gas & Electric Company (U 902-M) Pursuant to D.11-06-017, Requiring All California Natural Gas Transmission Operators to File a Natural Gas Transmission Pipeline Comprehensive Pressure Testing Implementation Plan* at 1 (August 26, 2011).

If approved, the Proposed Project will significantly enhance the safety of Line 1600, one of the highest priority (*i.e.*, “Phase 1”) pipelines identified in our PSEP. Line 1600 was constructed in 1949 using non-state-of-the-art construction techniques and materials. It passes through populated areas in San Diego County as well as the cities of Escondido and San Diego. There is no question that this line should be brought “into compliance with modern standards of safety” as soon as possible, consistent with state law and the Commission’s direction.

The Commission’s commitment to safety also embodies a commitment to resiliency. As expressed in its Safety Policy Statement, the Commission’s “Overarching Safety Mission” is:

[t]o assure to the State of California that all of us will work every day *to assure that the regulated utilities we depend on for critical services are **as safe and resilient as they can possibly be.*** The CPUC not only will assure compliance with safety laws and regulations, but also challenge itself and the utilities to excellence.²

We share the Commission’s commitment to safety and resiliency, which are the very foundation of the Proposed Project Objectives:

1. Implement pipeline safety requirements for existing Line 1600 and modernize the system with state-of-the-art materials;
2. Improve system reliability and resiliency by minimizing dependence on a single pipeline; and
3. Enhance operational flexibility to manage stress conditions by increasing system capacity.

In short, we have a unique opportunity to significantly improve *both* the safety and resiliency of our natural gas system. By replacing the transmission function of Line 1600, we address safety. By replacing it with a larger diameter pipeline, we greatly bolster system reliability and provide needed operational flexibility.

In approving PSEP three years ago, the Commission made clear, “we want the applicants to implement Safety Enhancement now.”³ In fact, the Commission and the Applicants share the statutory objective to bring the natural gas system into compliance with modern standards of safety “as soon as practicable.”⁴ Nearly two years have passed since we submitted the Proponents’ Environmental Assessment (PEA) for the Proposed Project. Unfortunately, per the current proceeding schedule, a Draft EIR is not anticipated until August 2018—more than one

² Safety Policy Statement of the California Public Utilities Commission (July 10, 2014) (emphasis added), available at <http://cpuc.ca.gov/general.aspx?id=7772>.

³ D.11-06-017, *Decision Implementing a Safety Enhancement Plan and Approval Process for San Diego Gas & Electric Company and Southern California Gas Company; Denying the Proposed Cost Allocation for Safety Enhancement Costs; and Adopting a Ratemaking Settlement* at 2 (June 12, 2014).

⁴ Public Utilities Code § 958. See also, D.11-06-017 at 19-20.

year from now. We believe it is practicable for the Commission to release a Draft EIR sooner than that.

To that end, and consistent with California Environmental Quality Act (CEQA), we urge you to focus the scope of the Draft EIR in order to expedite its release for public comment. This includes eliminating from further consideration any alternatives that would be considered “not feasible”, as well as only analyzing alternative routes that would avoid or substantially lessen the environmental impacts associated with the Proposed Project.⁵

We believe there is or will soon be substantial evidence before the Commission, which will facilitate streamlining the environmental review of the Proposed Project as we request. This evidence includes:

- the robust PEA and application materials;
- extensive submittals to the Commission’s Energy Division – CEQA Unit;
- the Cost Effectiveness Analysis and additional information regarding the cost, feasibility and benefits of several of the Proposed Project Alternatives, which further support the PEA’s findings and conclusions;
- comments received during the scoping period; and
- additional evidence submitted in the regulatory proceeding.

Based on substantial evidence before the Commission, alternatives that are not “feasible” as defined by CEQA⁶ or impracticable, other than the No Project Alternative, do not need to be analyzed further and should be rejected to expedite release of the Draft EIR. For example, alternatives that cannot assure reliable gas service to SDG&E’s customers should be found infeasible, such as a battery alternative (which could only address a loss of electricity from a loss of gas-fired generation) or Otay Mesa alternatives that cannot assure a firm supply of gas when needed by customers. With respect to the No Project Alternative, we believe the Draft EIR should analyze that alternative to the extent required by CEQA, but conclude that it is not feasible based upon substantial evidence because it would leave Line 1600 in transmission service, thus not meeting the Applicants’ (and the Commission’s) safety goal.

Similarly, we do not believe that the issuance of the Draft EIR should be delayed in order to allow overly-extensive analysis of alternative routes that do not avoid or substantially lessen the environmental impacts of the Proposed Project. As stated in our Routing Criteria,⁷ the Proposed

⁵ California Public Resources Code Section 21002.

⁶ CEQA defines “feasible” as “capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors. Cal. Pub. Res. Code § 21061.1.

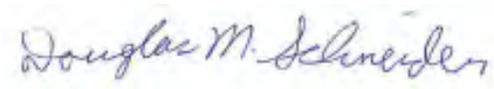
⁷ See, A.15-09-013, Proponents’ Environmental Assessment (PEA), Section 2.4, *Applicants’ Routing Criteria* at 2-8.

Project has specifically been designed to avoid and minimize environmental impacts, not to mention costs, acquisition or condemnation of private properties, and conflicts with mission-critical operations at Marine Corps Air Station Miramar. While we support the Commission conducting a thorough analysis of the alternatives, the proposed route and project design features already minimize environmental impacts. CEQA does not require an extensive analysis of every possible route, and we do not believe that bringing Line 1600 into compliance with safety requirements should be delayed in order to review routes that are not environmentally superior to the Proposed Project.

For your convenience, Attachment A to this letter has been prepared by the Proposed Project technical team to highlight some of the additional information that has been developed regarding the Otay Mesa Alternatives (including Northern Baja Alternative), Offshore Route Alternative, Alternative Energy Alternative (Battery Storage Alternative), Alternative Diameter Pipelines Alternatives, and No Project Alternative. The Applicants believe that the Commission should reject each of these alternatives as infeasible, including the No Project Alternative.⁸ With the exception of the No Project Alternative, these alternatives do not require further review in the Draft EIR.

We thank you for considering these comments and supporting our efforts to implement our PSEP in a timely manner. We look forward to working together to advance our mutual goals of safety and resiliency as soon as possible.

Sincerely,



Douglas M. Schneider
Vice President
System Integrity & Asset Management

Enclosures:

Attachment A: Scoping Comments of SDG&E and SoCalGas

cc: Molly Sterkel, Program Manager, Infrastructure Planning and Permitting, Energy Division
Lonn Maier, Supervisor, Infrastructure Permitting and CEQA, Energy Division
Franz Cheng, Supervisor, Gas Section, Energy Division
Jonathan Koltz, Legal Counsel
Ken Bruno, Program Manager, Gas Safety and Reliability, Safety and Enforcement Division

⁸ Several of these alternatives to the Proposed Project were raised by the Administrative Law Judge in A.15-09-013, *Joint Assigned Commissioner and Administrative Law Judge's Ruling Requiring an Amended Application and Seeking Protests, Responses, and Replies* (Jan. 22, 2016). The ruling set forth a list of alternatives, some of which were not analyzed in the PEA.

Matt Epuna, Supervisor, Gas Safety and Reliability, Safety and Enforcement Division
Durga Shrestha, Utilities Engineer, Safety and Enforcement Division
Carolina Contreras, Senior Utilities Engineer, Office of Safety Advocates

ATTACHMENT A

Scoping Comments of San Diego Gas & Electric Company and Southern California Gas Company on the Notice of Preparation of an Environmental Impact Report for the Pipeline Safety & Reliability Project

San Diego Gas & Electric Company (SDG&E) and Southern California Gas Company (SoCalGas) (together, Applicants) submit the following additional information regarding the cost, feasibility and benefits of several alternatives to the Pipeline Safety & Reliability Project (Proposed Project),¹ which further support the Applicants' findings and conclusions set forth in the Proponent's Environmental Assessment (PEA).

The Applicants believe the information constitutes substantial evidence, which will assist the California Public Utilities Commission (Commission) in eliminating alternatives that are infeasible from analysis in the Environmental Impact Report (EIR) and streamline the environmental review of this important public safety project. Based on substantial evidence before the Commission, alternatives that are not "feasible" as defined by the California Environmental Quality Act (CEQA), speculative or impracticable do not need to be analyzed further and should be rejected to expedite release of the Draft EIR. CEQA defines "feasible" as "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors."²

As discussed below, Applicants must respond to the safety mandate issued following the 2010 explosion and fire in San Bruno. Among other things, the Legislature adopted the California Natural Gas Safety Act of 2011, including Public Utilities Code section 958, which requires all natural gas intrastate transmission line segments that were not pressure tested or that lack sufficient documentation of a pressure test, such as Line 1600, to be pressure tested or replaced "as soon as practicable."³ Thus, in the context of public safety, it is particularly important that the Commission eliminate alternatives that cannot be completed "within a reasonable period of time", among other things.

I. Additional Information Confirms that Several Alternatives Should Not Be Included in the EIR Because They Are Both Infeasible and Unable to Meet Project Objectives

A. *Otay Mesa Alternative 1 (Northern Baja Alternative): Obtain Gas From Ehrenberg Delivered at Otay Mesa*

1. This Alternative Does Not Meet Project Objectives

¹ The Proposed Project involves: (a) the construction of a new, approximately 47-mile long, 36-inch diameter natural gas transmission pipeline in San Diego County and associated facilities (Line 3602), and (b) lowering the pressure (de-rating) of approximately 45 miles of existing Line 1600 for use as a distribution line, once the new line is constructed.

² Cal. Pub. Res. Code § 21061.1.

³ California Public Utilities Code § 958.

One objective of the Proposed Project is to increase the reliability and resiliency of the SDG&E gas system. Currently, roughly 90% of the gas delivered in SDG&E's gas system flows through Line 3010, with roughly 10% flowing through Line 1600. Essentially no gas flows into SDG&E's gas system through its Otay Mesa receipt point because it is more expensive to deliver gas to that receipt point. Applicants are recommending that Line 1600, constructed in 1949 and containing manufacturing anomalies, be de-rated to distribution service to enhance safety. Absent another source of supply into SDG&E's gas system, that would leave SDG&E's customers dependent on a single pipeline, Line 3010, for gas service. In the event of a Line 3010 outage or, to a lesser extent, a Moreno Compressor Station outage, gas service to SDG&E's customers would be at risk and, depending upon the electric load at the time, electric service could be at risk from the loss of gas to gas-fired generation in San Diego.

As more fully explained in Exhibit A attached hereto, *Prepared Direct Testimony of Jani Kikuts on Behalf of San Diego Gas & Electric and Southern California Gas Company* (March 21, 2016), an unplanned outage on Line 3010 during a period of high demand could result in the loss of gas service to approximately 550,000 meters within 8 hours. The curtailment associated with this plausible large scale outage is likely to result in gas outages for multiple customer types including residential, commercial, industrial, school, hospital, and military, as well as local county and city government facilities. Restoring gas service after a large scale outage is a time consuming activity requiring customer outreach, system engineering evaluations and support activities for field personnel. The system would need to be made safe and each customer line individually purged and brought back on line. In the described scenario, mutual aid would be required from other utilities to assist. It is estimated that if 200 service technicians were working to restore service, it would take over 50 days to complete this task. Even if 1,000 technicians were available, it would take nearly two weeks. The social and economic consequences of an event like this would be massive. The Proposed Project will bring significant reliability benefits that would minimize these consequences. If it was constructed and in service, there would be little or no disruption to customers if the scenario described were to occur.

As set forth below, the Otay Mesa Alternative 1 does not assure a reliable source of gas supply in the event of a Line 3010 outage because insufficient firm capacity is available to bring gas to the Otay Mesa receipt point and interruptible capacity may or may not be available when needed.

In addition, because gas would only be delivered to the Otay Mesa receipt point when it was needed, this alternative does not meet the project objective to enhance operational flexibility. As discussed below, renewable resources (particularly solar and wind) can be extremely volatile from hour to hour and very difficult to forecast. As such, flexible and quick start natural gas-fired electric generation is increasingly relied upon to make up for any unanticipated shortfall in renewable generation. Electric generation plants can no longer rely on fuel oil as a back-up for natural gas. As a result natural gas is now the preferred fuel for electric generation plants, which must ramp up quickly to stabilize the grid. In order to serve quick ramping, gas-fired electric generation, gas would need to be delivered to Otay Mesa on a consistent daily basis. This reliance on natural gas is further demonstrated by The California Independent System Operator (CAISO) in their planning for a solar eclipse event on August 21, 2017. In their May 2017 analysis of the eclipse event, CAISO indicates that natural gas will be

leveraged as one of the mitigation measures to offset the impacts of the loss of solar resources.⁴ Therefore, Otay Mesa Alternative 1 does not meet Applicants' project objectives.

2. This Alternative is Likely Infeasible

Otay Mesa Alternative 1 requires the transportation of gas supply across the North Baja California (BC) Pipeline System, which is comprised of three pipelines, North Baja Pipeline, Gasoducto Rosarito and Transportadora de Gas Natural de Baja California (TGN). Gas supply for this alternative would originate from the El Paso Natural Gas (EPNG) South Mainline system east of Ehrenberg, Arizona and enter the North Baja Pipeline traveling southeast through California to the international border at Los Algodones, into Gasoducto Rosarito. The gas would then head west through Mexico for approximately 140 miles on Gasoducto Rosarito to TGN where it would head north and interconnect with the SDG&E system at the Otay Mesa receipt point, just south of Tecate.

The requisite firm pipeline capacity through the North BC Pipeline System is likely unavailable. To obtain firm capacity from Ehrenberg to Otay Mesa, there must be available firm capacity on all three pipelines. While some available firm capacity exists on the North Baja Pipeline from Ehrenberg to Los Algodones, Gasoducto Rosarito has stated in February 2016 that only 20 million cubic feet per day (MMcfd) in firm capacity was available on their system from the North Baja Pipeline to TGN. Firm delivery rights at Otay Mesa for 20 MMcfd would not be sufficient to cover the lost capacity of Line 1600 once it is de-rated and becomes a distribution pipeline, much less provide redundancy for Applicants' natural gas system in the event of a Line 3010 outage, as well as reduce the risk associated with a Moreno Compressor Station outage. Specifically, to cover the lost capacity of Line 1600 alone, 150 MMcfd would be necessary. To provide redundancy for Line 3010, Applicants would need firm delivery of 570 MMcfd at Otay Mesa—nearly 30 times the current firm capacity that is available on the North BC Pipeline system from Ehrenberg.⁵

SDG&E's April 2017 Long-Term Demand Forecast projects the 1 in 10 year cold day demand at 590 MMcfd in 2020/21, and 548 MMcfd in 2025/26. While SDG&E's Otay Mesa receipt point has the physical capacity to receive 400 MMcfd, SDG&E's system would require further upgrades to handle more. If Line 1600 is de-rated to distribution service and Line 3010 is out of service during peak demand, delivery of 400 MMcfd at Otay Mesa would not be sufficient to serve all customers.

The North BC Pipeline System transports gas to customers in Mexico, and Mexican customers' use is projected to grow, thus making future capacity (firm or interruptible) even more uncertain. Publicly available information from multiple sources forecasts growing natural

⁴ CAISO 2017 Solar Eclipse Report (May 1, 2017), available at

http://www.caiso.com/Documents/Briefing_SolarEclipse-ISORreport-May_2017.pdf

⁵ Although Applicants could attempt to replace capacity lost from Line 1600, Line 3010, or Moreno Compressor Station with interruptible capacity through the North BC Pipeline System, there is an obvious risk that capacity needed to support the current system will be interrupted. While Applicants do not believe that would be consistent with its performance as a prudent operator, the Commission will ultimately have to decide whether this is an acceptable risk for SDG&E's customers to bear.

gas exports to Mexico from the United States. For example, according to the Secretary of Energy of the Federal Government of Mexico, U.S. exports to the northwest region of Mexico are expected to grow from 568.4 MMcfd in 2017 to 942.2 MMcfd in 2030.⁶ Similarly, Kinder Morgan recently noted that U.S. exports to Mexico are forecast to increase.⁷ The projected additional gas load in the Baja California region, whether it is to support growing commercial or industrial use, or to support the increased demand from electricity generation, will seek service on the existing North BC Pipeline system. This demand will absorb any capacity that may be available on existing North BC Pipeline infrastructure, and would be in direct competition with Otay Mesa Alternative 1. In short, the more gas that is consumed in this region of Mexico, the less capacity is available for others to transport gas from Ehrenberg into Applicants' system via the Otay Mesa receipt point.

For these reasons, Applicants consider Otay Mesa Alternative 1 infeasible.

3. This Alternative Also Presents Multiple Risks that Make the Alternative Imprudent and Fail to Meet Project Objectives

The Otay Mesa Alternative 1 does not meet the objectives of the Proposed Project. As stated above, gas supply on the North BC Pipeline System must travel across three different pipelines, North Baja Pipeline, Gasoducto Rosarito and TGN, to reach the Otay Mesa receipt point. As of February 2016, only 20 MMcfd of firm capacity was available on Gasoducto Rosarito, which is far below what is necessary to replace the transmission function of Line 1600 or to support Applicants' natural gas system in the event of an outage on Line 3010 or to reduce the risk associated with an outage at the Moreno Compressor Station. The limit in available firm capacity would not improve system reliability and resiliency by minimizing dependence on a single pipeline, and would not enhance operational flexibility to manage stress conditions.

Even assuming availability of the requisite firm capacity (an assumption that is unsupported by the facts), SDG&E's Otay Mesa receipt point has a physical capability to receive firm supplies up to 400 MMcfd. In order to obtain the full amount of capacity, Applicants believe that improvements on the Gasoducto Rosarito Pipeline System located in Mexico and the North Baja Pipeline System located in California, which runs for approximately 86 miles, would be required.⁸ Such construction is estimated to be costly. Based on publicly available information, Applicants estimate the cost of construction for new pipelines to loop with the North BC Pipeline System would be approximately \$977 million in direct costs.⁹

⁶ Mexico SENER, *Prospectiva de Gas Natural 2016-2030* (December 30, 2016), at 81, Table A.17, http://www.gob.mx/cms/uploads/attachment/file/177624/Prospectiva_de_Gas_Natural_2016-2030.pdf

⁷ Kinder Morgan, January 25, 2017 Analyst Conference Presentation, "*The Best is Yet to Come*," at 32, http://ir.kindermorgan.com/sites/kindermorgan.investorhq.businesswire.com/files/event/additional/17_AD_pres_vF-REFORMAT.pdf.

⁸ As this pipeline is not within Applicants' system, additional information may be required to determine what work is necessary.

⁹ If new pipelines and/or compression is needed on the North BC Pipeline System to deliver the level of gas desired, the Applicants can estimate that cost if allowed to acquire the information from North BC

Furthermore, to provide full replacement/redundancy for Line 3010, which has capacity of 570 MMcfd, physical expansion of the Otay Mesa receipt point and the SDG&E system would be required. Such improvements would also be costly, costing \$100 million to upgrade the receipt point.¹⁰

These costs, combined with the uncertain cost to obtain a contract for firm delivery rights make this alternative infeasible. In addition, this alternative requires construction and may not reduce the potentially significant environmental impacts of the Proposed Project.

In addition, this alternative poses unacceptable risks. As noted in the PEA:

San Diego County—the second largest county in California, and home of the eighth most populous city and 17th largest metropolitan area in the United States (U.S.)—had a growing population of more than 3.2 million people in 2014 and a regional economy of \$179 billion. San Diego is also home to the largest concentration of military in the world and the largest federal military workforce in the U.S. SDG&E provides natural gas service to this significant portion of California’s population and economy through over 868,000 natural gas meters in San Diego County.

The Otay Mesa Alternative 1, by definition, depends on infrastructure that is: (a) located in a foreign sovereign nation, (b) subject to the rules and regulation of a foreign sovereign nation, and (c) not owned or operated by Applicants. Increasing the region’s dependence on infrastructure located outside of the United States and not subject to Commission oversight presents significant risks.

The most recent IEnova Annual Report expresses concerns over foreign sovereign risk. IEnova has identified a number of potential business risks specific to Mexico, including the Baja California State, where they do business. Specific risks identified include legislative changes, policy changes, violence related to drug trafficking, and unanticipated tax reforms.¹¹ Such risks

service providers through a Request for Proposal (RFP) process. Without such information, the Applicants have estimated a direct cost of up to \$977 million using publicly available information, for 400 MMcfd, that was presented in the Cost-Effectiveness Analysis. See Exhibit B attached hereto, A.15.-09-013, Vol. III, *Cost-Effectiveness Analysis for the Pipeline Safety & Reliability Project* (CEA), San Diego Gas & Electric Company and Southern California Gas Company (March 2016), Table 6 at 22.

¹⁰ The Applicants estimated this cost based upon a per mile unit costs and no further engineering analysis was performed to derive this estimate.

¹¹ “The Company’s current energy infrastructure projects are primarily located in the states of Baja California, Sinaloa, Sonora, Chiapas, Chihuahua, Coahuila Durango, Nuevo Leon, Jalisco, Tamaulipas, San Luis Potosi, Tabasco and Veracruz, and all our current permits and approvals are issued by either the Mexican government or by local governmental authorities. As a result, any legislative changes, measures taken, stricter rules implemented or additional requirements imposed by the relevant governmental authorities (including changes derived from state and local elections) may materially adversely affect our business, financial condition, results of operation, cash flows, prospects and/or the market price of our securities. In addition, we are exposed to risks of a local recession, the occurrence of a natural disaster, an increase in local crime rates or local political and social developments in the regions in which we operate, which could have a material adverse effect on our business, financial condition, results of

suggest that this alternative may not be able to meet Applicants' objective of ensuring safe and reliable gas services to the San Diego region. Applicants understand that reliability means actually delivering gas to customers, having the necessary capacity and operational flexibility, and having the ability to respond in emergency situations. Reliability will be difficult with the uncertainties and risks associated with this alternative.

B. *Otay Mesa Alternative 2: Obtain Regasified LNG from Energia Costa Azul*

The second alternative for bringing gas to the Otay Mesa receipt point originates from the ECA LNG Terminal near Ensenada, and requires the purchase of regasified LNG from the ECA Terminal, which is transported on the Gasoducto Rosarito LNG Spur to the TGN system for delivery to Otay Mesa.

This Otay Mesa Alternative 2 suffers from many of the same problems as Otay Mesa Alternative 1. The risks and uncertainty that apply to Otay Mesa Alternative 1, which renders such an alternative infeasible and unlikely to meet any of Applicants' objectives, also apply to Otay Mesa Alternative 2. This alternative also depends on resources located in a foreign sovereign nation, subject to the rules and regulations of foreign sovereign nation, and not owned or operated by Applicants.

Additionally, the costs associated with Alternative 2 may render it infeasible. The ECA to Otay Mesa path was developed and constructed to serve regasified LNG to customers in Mexico and California. While this capacity is fully subscribed, it remains idle due to the significant price disparity between domestic gas supply available to Applicants' system and LNG delivered to ECA, even at current depressed LNG prices. The cost of purchasing LNG from the ECA facility will remain above market for the foreseeable future due to the incremental costs of liquefaction, transportation, and regasification for LNG that are not required for domestic supply. Additionally, costs are expected to remain high due to continuing disparity between domestic U.S. natural gas prices and the delivered prices for LNG. IEnova says as much in their recent annual report.¹²

Additionally, ECA's Terms and Conditions require a minimum daily delivery (MinDDQ) from ECA's storage tanks to the shipper, which would require storage tanks to be repeatedly refilled at great expense. As more fully described in Exhibit C attached hereto, Rebuttal Testimony of SDG&E and SoCal Gas, Chapter 5, *Intervenors Have Not Identified Any Viable Otay Mesa Alternative (Witness: Paul Borkovich)*, the physics of LNG results in boil off that

operations, cash flows, prospects and/or the market price of the Company's securities." 2016 IEnova Annual Report at 36, <http://phx.corporate-ir.net/phoenix.zhtml?c=251832&p=irol-IRHome>.

¹² "Of the terminal's capacity holders, only IEnova LNG has delivered LNG cargos to the terminal. Based on the market price of LNG relative to the price of natural gas in the natural gas markets typically served using regasified LNG from our LNG terminal, we do not anticipate that our third party customers, Shell Mexico, or Shell, and Gazprom Mexico, or Gazprom, will deliver LNG to the terminal in the near future, and we do not anticipate that in the near future our subsidiary IEnova LNG will deliver more than the minimum quantities required to keep the terminal cold." 2016 IEnova Annual Report at 24.

alters the nature of the remaining stored LNG, such that it requires it to be vaporized and to be shipped out before it is no longer usable as natural gas. Thus, there is need for the constant turnover of stored LNG at ECA. Whatever is in storage is constantly being reduced by the minimum daily delivery requirement, so maintaining a sufficient amount to meet SDG&E's needs in the event of an unplanned outage of Line 3010 would require a steady re-supply of the ECA facility.

For these reasons, the Otay Mesa Alternative 2 is infeasible and may be incapable of accomplishing the Proposed Project's fundamental objective of reliability.

C. *Offshore Route Alternative*

The Offshore Route Alternative assumes construction of a 58-mile, 36-inch diameter underwater pipeline off the shore of Southern California, transitioning onshore at the Line 3010/3011 intersection. The Offshore Route Alternative is prohibitively expensive, therefore making such an alternative infeasible. Applicants anticipate that it would cost approximately \$1.45 billion to construct the Offshore Route Alternative.¹³ Additionally, permits with multiple federal, state, and local agencies and jurisdictions—most notably a Coastal Development Permit from the California Coastal Commission—needed to construct an offshore pipeline are unlikely to be obtainable in a *timely manner (at least 8 years), if at all*.

D. *Alternative Energy*

The Assigned Commissioner and Administrative Law Judge's Ruling directed Applicants to prepare a "need/cost analysis report related to wider range of alternatives,"¹⁴ including analysis of two alternate energy alternatives: grid-scale battery/energy storage and smaller-scale battery storage. Applicants evaluated these alternatives as part of the CEA (*see*, Exhibit B).

The Alternative Energy Alternatives do not meet the project objectives for several reasons. First, the Battery Storage Alternatives do not provide reliability and resiliency to the gas system, which provides gas for residential space heating, water heating, cooking and other uses, as well as to commercial, industrial, military and public buildings for similar and manufacturing uses. Second, by failing to address the capacity of the gas system that would be lost from de-rating Line 1600 to improve safety, the Battery Alternatives do not facilitate de-rating Line 1600 and thus do not support the Proposed Project's safety objective. Third, because battery storage is not a mature technology at this time, the Battery Alternatives do not adequately address the risk to reliable electric service that would arise from a curtailment of gas to gas-fired generation in San Diego, which is one of the reasons Applicants seek to ensure the gas system's reliability and resiliency.

1. Battery Storage Does Not Serve Non-Electric Needs

¹³ See Exhibit B, CEA, Table 6 at 22.

¹⁴ A.15-09-013, *Joint Assigned Commissioner and Administrative Law Judge's Ruling Requiring an Amended Application and Seeking Protests, Responses, and Replies*, dated January 22, 2016 (January 22 Ruling). The January 22 Ruling set forth a list of alternatives, some of which were not analyzed in the PEA.

SDG&E's service territory for natural gas is the County of San Diego,¹⁵ which has a growing population of 3,317,749.¹⁶ SDG&E has approximately 30,000 meters that serve customers that are classified based on their tariff rate as commercial/industrial and fewer than 100 that are taking service under an EG related tariff such as power plants and cogeneration. The remaining meters, over 830,000, are classified as residential customers based on their tariff. Residential customers choose to consume natural gas for purposes of cooking, heating water, space heating, drying clothing among other uses. Commercial and industrial customers also often use natural gas for water heating and space heating, but also rely on it for processes such as those that require heat to melt, dry, bake, or glaze a product. Natural gas is used as a heat source in making glass, steel, cement, bricks, ceramics, tile, paper, pharmaceuticals, food products and many other commodities and end use products. Many hospitals and military installations in the San Diego area rely on natural gas for many uses, including as a fuel for their combined heat and power facilities that are essential for their operations.

There has also been continued installation of new fuel cells by commercial customers which demonstrates the growing integral relationship of natural gas with the expanding use of fuel cells as an important distributed generation resource. The transportation sector also utilizes natural gas not only for automobiles, but on a larger scale for fleets of buses as well trash trucks and other commercial vehicles.

All of these natural gas customers have invested considerable resources into the facilities, equipment and processes associated with the long term use of natural gas as an energy source. Not only have they purchased the equipment such as stoves, water heaters, furnaces, dryers, commercial machinery and vehicles, but they have invested in configuring their buildings and facilities with the piping and other infrastructure to correspond to their planned use of natural gas.

While battery storage might help avoid loss of electricity from a loss of gas to San Diego gas-fired electric generation, batteries cannot supply SDG&E's customers (including core, non-core) with gas for residential, commercial, and industrial needs. For example, while SDG&E may be able to maintain electricity for some period of time during a pipeline outage through the use of battery storage options, SDG&E's customers would not have any natural gas service to operate their gas water heaters, gas heating units, gas appliances, fuel cells, cooking or any other gas-fired equipment that is used in various industries, such as healthcare, manufacturing, biotech, restaurants, and water and sewer treatment. If the lack of supply causes disruption in service to portions of the SDG&E system, it may be a period of days that these customers could be without service as SDG&E works to safely restore service.

Accordingly, neither battery storage alternative meets the project objectives of reliability and resiliency.

2. The Battery Storage Technology Is Not Yet Mature and Does Not Meet the Project Objective to Ensure Reliable Electric Service

¹⁵ SDG&E Gas Tariff Book, Sheet 1, CPUC Sheet No. 7072-G.

¹⁶ U.S. Census July 1, 2016 estimate, <https://www.census.gov/quickfacts/table/PST045216/06>

The grid scale battery alternative assumes installation of lithium-ion batteries at an estimated cost of \$500/kWh (kilowatt hours).¹⁷ For approximately 2,802 MW (megawatts) of power and four hours of energy, approximately 11,200 MWh (megawatt hours) of capacity is required. Between 100 and 125 acres of land is needed for this alternative. The smaller scale battery alternative assumes approximately 11,200 MWh of energy storage capacity for four hours of electric supply, projected at an estimated installed cost of \$600/kWh.¹⁸ The difference in cost per kWh accounts for the number of sites required to host the smaller scale battery locations.

While technology is advancing, current battery storage options do not provide a reasonable alternative to the Proposed Project and the timeline for advancement of this technology is uncertain. To demonstrate this point, Applicants recently analyzed whether the battery storage alternatives could supply customers with the energy equivalent to that of the Proposed Project in the form of electricity.¹⁹ Applicants (including SDG&E whose electric grid includes the world's largest lithium ion battery storage project in the world) are unaware of a battery storage project of this magnitude being undertaken and, as a result, battery production on this scale would be very difficult, very expensive, very large (requiring approximately 100 acres of land) and would take a very long time to produce.

The evaluation revealed that in order for the four hours of battery storage to be ready and available if a system wide natural gas outage occurred, the system of batteries would need to remain fully charged at all times. As a general matter, grid-scale batteries would likely be charged and discharged on a regular basis and operated by the CAISO as an ongoing resource that it could count on for grid reliability purposes. Thus, given the uncertainty of the timing of a natural gas outage, the system of batteries may not be fully charged when needed. Furthermore, even if the batteries were kept fully charged, at most they would cover a four-hour period, which may not be sufficient time to restore gas service and is not equivalent to the benefits provided by the Proposed Project.

For these reasons, although battery storage will certainly be part of California's future energy portfolio, it cannot replace the role that natural gas plays in electric generation. California relies heavily on natural gas to integrate increasing amounts of renewable resources such as wind and solar onto the electric grid. The California Energy Commission (CEC) recognizes that wind and solar are intermittent energy sources, which are subject to rapid and often unpredictable fluctuations based on factors such as the weather, time of day, and temperature.²⁰ Accordingly, renewables cannot be relied upon as a region's sole source of energy.²¹ Additional fuels are necessary when the sun is not shining and the wind is not

¹⁷ Costs were developed based on a rough order of magnitude estimate. The estimate considered energy storage capacity, amount of land required, number of sites and project complexity. See Exhibit B, CEA at 26.

¹⁸ *Id.* The difference in cost per kWh from the grid scale alternative is accounted for by the number of sites required to host the smaller scale battery locations.

¹⁹ This evaluation was conducted using a scenario under which: the gas supply is lost to all local natural gas-fired electric generation during a peak electric load period; gas supply is unavailable for a four-hour period; and no customer outages occur. The evaluation is included in the Updated Direct Testimony of S. Ali Yari (February 21, 2017) at 9-11, attached hereto as Exhibit D.

²⁰ 2016 Integrated Energy Policy Report (IEPR) Update at 6, http://www.energy.ca.gov/2016_energy/policy/.

²¹ See Exhibit D, Updated Direct Testimony of S. Ali Yari (February 21, 2017) at 4.

blowing.²² The CEC acknowledges that “[a]s more variable renewable electricity generating resources, like wind and solar, are added to California’s electricity resource mix, it becomes more challenging to integrate them while maintaining grid reliability, safety, and security.”²³ Because natural gas is a reliable energy source that can be swiftly and flexibly deployed, natural gas remains a necessary complement for renewable electric resources.²⁴

Additionally, natural gas will be necessary to ensure the ability to meet rapid peak demand periods. The CAISO recently analyzed the impacts of increased renewable sources on the electric generation curve (through key California energy and environmental policy drivers) and found that the increased use of renewables results in the emergence of new operating conditions such as steep ramping periods, over-generation risks, and a decreased ability to maintain grid reliability by adjusting electricity production.²⁵ The rapid on and off-ramping of gas-fired electric generation is well-suited to address the short, steep demand ramps both after the morning peak and prior to the late afternoon peak. Renewable energy sources simply cannot be dispatched to meet such demands. Accordingly, as explained by the International Energy Agency and the National Renewable Energy Laboratory, natural gas and renewables remain partners: “Power generation based on natural gas offers the flexibility and increased dispatchability that complements renewable energy power generation.”^{26,27}

Currently, battery storage cannot serve as the necessary complement for renewable electric resources because of limited battery capacity, cost (described below), and the inability to ensure that the batteries would contain full charges when needed. Until other nascent technologies such as grid-scale energy storage mature, natural gas-fired electric generation will continue to serve as the critical safety net for California’s electric grid.

3. Battery Storage Is Prohibitively Expensive

²² 2016 IEPR Update at 6.

²³ 2016 IEPR Update at 20-21.

²⁴ The CEC finds that natural gas-fired power plants currently offer the most flexibility for “quickly, reliably, and cost-effectively” ramping up or down to balance electricity supply and demand.” *Id.*, at 6.

²⁵ California ISO, What the Duck Curve Tells Us About Managing a Green Grid (2016), available at https://www.caiso.com/Documents/FlexibleResourcesHelpRenewables_FastFacts.pdf. See also, Revisiting the California Duck Curve, An Exploration of its Existence, Impact, and Migration Potential, Scott Madden Management Consultants (October 2016) at 1 (“The duck curve is real and growing faster than expected.”), http://www.scottmadden.com/wp-content/uploads/2016/10/Revisiting-the-Duck-Curve_Article.pdf.

²⁶ National Renewable Energy Laboratory (February 2014); International Energy Agency (2011) [“Natural gas has an important role to play in complementing low-carbon energy solutions by providing the flexibility needed to support a growing renewables component in power generation.”], https://energyindepth.org/wp-content/uploads/2015/03/NG_Renew.pdf.

²⁷ Natural gas and natural gas infrastructure will play a key role in supporting California and San Diego’s climate change and decarbonization policies by continuing to enable increased integration of renewable energy, supporting significant greenhouse gas (GHG) and other emissions reductions in the transportation sector, providing for the continued use of increasingly efficient equipment, and facilitating the delivery of captured biomethane from organic sources for productive uses in the transportation and other sectors.

Finally, the battery storage alternatives remain infeasible because they would be cost prohibitive. Applicants anticipate that the grid scale battery alternative will cost over \$8 billion,²⁸ and the smaller scale battery alternative will cost over \$10 billion.²⁹ With these high costs, the battery storage options are economically infeasible.

II. Alternatives That Fail to Reduce Significant Environmental Impacts

As described in the PEA, the Proposed Project's potentially significant impacts are temporary in nature. Accordingly, the Proposed Project's environmental impacts will be less than any of the alternatives, which will have permanent impacts. Additionally, many of the other proposed projects, including, the Offshore Route, South Orange County Coastal, Cross-Country Alternatives, Valley Center, Rainbow-El Norte Parkway-Santee, Second Pipeline Along Line 3010, and Rainbow to Santee Non-Miramar, will fail to reduce impacts to a less than significant level.³⁰

III. Alternatives That Will Not Meet Project Objectives

A. Alternative Diameter Pipelines

To enhance the safety of their integrated natural gas system, Applicants believe that the operating pressure of Line 1600 should be lowered, and based on testimony served in the regulatory proceeding on April 17, 2017, the Office of Ratepayer Advocates (ORA) and Utility Consumers' Action Network (UCAN) agree with Applicants on this point. If Line 1600 is de-rated and operated at a distribution service level with a Maximum Allowable Operating Pressure (MAOP) of 320 psig as Applicants propose, SDG&E's system capacity will be reduced from 595 MMcfd³¹ to 570 MMcfd.³²

With Line 1600 de-rated to 320 psig (MAOP), to provide resiliency to the SDG&E system and redundancy for Line 3010, a new pipeline must be constructed to at least 30 inches in diameter. A pipeline with a 30-inch diameter provides complete coverage for an outage on Line 3010 for either planned or unplanned reasons.

A pipeline of 36 inches, however, would significantly enhance the resiliency of the SDG&E system and would provide critical support to the current SDG&E system capacity of 595 MMcfd.³³ Additionally, a 36-inch diameter pipeline operating in conjunction with Line 3010 can theoretically support the current SDG&E system. Under either outage scenario, a 36-inch pipeline would provide enough capacity to meet the demand forecast for the Commission-mandated 1-in-10 year cold day design standard through the 2035/36 winter operating season.

²⁸ See, Exhibit B, CEA, Table 6 at 22.

²⁹ See, *Id.*

³⁰ This list is not exhaustive and may be expanded when additional analysis of other alternatives is performed.

³¹ With Line 3010 and Line 1600 (at 512 psig) in operation, the capacity of the SDG&E system is 595 MMcfd.

³² With Line 3010 and Line 1600 operating at 320 psig, without any new facilities installed in the SDG&E service territory, the capacity of the SDG&E system is 570 MMcfd.

³³ With Line 3010 and Line 1600 (at 512 psig) in operation.

Because smaller diameter pipelines could not provide the needed capacity for reliability and resiliency, the alternative diameter pipeline alternatives do not meet the Proposed Project's fundamental objectives.

B. *No Project (Hydrotest) Alternative*

1. Pressure Testing Does Not Address All of the Long-Term Safety Concerns Arising from Continued Operation of Line 1600

As more fully explained in Exhibit E attached hereto, *Review of Risk Factors for Line 1600* by Michael Rosenfeld, PE (February 20, 2017), the 68-year old Line 1600 transmission pipeline has greater vulnerability or susceptibility to several key failure mechanisms, as compared with the proposed Line 3602. Line 1600 was constructed using predominantly electric flash welded pipe, a manufacturing technique that has known flaws and is now obsolete. Although pressure testing does lower the risk, it would not eliminate the risks associated with electric flash-welded legacy pipe on Line 1600. In fact, pressure testing could enhance the likelihood of issues with the older pipeline. An in-line inspection (ILI) was recently performed on Line 1600 in three different phases, and the final reports identified and confirmed the presence of over 2,700 anomalies in the pipeline: Phase 1 found 1,471; Phase 2 found 1,226; and Phase 3 found 85.

If the Commission selects the No Project (Hydrotest) Alternative, Line 1600 will be over 70 years old by the time pressure testing is complete. If Line 1600 is pressure tested and then operated and maintained at a transmission service stress level, anomalies that survive the pressure test will be exposed to higher overall risk compared to operation at lower stress levels. Furthermore, pressure testing only identifies flaws that fail during testing, but will not provide for management of remaining flaws. There will be undetected flaws (including hook cracks that are too narrow to be detected with in-line inspection technology) exposed to transmission stresses that will remain well beyond the conclusion of pressure testing. Reducing the pressure on Line 1600, in contrast to pressure testing, will mitigate the risk of future flaw growth and potential failure related to the destabilization of what would otherwise be considered stable manufacturing and construction flaws.

Pressure testing would not result in the installation of modern safety features. By contrast, construction of proposed Line 3602 would provide long-term safety and environmental benefits through modern manufacturing methods, stronger and thicker steel, and installation of modern safety features, such as warning mesh above the pipeline to alert excavators they are near the pipeline and 24-hour real-time leak detection monitoring and intrusion detection monitoring on the new line. The proposed new Line 3602 would be constructed utilizing state of the art manufacturing methods, resulting in higher quality steel with increased strength and wall thickness.

First and foremost, the Proposed Project is about safety—an issue that is, and has always been, paramount for Applicants. Because the No Project (Hydrotest) Alternative cannot provide safety benefits comparable to the Proposed Project, it does not meet Applicants' project objectives.

2. A Pressure Test of Line 1600 Would Be Complicated and Protracted

While pressure testing Line 1600 is technically feasible, it would be complicated, protracted, and fraught with risk. As more fully explained in Exhibit F attached hereto, *Line 1600 Hydrotest Study and Cost Estimate*, San Diego Gas & Electric Company and Southern California Gas Company (March 21, 2016), hydrotesting a pipeline involves numerous steps to physically take a pipeline or a segment of a pipeline out of service. Line 1600 presents special challenges in that it is not a single unencumbered pipeline that can be taken out of service all at once. Not only is Line 1600 one of just two transmission lines feeding San Diego, but it is interconnected with three other transmission pipelines and it also feeds approximately 50 other smaller pipelines that are tapped directly off it. Approximately 152,000 customers rely directly on this pipeline, many of which are completely dependent on Line 1600 for service. As outlined in Exhibit F, performing a hydrotest requires detailed analysis and planning to determine how the pipeline can be taken out of service, filled with water, and tested, all while keeping customers in service using special techniques such as temporary pipelines to bypass the test area and temporary supply sources.

Moreover, Line 1600 has specific characteristics that impose limitations for implementing a hydrotest that would make it a very expensive and complicated project (with the potential to interrupt service), which in the end would not change the fact that the pipeline is nearly 70 years old, and may still have flaws yet to be identified in future integrity assessments. Accordingly, this alternative does not meet the project objectives.

3. Pressure Testing Alone Leaves the System Exposed to Reliability Risks

The No Project (Hydrotest) Alternative does not address Applicants' reliability concerns regarding SDG&E's gas transmission system. The over 3 million residents, 30,000 businesses, and significant military installations in San Diego would remain essentially dependent on Line 3010, and a significant portion would remain at risk of losing gas service in the event of a Line 3010 outage even if Line 1600 remained in service after a hydrotest. On its own, at a MAOP of 640 psig, Line 1600 supports a system capacity of 150 MMcfd. While a Line 3010 outage may have a low-probability of occurring, it is a significant threat to Applicants' overall system integrity and would severely impact SDG&E's ability to serve core customers and is an important consideration for the Commission in evaluating alternatives.

As discussed above, an unplanned outage on Line 3010 during a period of high demand could result in the loss of gas service to approximately 550,000 meters within 8 hours with significant consequences for customers. The social and economic consequences of an event like this would be massive. The Proposed Project will bring significant reliability benefits. If it was constructed and in service, there would be little or no disruption to customers if the scenario described were to occur.

Applicants have an obligation to provide safe and reliable natural gas service within San Diego County. Because the No Project (Hydrotest) Alternative does not enhance the redundancy

and resiliency of Applicants' integrated natural gas transmission system, it does not meet the project objectives.

IV. There Is a Compelling Need to Complete CEQA Review in a Timely Manner

- A. The Natural Gas Safety Act of 2011 (Public Utilities Code Section 958) and Decision (D.)11-06-017 Require Applicants to Test or Replace Line 1600 "As Soon as Practicable"

As previously discussed, Line 1600 is a 1949 electric flash-welded legacy pipeline, with known manufacturing flaws, located in high consequence areas (HCAs). In response to the 2010 natural gas pipeline rupture and fire in the City of San Bruno, the California Legislature acted expeditiously by adopting regulations to improve pipeline safety. Among other things, the Legislature adopted the California Natural Gas Safety Act of 2011, including Public Utilities Code section 958, which requires all natural gas intrastate transmission line segments that were not pressure tested or that lack sufficient documentation of a pressure test, such as Line 1600, to be pressure tested or replaced "as soon as practicable."³⁴

The Commission also took swift action and instituted proceedings aimed at bringing natural gas pipelines into compliance with "modern standards of safety." They further declared that historic exemptions must come to an end with an orderly and cost conscience implementation plan."³⁵ To accomplish this, all natural gas operators in California had to submit pipeline safety plans, which set forth their plans to "test or replace." Applicants submitted their Pipeline Safety Enhancement Plan (PSEP) in 2011 and Phase 1 of Applicants' PSEP was approved by the Commission in 2014.³⁶ The Commission, in their Phase 1 PSEP Decision, indicated that Applicants' proposal to replace Line 1600 must be addressed in "new applications for those projects."³⁷ Thus, in 2015, Applicants filed this application for the Proposed Project.

Accordingly, Applicants' must pressure test or remove Line 1600 from transmission service, as soon as practicable to comply with the State's safety mandate and maintain reliable service.

Applicants believe that the Proposed Project is the best project to comply with this directive. The Proposed Project will meet or exceed all applicable State and Federal safety regulations,³⁸ can be accomplished within a reasonable period of time, and will ensure reliable delivery of gas to the San Diego region.

- B. Streamlined and Efficient Review of the Proposed Project Is Possible and Necessary

³⁴ California Public Utilities Code § 958.

³⁵ D.11-06-017 at 18.

³⁶ D.14-06-007.

³⁷ D.14-06-007 at 16-17.

³⁸ Includes CPUC General Order (GO) 112-F, 49 Code of Federal Regulations (CFR) Part 191-192, California Occupational Safety and Health Act (Cal/OSHA), Public Utilities Code § 958.

When Applicants filed this application in September 2015, the understanding was that a joint environmental document would be prepared with the Commission as the CEQA lead and Marine Corps Air Station (MCAS) Miramar as the federal National Environmental Policy Act lead. In March 2017, Applicants were informed that MCAS Miramar withdrew as the federal lead and a joint environmental document was no longer contemplated. Currently, the Commission is the sole lead agency and controls the timeline for the CEQA review. The Commission should conduct the CEQA review process as efficiently as possible to ensure that Applicants meet the State's safety mandate as soon as practicable. To this end, Applicants have taken extraordinary steps to facilitate a timely and careful analysis of the Proposed Project. Applicants pre-filed the PEA in July 2015, formally filed the PEA on September 30, 2015, and have responded to all of the Commission's data requests and completeness questions on, if not well before, the provided deadlines in order to facilitate an expeditious review. Given the Commission's and Applicants' mutual desire to process pipeline safety projects in a timely manner, Applicants look forward to continue working with the Commission on the next phase of the CEQA review.

EXHIBIT A

Application No: A.15-09-013
Exhibit No.: _____
Witness: J. Kikuts

In The Matter of the Application of San Diego Gas
& Electric Company (U 902 G) and Southern
California Gas Company (U 904 G) for a Certificate
of Public Convenience and Necessity for the Pipeline
Safety & Reliability Project

Application 15-09-013
(Filed September 30, 2015)

PREPARED DIRECT TESTIMONY OF
JANI KIKUTS
ON BEHALF OF
SAN DIEGO GAS & ELECTRIC COMPANY
AND
SOUTHERN CALIFORNIA GAS COMPANY

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

March 21, 2016

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1 **I. PURPOSE AND OVERVIEW**

2 The purpose of my prepared direct testimony on behalf of San Diego Gas & Electric
3 Company (SDG&E) and Southern California Gas Company (SoCalGas) (collectively, the
4 Utilities) is to describe how a supply disruption on an existing SDG&E gas transmission line
5 would impact the Utilities' system and their ability to provide gas service to customers. My
6 testimony also addresses the high-level steps that the Utilities would undertake to manage a
7 potential outage event.

8 **II. SDG&E GAS SYSTEM OVERVIEW**

9 As explained in the Prepared Direct Testimony of David Bisi, the SDG&E gas
10 transmission system primarily consists of two large diameter high-pressure pipelines. Lines
11 3010 and 1600 extend north to south from the Rainbow Station, located at the Riverside/San
12 Diego County border and terminate at the San Diego metropolitan area. Two cross-ties join Line
13 3010 and Line 1600, the northern cross-tie runs from Escondido to Carlsbad and the southern
14 cross-tie runs across Miramar. From Miramar another large diameter pipeline extends eastbound
15 to Santee. From Santee the large diameter pipeline system extends to the Otay Mesa metering
16 station at the U.S./Mexico border. At Otay Mesa, the SDG&E system interconnects with the
17 Transportadora de Gas Natural, S.R.L. pipeline, providing another receipt point for supplies into
18 the SoCalGas/SDG&E system, if supplies are available, as explained in the Prepared Direct
19 Testimony of Gwen Marelli.

20 The transmission system supplies gas to approximately 14,600 miles of distribution
21 operated mains and services. The 8,000 miles of gas mains are operated at either high-pressure
22 (over 60 pounds per square inch, gage (psig)) or medium-pressure (60 psig and below). This
23 network of mains is supplied by 505 regulator stations located throughout the system to maintain
24 gas pressure and provide adequate capacity to meet customer needs. This network contains

1 approximately 2,250 maintained valves providing the SDG&E capability to isolate the total
2 system into smaller areas for operation, construction, and emergency purposes.

3 The final component of this network is composed of gas service lines that connect the
4 high- and medium-pressure mains to each customer meter set assembly (MSA) and “house
5 pipeline.” SDG&E maintains approximately 6,600 miles of service lines serving approximately
6 873,000 meters.

7 **III. OUTAGE SCENARIOS**

8 The Utilities’ gas transmission and distribution systems are complex networks of
9 pipelines. There are an infinite number of scenarios that could cause an outage; each different
10 and unique due to outage or damage location, duration, weather, customer demand, availability
11 of alternate gas supplies, and other unrelated system constraints such as compressor station
12 capacity or additional outages on the transmission or distribution pipeline systems.¹

13 To illustrate the potential impact to the SDG&E gas system and customers in the event of
14 a Line 3010 outage, my testimony assumes that Line 1600 has been pressure tested and placed
15 back into service operating at 640 psig.² In summary, an unplanned disruption of service on Line
16 3010 is a significant threat to overall system integrity and SDG&E’s ability to serve core
17 customers. The Utilities’ proposed 47-mile, 36 inch diameter natural gas transmission pipeline

¹ As described in the Amended Application, the Utilities retained PricewaterhouseCoopers (PwC) to perform a cost-effectiveness analysis, which included a scenario analysis that evaluates SDG&E’s system performance in the case of an outage or reduction in pressure of Line 3010. *See* Amended Application, Volume III – Cost-Effectiveness Analysis. I provided data input to the analysis, which PwC used to model a range of scenarios across a variety of parameters and variables, with the aim to assess any resulting gas and electric curtailment impacts to customers.

² Due to the specific characteristics of Line 1600, the maximum allowable operating pressure (MAOP) of Line 1600 is now 640 psig, even though it historically operated at 800 psig. *See* Prepared Direct Testimony of Travis Sera.

1 (Proposed Project or Line 3602) would provide resiliency and redundancy for Line 3010, as long
2 as compression is available.³

3 **IV. LINE 3010 OUTAGE SCENARIO**

4 As explained in the Prepared Direct Testimony of David Bisi, the SDG&E gas transmission
5 system is highly dependent on Line 3010 and the Moreno Compressor Station, and an outage on
6 Line 3010, either planned or unplanned, severely reduces the capacity of the SDG&E system.
7 The resulting system and customer impact of an outage is highly dependent on a variety of
8 factors including outage location, outage duration, weather conditions, system demand, and
9 alternate gas supply availability. The following outage scenario is just one plausible example of
10 the kinds of potential impacts that could occur to core, noncore, and electric generation
11 customers in the event of an outage on the northern section of Line 3010. Depending on the
12 circumstances, the impacts of other outage scenarios could be more or less severe than those
13 described below.

14 The assumptions for this outage scenario are as follows:

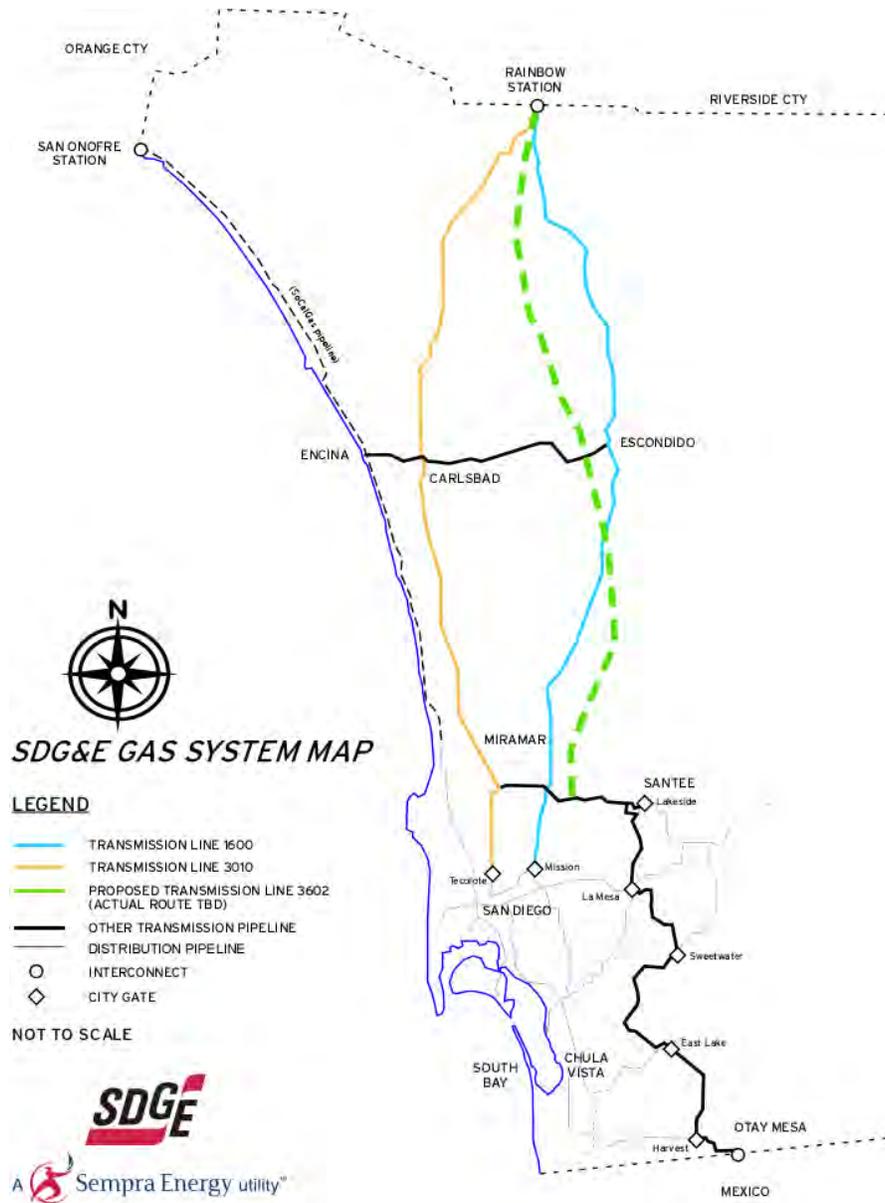
- 15 • Outage occurs at 10 a.m. on the northern end of Line 3010. After an initial
16 release of gas for a period of 3 to 15 minutes, approximately 6.5 miles of Line
17 3010 are isolated by main line valve closures. See Figure 1 below for overall
18 system map.
- 19 • The isolated segment of Line 3010 will be out of service for an extended period of
20 time, but a minimum of 24 hours.
- 21 • The event occurs during a 1-in-10 year gas demand day, which on average has a
22 10% probability of occurring each year during the winter season.
- 23 • Alternate gas supplies through Otay Mesa are not available in the short term at the
24 time of the Line 3010 outage.
- 25 • Moreno Compressor Station is functioning at full capacity feeding the SDG&E
26 transmission system through Line 1600.

³ See Prepared Direct Testimony of David Bisi.

1
2
3
4

- Without Line 3010 or additional gas supplies at the Otay Mesa interconnect, Line 1600 is operating at its maximum current transmission capacity of 150 million cubic feet per day (MMcfd)⁴ supplying the SDG&E system.

FIGURE 1



5

⁴ If there is an outage on Line 3010, Line 1600 operating by itself can contribute up to 150 MMcfd. See Prepared Direct Testimony of David Bisi.

1 **V. OUTAGE SCENARIO IMPACT TO SDG&E GAS DISTRIBUTION SYSTEM**
2 **AND CUSTOMERS⁵**

3 The SDG&E gas transmission system supplies gas to downstream distribution high
4 pressure supply lines and distribution mains. Distribution systems are designed assuming a
5 Minimum Operating Pressure (MinOP) in the transmission system, the MinOp gradient on Line
6 3010 and Line 1600 ranges from a high of 350 psig to a low of 250 psig from North to South
7 under normal operating conditions. Pipeline capacity, or ability to serve downstream demand, is
8 exponentially related to the length of the pipeline and system inlet pressure, as transmission
9 system pressures diminish below MinOp the distribution system’s ability to adequately serve
10 customer demand drops exponentially potentially leading to an outage.

11 In the scenario outlined above in Section IV, the SDG&E transmission system has
12 experienced an outage on a northern segment of Line 3010 with no alternate gas supplies
13 available at Otay Mesa. As a result, the transmission system is solely supplied by Line 1600
14 with a capacity of 150 MMcfd. The remaining system capacity, core demand, electric generation
15 demand, and noncore demands are summarized in Figure 2 below.

16

FIGURE 2
System Capacity and Demand
With Line 3010 Outage and No Otay Mesa Source

Line 1600 Capacity	150	MMcfd
Core Demand	350	MMcfd
Electric Generation (EG) Demand	165	MMcfd
Noncore, Non-EG Demand	44	MMcfd
Noncore, Non-Compliant Demand	18	MMcfd

17 Initially at the time of isolation of the Line 3010 segment, the transmission system will
18 have 111 MMcf of line pack. With Line 1600 solely feeding the SDG&E transmission system
19 and without any curtailment, the line pack will quickly diminish as customer demand is

⁵ See Section V of the Prepared Direct Testimony of Mr. S. Ali Yari for a discussion of electric reliability impacts from a gas service interruption.

1 significantly higher than available supply that can be brought in through Line 1600. In a
2 relatively short amount of time, pressures will drop and customer gas outages will begin to occur
3 until a natural system balance is reached between remaining demand and capacity of Line 1600.

4 Upon recognition of a transmission system capacity constraint, curtailment procedures
5 will be implemented according to SDG&E Rule 14 as noted in the Prepared Direct Testimony of
6 Gwen Marelli. In this outage scenario it is assumed that the following curtailments occur in an
7 effort to preserve core customers:

- 8 • EG demand of 165 MMcfd is fully curtailed within 1 hour of capacity constraint
9 identification.
- 10 • Noncore, non-EG customer demand of 44 MMcfd is fully curtailed within 4 hours
11 of capacity constraint identification.

12 In this scenario, it is assumed that not all noncore customers will comply with the
13 curtailment order in a timely manner. These customers may have committed to production or
14 delivery of services with economical or contractual consequences for failure to deliver.
15 Examples of customer types include small manufacturing, asphalt plants, food processing,
16 industrial bakeries, and large scale laundry facilities.

17 The remaining system demand consists of a core demand of 350 MMcfd and non-
18 compliant noncore demand of 18 MMcfd. As illustrated in Figure 3, the shortfall between
19 available supply through Line 1600 and system demand requires additional curtailment of 218
20 MMcfd of core and noncore non-compliant customers.

21 **FIGURE 3**

System Capacity and Demand With Line 3010 Outage and No Otay Mesa Source		
Line 1600 Capacity (Supply)	150	MMcfd
Core Demand	350	MMcfd
Noncore, Non-Compliant Demand	18	MMcfd
Required Curtailment (Shortfall)	218	MMcfd

1 Without additional load curtailment beyond EG and large noncore system, pressures will
2 continue to drop until the system can no longer flow gas to all customers. It is estimated that the
3 first naturally occurring system outages begin to occur at system extremities approximately 6
4 hours after isolation of Line 3010. Areas likely to experience initial outages include Alpine,
5 Rancho San Diego, Camp Pendleton Marine Corps Base, and portions of Rancho Bernardo. As
6 initial outages occur, the rest of the system will continue to lose pressure resulting in the loss of
7 additional customers. It is estimated that at the 8-hour mark, the gas system will have lost 218
8 MMcfd of core and noncore non-compliant demand corresponding to an estimated 60% to 65%
9 of core customers. This represents roughly 550,000 meters.

10 Allowing the gas system to “self-curtail” through naturally occurring gas outages from
11 diminishing supply is likely to result in multiple outages with undefined boundaries scattered
12 through the service territory. When adequate transmission supply returns, and in order to restore
13 these customers, these outage areas would need to be identified, isolated, purged of any air that
14 may have entered the system. This would require a methodical effort of great complexity and
15 resource needs, and could take weeks to complete, as described in Section VI.

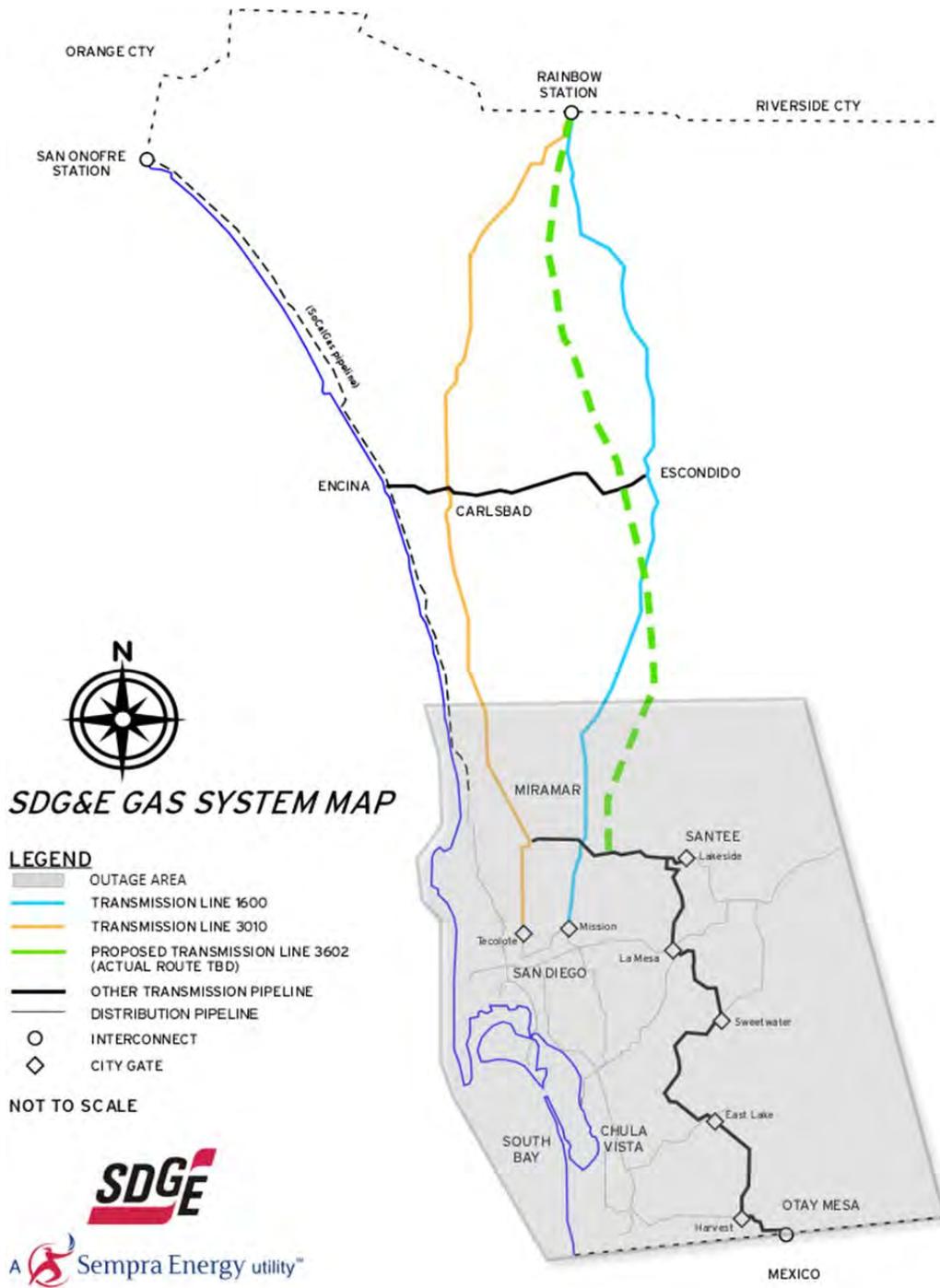
16 In this scenario alternate gas supplies from the Otay Mesa receipt point are not available
17 and additional curtailment of 218 MMcfd is required to meet the system capacity. As discussed
18 in the Prepared Direct Testimony of Gwen Marelli, the immediate supply of gas from Otay Mesa
19 receipt point is not guaranteed. The preferred approach would be to deliberately, proactively,
20 and in a controlled manner, isolate large portions of the system. By doing so, the exact
21 curtailment boundaries and affected customer counts will be defined and the remaining
22 customers will receive adequate service from Line 1600 at a capacity of 150 MMcfd.

1 Initial curtailment of EG and large noncore customers gains some time to evaluate
2 impacts to remaining customers and form a strategy. However, deliberate curtailment action
3 must take place prior to the 6- to 8-hour mark in this scenario. Considering the time necessary to
4 develop and execute a curtailment plan specific to a particular outage scenario, 6 to 8 hours is not
5 a lot of time. A curtailment effort would be executed through the closure of valves in strategic
6 areas of the service territory. Distribution valves are not automated and require a field response
7 with windshield time, potential traffic control requirements, and potential resource constraints
8 depending on the number of valves to be isolated.

9 The most effective approach to required large scale curtailment of core and small noncore
10 customers is by closing the least number of valves isolating a large quantity of customers. In this
11 scenario, the closure of 6 to 8 strategic valves would meet the required load curtailment and
12 effectively isolate an estimated 550,000 customers in the system south of Sorrento Valley,
13 Poway, and Ted Williams Highway 56 to the U.S. – Mexico border, as depicted in Figure 4.⁶ It
14 should be noted that the curtailment of a large geographic area is likely to result in gas outages
15 for multiple customer types including residential, commercial, industrial, schools, hospitals,
16 military bases, as well as local county and city government facilities, all of which would be
17 affected by this scenario. Following the initial isolation of the southern portion of the SDG&E
18 system, further sub-isolations of the outage area will occur in order to facilitate organized
19 restoration of service efforts.

⁶ This map is not to scale and is for illustrative purposes only.

FIGURE 4



1 **VI. GAS SERVICE RESTORATION**

2 Recovering from a large scale gas outage and restoring service to customers is a time-
3 consuming activity requiring customer outreach, system engineering evaluations, and support
4 activities for field personnel. Examples of support activities include resource planning, meals,
5 establishment of centralized command locations, and restoration progress tracking. The size of
6 the field work force needed is directly dependent on the desired restoration timeframe and
7 number of outages. On average, one service technician can isolate or shut down 20 customers
8 per hour and relight 6 customers per hour once the distribution system is ready for relights. The
9 shut-offs and relights per hour are an average; the actual rate can vary depending on the area
10 terrain, time of day, majority multi-family or single family units, and age of appliances. Newer
11 appliances have electronic ignition and are faster to place in service than older appliances.

12 In this scenario, it is safe to assume that an outage of 550,000 customers would require
13 mutual aid from other utilities for a period of weeks. As an example, SDG&E can allocate
14 approximately 100 service technicians to the restoration effort, and with another 100 mutual aid
15 technicians working 12 hour shifts, it would take approximately 12 days to isolate all the risers in
16 the affected area and another 42 days to perform restores for a total field effort of 53 days. Even
17 if over 1,000 field employees were available through mutual aid, it would still take nearly 2
18 weeks to restore customers. The following activity list outlines the basic steps required in
19 system isolation / restoration.

20 Shut Off

- 21 • Set up area based command post.
- 22 • Perform meter shut-offs through area sweeps and gas riser valve closures. Mark
23 or tag each meter as shut off, and document the shut off. Inform customer if
24 present.
- 25 • Report back to area command post.

1 Restoration of Service

- 2 • Purge gas system in restoration area to 100% gas.
- 3 • If customer is present and premises are accessible perform and document
- 4 restoration of service.
- 5 • If customer is not present, service cannot be restored. Valve on riser is left in
- 6 closed position and a door tag is left for a follow up appointment.
- 7 • Keep notes of any unusual circumstances encountered at a customer's premises.

8 In sum, if the Proposed Project was constructed and in service, there would be no

9 disruption to customers if the scenario described above occurred.

1 **VII. QUALIFICATIONS**

2 My name is Jani Kikuts. I am employed by SDG&E as the Gas Engineering Supervisor.

3 My business address is 6875 Consolidated Way, San Diego, California, 92121.

4 I received a Bachelor of Science degree in Mechanical Engineering from San Diego State
5 University in 2005 and I am a registered professional engineer. I have been employed by
6 SDG&E since 2006, and have held engineering and supervisory positions within the Gas
7 Engineering Department in Gas Technical Services.

8 I have held my current position since October 2011. My current responsibilities include
9 supervising the Gas Engineering group responsible for engineering and planning SDG&E's gas
10 distribution system. As such, I am responsible for: ensuring the distribution system meets the
11 CPUC-mandated design standards; recommending system improvements and additions as
12 necessary; monitoring the changing dynamics of the gas distribution system as customer demand
13 changes; performing capacity analysis for proposed customer projects on the distribution system;
14 and supporting routine capital and franchise driven work.

15 I have not previously testified before the California Public Utilities Commission.

16 This concludes my prepared direct testimony.

EXHIBIT B

COST-EFFECTIVENESS ANALYSIS
for the
PIPELINE SAFETY & RELIABILITY PROJECT

San Diego Gas & Electric Company

and

Southern California Gas Company

Application A.15-09-013

Volume III

March 2016

PREPARED BY PWC

WITH INPUT AND DATA FROM APPLICANTS AND CONTENT FROM APPLICANTS' CONSULTANTS

**COST-EFFECTIVENESS ANALYSIS FOR THE AMENDED APPLICATION OF SAN
DIEGO GAS & ELECTRIC COMPANY (U 902 G) AND SOUTHERN CALIFORNIA
GAS COMPANY (U 904 G) FOR A CERTIFICATE OF PUBLIC CONVENIENCE
AND NECESSITY FOR THE PIPELINE SAFETY & RELIABILITY PROJECT**

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I. EXECUTIVE SUMMARY

On September 30, 2015 San Diego Gas and Electric Company (SDG&E) and Southern California Gas Company (collectively the Applicants) filed Application 15-09-013¹ (Application) with the California Public Utilities Commission (CPUC or Commission) in support of their Pipeline Safety & Reliability Project (PSRP or Proposed Project).

The Proposed Project consists of constructing a new 47 mile long, 36-inch natural gas transmission line, (Line 3602), and de-rating the existing Line 1600.

On January 22, 2016 the Assigned Commissioner and Administrative Law Judge issued a joint ruling² (Ruling) directing the Applicants to file and serve an Amended Application by March 21, 2016 that includes, among other things, a cost analysis that compares the relative costs and benefits of the Proposed Project and various project alternatives (Alternatives).³ Specifically, the Ruling requires that the analysis: 1) quantify seven categories of benefits, and 2) apply quantifiable data to define the relative costs and benefits of the Proposed Project and the Alternatives identified in the Ruling.⁴ The seven categories of benefits that must be quantified are (1) increased safety; (2) increased reliability; (3) increased operational flexibility; (4) increased system capacity; (5) increased ability for gas storage by line packing; (6) reduction in the price of gas for ratepayers; and (7) other benefits identified by the Applicant.⁵

This analysis has been prepared by PricewaterhouseCoopers Advisory Services, LLC (PwC), with input and data from the Applicants, in response to the Ruling (Cost-Effectiveness Analysis). Consistent with the Ruling, the analysis applies quantifiable data to define the relative costs and benefits of the Proposed Project and Alternatives. The costs analysis includes the estimated fixed costs, the on-going operating costs, and the avoided costs (*i.e.*, costs that will not be incurred when the Proposed Project or a particular Alternative is implemented). The benefits analysis evaluates each of the seven types of benefits specifically identified in the Ruling.

¹ Certificate of Public Convenience and Necessity for the Pipeline Safety and Reliability Project, Application (A.) 15-09-013.

² Joint Assigned Commissioner and Administrative Law Judge's Ruling Requiring an Amended Application and Seeking Protests, Responses and Replies (Ruling).

³ Ruling, pages 11-14.

⁴ Ruling, page 12.

⁵ Ruling, page 12.

Table 1 below highlights the requirements in the Ruling that are addressed by this Cost-Effectiveness Analysis.

Table 1 - Ruling Requirements

Ruling Requirement ⁶	Method for Complying with the Ruling	Reference in Cost-Effectiveness Report
<p><i>The analysis will quantify specific benefits including: (1) increased safety; (2) increased reliability; (3) increased operational flexibility; (4) increased system capacity; (5) increased ability for gas storage by line packing; (6) reduction in the price of gas for ratepayers; and (7) other benefits identified by the Applicant. All benefits must be quantified.</i></p>	<p>A benefits scoring model was developed based on quantifiable data for each of the seven benefit types.</p>	<ul style="list-style-type: none"> • Section V: Benefits Analysis • Table 11 - Increased Safety Benefits Score • Table 14 - Increased Reliability Benefits Score • • Table 17 - Increased Operational Flexibility Benefits Score • Table 20 - Increased System Capacity Benefits Score • Increased Gas Storage through Line Pack – included under Increased System Capacity • Table 23 - Reduction in Gas Prices to Ratepayers Benefit Scores • Table 24 - Summary of Other Benefits Scores
<p><i>The analysis will apply quantifiable data to define the relative costs of the proposed project and, at a minimum, the range of alternatives identified in this Ruling.⁷</i></p>	<p>First, preliminary cost estimates were developed for the Proposed Project and the Alternatives, then an “avoided cost” was calculated for the Proposed Project and each Alternative so that a “net cost” could be derived for each.</p>	<ul style="list-style-type: none"> • Section IV: Cost Analysis • Table 6 - Estimated Fixed and Operating Costs • Section IV, C: Avoided Costs Associated with the Proposed Project and Alternatives • • Table 8 Avoided Costs
<p><i>The analysis will apply quantifiable data to define the relative benefits of the proposed project and, at a minimum, the range of alternatives.</i></p>	<p>A benefit score was developed for the Proposed Project and each Alternative.</p>	<ul style="list-style-type: none"> • Table 2 - Proposed Project and Alternatives Relative Benefit Ranking and Net Costs
<p><i>Include an estimate of costs, both fixed and operating, as required by Rule 3.1(f).</i></p>	<p>Preliminary estimates were developed for both the fixed and operating costs for the Proposed Project and the Alternatives using standard estimating methods based on the known project scope.</p>	<ul style="list-style-type: none"> • Section IV: Cost Estimating • Table 6 - Estimated Fixed and Operating Costs

⁶ Ruling, page 12.

⁷ The range of alternatives refers to the 10 alternative projects labeled A-K in the Ruling, pages 12-13.

The relative costs and benefits of the Proposed Project and Alternatives are summarized in Table 2 below.

Table 2 - Proposed Project and Alternatives Relative Benefit Ranking⁸ and Net Costs⁹

Project Alternatives		Benefit Rank	Net Cost (\$M)
A	Proposed Project (36" pipeline Rainbow to Line 2010 Route)	1	\$256.2
B	Hydrotest Alternative ¹⁰	15	\$118.7
C1	Alt Diameter Pipeline, Proposed Route (10")	18	\$302.7
C2	Alt Diameter Pipeline, Proposed Route (12")	18	\$291.6
C3	Alt Diameter Pipeline, Proposed Route (16")	11	\$241.4
C4	Alt Diameter Pipeline, Proposed Route (20")	10	\$239.2
C5	Alt Diameter Pipeline, Proposed Route (24")	9	\$229.6
C6	Alt Diameter Pipeline, Proposed Route (30")	8	\$233.5
C7	Alt Diameter Pipeline, Proposed Route (42")	1	\$341.9
D	Replace Line 1600 in Place with a 16" Transmission Pipeline Alternative	12	\$560.4
E/F	Otay Mesa Alternatives ¹¹	13	\$876.8
G	LNG Storage (Peak-Shaver) Alternative	14	\$2,584.7
H1	Alternate Energy Alternative: Grid-Scale Batteries	16	\$8,330.1
H2	Alternate Energy Alternative: Smaller-Scale Batteries	16	\$10,010.1
I	Offshore Route	7	\$1,295.5
J1	Blythe to Santee Alternative 1	3	\$1,219.3
J2	Blythe to Santee Alternative 2	3	\$1,157.3
J3	Cactus City to San Diego Alternative	3	\$981.1
K	Second Pipeline Along Line 3010 Alternative	3	\$427.1

After evaluating the net costs and benefits of the Proposed Project and Alternatives, this Cost-Effectiveness Analysis concludes that the Proposed Project is the most cost-effective, prudent alternative. This conclusion is based on the following:

⁸ Ranked from 1 through 19 with 1 being the highest rank.

⁹ Net costs are calculated as: Fixed Costs + Operations & Maintenance Costs + Avoided Costs. Net costs are discussed in Section IV, C.

¹⁰ In the Ruling, Alternative B is referred to as the "No Project Alternative" and defined as hydrotesting Line 1600 in sections and repairing or replacing pipeline segments as needed. The Applicants refer to Alternative B herein as the "Hydrotest Alternative."

¹¹ The Ruling identifies two alternative projects utilizing the Otay Mesa receipt point: Non-Physical (Contractual) or Minimal Footprint Solutions (Alternative E); and the Northern Baja Alternative (Alternative F). Both of these rely upon the use of Otay Mesa receipt point (Otay Mesa) capacity in place of the Proposed Project. Accordingly, the Applicants will refer to the two alternatives as a single project titled "Otay Mesa Alternatives." See Prepared Direct Testimony of Gwen Marelli (March 21, 2016).

- The lowest net cost project, the Hydrotest Alternative, was ranked among the lowest in terms of project benefits;
- The Proposed Project and the Alternate Diameter Pipeline (42-inch) are ranked highest in terms of benefits and also among the highest in terms of having the least net costs;
- The difference in net costs between the least-cost, Hydrotest Alternative, and the Proposed Project is approximately \$138 million, which is outweighed by significant, quantifiable benefits that are not offered by the Hydrotest Alternative;
- After the least-cost alternative (Hydrotest Alternative), five projects are clustered in the net cost range of \$225 million to \$260 million and include alternate pipeline diameters of 16-, 20-, 24-, 30- and 36-inches (the Proposed Project);
- In terms of benefits, the Proposed Project scored higher than the four other Alternatives that also ranked in the net cost range of \$225 million to \$260 million (Alternative Diameters Pipelines 16-, 20-, 24- and 30-inch);
- After the cluster that includes the Proposed Project, the next group of projects grouped by least net cost ranges from \$290 million to \$430 million and includes Alternate Diameters of 10-, 12- and 42-inches as well as the Second Pipeline Along Line 3010 Alternative;
- The two highest net cost categories include Alternatives with net costs ranging from \$500 million to \$1 billion (Replace Line 1600 In-Place with a New 16-inch Transmission Pipeline Alternative, Otay Mesa Alternatives, Cactus City to San Diego) and more than \$1 billion (Blythe to Santee Pipeline Route Alternatives 1 and 2, Off-Shore, Liquefied Natural Gas (LNG) Storage, and Alternate Energy Alternatives);
- Four Alternatives rank second highest in terms of benefits: the Cross-Country Pipeline Route Alternatives (Blythe to Santee Pipeline Routes, Alternatives 1 and 2; Cactus City to San Diego Alternative) and the Second Pipeline Along Line 3010 Alternative;
- The 10- and 12-inch Alternative Diameter Pipelines rank lowest in terms of benefits;
- New, larger diameter pipelines, including the Proposed Project, outperform the “least-cost” (Hydrotest Alternative) in six out of the seven benefits categories (safety, reliability, operational flexibility, system capacity, gas storage through line pack, and other benefits) and receive the same score for the category of reduction in gas price for ratepayers;

- As compared to the 16-, 20-, 24- and 30-inch Alternate Diameter Pipelines, the Proposed Project provides additional reliability, operational flexibility, system capacity, gas storage through line pack, and other benefits;
- The 42-inch Alternate Diameter Pipeline offers the same benefits as the Proposed Project but costs approximately \$86 million more.

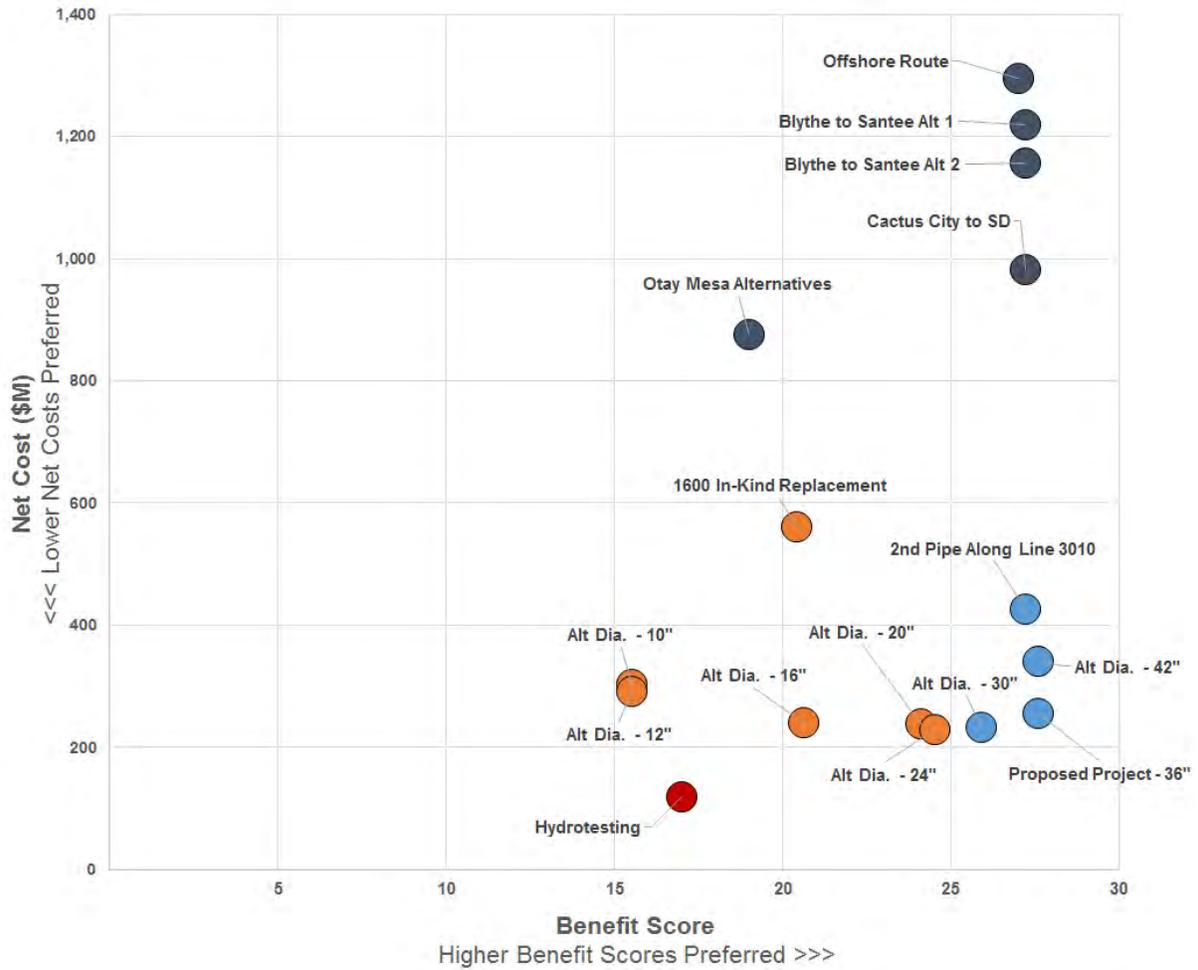
For these reasons, the Proposed Project is identified as the overall most cost-effective alternative.

The results of this Cost-Effectiveness Analysis – the net costs and benefits - are shown in Figure 1 below.¹²

¹² The following Alternatives have been excluded from the chart in order to manage axis scale:

- LNG Storage - Benefit Score 18.6, net cost \$2.6B
- Alt Energy (Grid Scale) - Benefit Score 16.2, net cost \$8.3B
- Alt Energy (Smaller Scale) - Benefit Score 16.2, net cost \$10B

Figure 1 - Net Costs and Benefits Score for Proposed Project and Alternative Projects



II. INTRODUCTION AND APPROACH

A. Background and Summary

On September 30, 2015 San Diego Gas and Electric Company (SDG&E) and Southern California Gas Company (collectively, the Applicants) submitted an application to the California Public Utilities Commission (CPUC or Commission) for a Certificate of Public Convenience and Necessity (CPCN) for the Pipeline Safety & Reliability Project, Application 15-09-013 (Application). The Proposed Project consists of constructing a new 47 mile long, 36-inch natural gas transmission line (Line 3602), along with the de-rating of existing Line 1600 (Proposed Project).

On January 22, 2016 the Assigned Commissioner and Administrative Law Judge issued the Joint Assigned Commissioner and Administrative Law Judge’s Ruling Requiring an Amended Application and Seeking Protests, Responses and Replies. The Ruling directs the Applicants to file and serve an Amended Application by March 21, 2016 that includes, among other things, a cost analysis that compares the relative costs and benefits of the Proposed Project and various Alternatives.¹³ Specifically, the Ruling states:

- [Applicants] shall include a needs analysis in compliance with Rule 3.1(e) and cost analysis comparing the project with any feasible alternative sources of power, in compliance with Section 1003(d) and Rule 3.1(f).¹⁴
- The analysis will quantify specific benefits including: 1) increased safety; 2) increased reliability; 3) increased operational flexibility; 4) increased system capacity; 5) increased ability for gas storage by line packing; 6) reduction in the price of gas for ratepayers; and 7) other benefits identified by Applicant.¹⁵
- The analysis will apply quantifiable data to define the relative costs and benefits of the Proposed Project and, at a minimum, the range of alternatives identified in the Ruling. (For purposes of analysis, the cost analysis shall assume that each of the [identified] alternatives are feasible and include an estimate of costs, both fixed and operating, as required by Rule 3.1(f).)¹⁶

The “range of alternatives” briefly identified in the Ruling¹⁷ is described in Section III of this Cost-Effectiveness Analysis, together with the assumptions made by the Applicants regarding the Alternatives.

¹³ Ruling, pages 11-14.

¹⁴ Ruling, page 11.

¹⁵ Ruling, page 12.

¹⁶ Ruling, page 12.

¹⁷ Ruling, pages 12-13.

This Cost-Effectiveness Analysis has been prepared by PwC, with data and input from the Applicants, to address the requirement that Applicants prepare a cost analysis comparing the Proposed Project with the Alternatives; quantify specific benefit categories; and apply quantifiable data to define the relative costs and benefits of the Proposed Project and Alternatives. Per the Ruling, this Cost-Effectiveness Analysis assumes that each of the Alternatives is feasible.¹⁸

B. Overview of Methodology

Consistent with industry practice and Commission and Federal Energy Regulatory Commission (FERC) precedent,¹⁹ PwC, with input and data from the Applicants, undertook this Cost-Effectiveness Analysis to quantify and compare the relative costs and benefits of the Proposed Project and Alternatives described in the Ruling.

A cost-effectiveness analysis compares the cost of a project to different measures of program benefits.¹² A cost-effectiveness analysis evaluates not only the monetary benefits of a project but also considers benefits that are difficult or impractical to express in monetary terms. These benefits can be expressed in monetary or non-monetary (yet quantitative) units. Cost-effectiveness analyses have been applied to projects with both monetary and non-monetary benefits.

¹⁸ Ruling, page 12.

¹⁹ The CPUC has utilized cost-effectiveness analysis for evaluating the costs and benefits of a project or program. For example, the CPUC requirements for evaluating demand-side management program include:

“All demand-side resources (energy efficiency, demand response, and distributed generation) undergo a cost-effectiveness analysis. While the specific tests and the applications of those tests varies among the resources, the foundation of cost-effectiveness analysis for all demand-side resources is based in the Standard Practice Manual. The Standard Practice Manual contains the Commission’s method of evaluating energy saving investments using various cost-effectiveness tests. The four tests described in the Standard Practice Manual assess the costs and benefits of demand-side resource programs from different stakeholder perspectives, including participants and non-participants.”

(<http://www.cpuc.ca.gov/General.aspx?id=5267>)

FERC has also approved the use of a cost-effectiveness analysis to evaluate transmission planning projects.

“Here, the cost-effectiveness evaluation applies to projects considered not only to provide economic benefits but also to provide reliability benefits and to meet public policy requirements. While the benefits of projects considered purely for economics (e.g. adjusted production cost savings) may be quantified readily and included in a formula, reliability benefits and benefits derived from meeting public policy requirements may not be so readily quantifiable and detailed, and thus cannot easily be included in a formula.”

(<https://ferc.gov/whats-new/comm-meet/2011/072111/e-3.pdf>)

This Cost-Effectiveness Analysis, undertaken to comply with the Ruling, is based on two forms of benefits analysis: quantitative financial analysis and quantitative non-cost, unit-based analysis (unit benefits). The different types of analysis and the mechanisms used to score and compare the benefits are discussed in the following sections of this Cost-Effectiveness Analysis.

The Ruling requires the Applicants to conduct an analysis that will apply quantifiable data to define the relative costs and benefits of the Proposed Project and a range of Alternatives.²⁰ To comply with the requirement to apply quantifiable data to define the relative costs of the projects, PwC reviewed the Applicants' estimates of both the fixed cost for constructing the Proposed Project and the Alternatives and the on-going estimated costs for operating and maintaining them. Additionally, PwC and the Applicants identified certain avoided costs applicable to the Proposed Project and the Alternatives. PwC and the Applicants then quantified the impact of those avoided costs on the Proposed Project and the Alternatives over time to derive the "net cost" associated with the Proposed Project and each Alternative.

To comply with the requirement to apply quantifiable data to define the relative benefits of the projects, PwC and the Applicants first identified quantifiable characteristics and desirable outcomes associated with the seven benefits categories identified in the Ruling. Next, a scoring mechanism was developed and applied as an objective means to evaluate the Proposed Project and the Alternatives against each of the seven benefit types. The Applicants identified and defined a number of individual benefits within each of the seven benefit categories and applied non-monetary, quantifiable measures (*e.g.*, percent reduction in pipeline failures, percent increase in capacity) as the basis for scoring the Proposed Project and the Alternatives against each benefit. Care was taken to treat each benefit as unique and not count them more than one time in the scoring model. Once each of the projects was scored, PwC ranked them from highest to lowest based on the overall benefit score.

²⁰ Ruling, page 12.

Table 3 lists the costs and benefits evaluated and scored consistent with the requirements of the Ruling.

Table 3 - Costs and Benefits Evaluated and Scored

Description	Type of Assessment		Metric/Measure
	Quantitative Monetary	Quantitative Non-Monetary	
Project Costs - Fixed costs	✓		Dollars
Project Costs - Operating costs	✓		Dollars
Avoided Costs - Replacement of Line 1600	✓		Dollars
Avoided Costs - Reduced operation of Moreno Compressor Station	✓		Dollars
Safety – Increased safety margin to prevent pipeline rupture through the de-rating of Line 1600		✓	Defined benefit score
Safety - Long-term safety benefit of transmission pipeline		✓	Defined benefit score
Safety - Reduction in incidents per HCA mile of pipeline		✓	Defined benefit score
Safety - Increased real-time awareness of excavation damage		✓	Defined benefit score
Safety - Achievement of “as soon as practicable” safety objective		✓	Duration by year
Increased Reliability - Redundancy to natural gas transmission system		✓	Defined benefit score
Increased Reliability - Curtailment impact to core gas customers		✓	Percentile of average severity of curtailment scores
Increased Reliability - Curtailment impact to electric generation (EG) gas customers		✓	Percentile of average severity of curtailment scores
Increased Operational Flexibility - Meeting current and future natural gas peak demand		✓	Defined benefit score
Increased Operational Flexibility - Utility operational control of asset		✓	Defined benefit score
Increased System Capacity - Impact to system capacity		✓	Percentage increase in MMcfd of capacity
Increased gas storage through line pack		✓	Proportional to capacity
Reduction in gas prices to ratepayers		✓	Defined benefit score
Other Benefits - Emissions reductions due to reduced operating hours at compressor stations		✓	Percent reduction in net Moreno operating hours

All of the underlying estimates and technical data used to develop the cost estimates, avoided cost estimates and quantifiable benefits analysis were provided by the Applicants.

III. DESCRIPTION OF THE PROPOSED PROJECT AND THE PROJECT ALTERNATIVES

This section briefly summarizes the Proposed Project and the Alternatives identified in the Ruling.

For all of the Alternatives except the Hydrotest Alternative and the Replace Line 1600 in Place with a New 16-inch Transmission Pipeline Alternative, Line 1600 would be de-rated and operated as a distribution asset.

A. Proposed Project (Pipeline Safety & Reliability Project - PSRP)

Line 3602 is the proposed new 36-inch diameter, 47-mile long natural gas transmission pipeline connecting the existing Rainbow Metering Station to Marine Corps Air Station (MCAS) Miramar. Additionally, the Proposed Project includes the de-rating of the existing Line 1600, a 16-inch natural gas transmission pipeline that also runs from Rainbow Station to Miramar.

For additional information regarding the Proposed Project, please reference Applicants' PEA.²¹

B. Hydrotest Alternative

In the Ruling, the No Project Alternative includes hydrotesting Line 1600 in sections and only repairing or replacing pipeline segments as needed.²²

The Hydrotest Alternative involves a complex four year project to test the northern 45-miles of Line 1600, from Rainbow Metering Station to Kearny Villa Station. Line 1600 is an approximately 50-mile, 16-inch diameter, high pressure natural gas transmission pipeline that begins at the Rainbow Metering Station and terminates at Mission Station in San Diego.²³ The Hydrotest Alternative will involve testing 19 different pipeline segments during the shoulder months.²⁴ The Applicants would hydrotest Line 1600 in sections and only repair or replace pipeline segments as needed.

Testing will require installing bypasses and arranging for alternative distribution requirements and could include environmental mitigation and community impacts. It will also require gas to be imported from the gas transmission system receipt point located at Otay Mesa.

²¹ A.15-09-013, Volume II, Proponent's Environmental Assessment (PEA), Chapter 3.0, Project Description and Chapter 5.2.3, pages 5-16.

²² Ruling, page 12.

²³ Line 1600 Hydrotest Study and Cost Estimate. *See* Prepared Direct Testimony of Neil Navin (March 21, 2016), Attachment A, Appendix 12.

²⁴ The shoulder months are from April 1 through June 15, and October 1 through December 15.

For additional information regarding this Alternative, please refer to the Line 1600 Hydrotest Study and Cost Estimate.²⁵

C. Alternative Diameter Pipeline, Various Sizes, Proposed Route

This Alternative requires the Applicants to evaluate the installation of different sized pipelines of alternate diameters. This analysis assumed the same proposed route as the 47-mile Proposed Project from Rainbow Metering Station to MCAS Miramar. The seven alternate diameters addressed in this Cost-Effectiveness Analysis are:

Table 4 - Pipeline Material Thickness by Alternative Proposed Diameter of Line²⁶

No.:	Alternate Diameter ²⁷	Pipeline Specification
C1	Alt. Dia. 10"	Pipe, 10", X-52, 0.365" WT, FBE
C2	Alt. Dia. 12"	Pipe, 12", X-52, 0.375" WT, FBE
C3	Alt. Dia. 16"	Pipe, 16", X-52, 0.375" WT, FBE
C4	Alt. Dia. 20"	Pipe, 20", X-52, 0.375" WT, FBE
C5	Alt. Dia. 24"	Pipe, 24", X-65, 0.375" WT, FBE
C6	Alt. Dia. 30"	Pipe, 30", X-65, 0.50" WT, FBE
C7	Alt. Dia. 42"	Pipe, 42", X-60, 0.750" WT, FBE

Alternative C was included in the Ruling²⁸ but was not included in the PEA.

D. Replace Line 1600 in Place with a New 16-inch Transmission Pipeline

This Alternative requires the removal of the existing Line 1600 and replacing it with a new 16-inch diameter pipeline within existing easements.

Nineteen pipeline segments covering approximately 45 miles would be removed and replaced. Removal and replacement would be conducted in phases.

For additional information regarding Alternative D, please refer to the PEA.²⁹

²⁵ See Prepared Direct Testimony of Neil Navin (March 21, 2016), Attachment B.

²⁶ Provided by the Applicants.

²⁷ The Ruling calls for “an evaluation of pipeline sizes that range in diameter from 10 inches to 40 inches.” On February 9, 2016, the Applicants confirmed with Energy Division staff that standard-sized pipeline diameters within this range should be evaluated and that a 42-inch diameter alternative can be included because 40 inches is not a standard size diameter.

²⁸ Ruling, page 13.

²⁹ PEA, Chapter 5.2.2, Page 5-9.

E. Otay Mesa Alternatives

The Ruling identifies two alternative projects utilizing the Otay Mesa receipt point: Non-Physical (Contractual) or Minimal Footprint Solutions (Alternative E); and the Northern Baja Alternative (Alternative F).³⁰ Both of these rely upon the use of Otay Mesa receipt point (Otay Mesa) capacity in place of the Proposed Project. Accordingly, the Applicants will refer to the two alternatives as a single project titled “Otay Mesa Alternatives.”

In order to deliver 400 million cubic feet per day (MMcfd) on a firm basis, the Otay Mesa Alternatives requires the physical construction of new pipeline facilities³¹ via an expansion on the North Baja pipeline systems. These Alternatives would also require the Applicants to secure a multi-year capacity contract for the transportation of gas supplies.³²

Several variations for Alternative E were described in the Ruling³³ that would also rely upon the use of Otay Mesa capacity; therefore, the Applicants assumed the same costs based on the Otay Mesa Alternatives assumptions above for purposes of this Cost-Effectiveness Analysis, even though these variations would potentially have incremental costs.

Alternative E was not included in the PEA, but was included in the Ruling.³⁴

F. See Alternative E: Otay Mesa Alternatives

Alternative F is discussed in conjunction with Alternative E above. Alternative F was included in the PEA and in the Ruling.³⁵

G. LNG Storage (Peak Shaver) Alternative

This LNG Alternative entails the construction of four independent LNG storage and regasification facilities, each located adjacent to an existing electric generating plant. This alternative is similar to the PEA’s “United States – LNG Alternative,” but at a smaller scale with LNG storage sited at or near natural gas peaker generation sites.”

³⁰ Ruling, page 13.

³¹ The Applicants were ordered in the Ruling to consider other specific options in Alternative E. These options included: 1) use of the Southern System Minimum Flow Requirement; 2) operational flow orders (OFO); 3) system balancing; and 4) tariff discounts.

³² See Prepared Direct Testimony of Gwen Marelli (March 21, 2016).

³³ See Amended Application.

³⁴ Ruling, page 13.

³⁵ Ruling, page 13.

LNG storage would serve three existing gas-fired generation sites in the SDG&E system, which is comprised of combustion turbines, steam turbines at Encina Power Plant (located in Carlsbad), the combined cycle plants at Palomar Energy Center (located in Escondido) and the Otay Mesa Energy Center (located in Otay Mesa), with LNG storage to serve one (1) planned (future) generation site in Pio Pico.

Each LNG facility would require rail or truck deliveries of LNG to support peak capacity shaving requirements or ability for each electric generating plant to operate for at least 5 days from LNG storage.

Alternative G was not included in the PEA but was included in the Ruling.³⁶

H. Alternate Energy Alternatives

1. Alternative H1: Grid-Scale Battery / Energy Storage

The Applicants assume that Alternative H1 – Grid Scale Battery/Energy Storage - envisions the installation of a system of grid-scale batteries and associated equipment that would be sufficient to supply customers with energy equivalent to the Proposed Project.

The Applicants' evaluation of Alternative H1 is based on a scenario under which: the gas supply is lost to all local electric generation during a peak load period; gas supply is unavailable for a four-hour period; and that no customer outages would occur. The Applicants are unaware of a battery storage project of this magnitude being undertaken and, as a result, battery production on this scale would be very difficult, very expensive, very large (requiring approximately 100 acres of land) and would take a very long time to produce.

A system of grid-scale batteries might provide four hours of electric supply under the circumstances that electric generation was unavailable due to the loss of the natural gas supply; however, grid-scale batteries would not provide any energy replacement for the residential and business needs that are currently supplied by natural gas. For example, during the four hour period, customers might still receive electricity service from the grid-scale batteries, but would not have any natural gas service to operate their gas water heaters, gas heating units, gas appliances or any other gas supplied equipment.

In order for the four hours of grid-scale storage to be ready and available if a system wide natural gas outage occurred, the system of batteries would need to be fully charged at all times. It is likely that grid-scale batteries would be charged and discharged on a regular basis and operated by the California Independent System Operator (CAISO) as an ongoing resource it could count

³⁶ Ruling, page 13.

on for grid reliability purposes. Therefore, depending on the timing of a natural gas outage, there is no certainty that the system of batteries would be fully charged when needed.³⁷

2. Alternative H2: Smaller-Scale Battery Storage

The Applicants assume that a smaller-scale, alternative energy battery storage involves the installation of smaller-scale batteries and associated equipment to supplement the gas supply system at times when additional capacity is needed (e.g. unplanned outages, maintenance, peak demand). Similar to the grid-scale battery storage project, the Applicants assume that smaller-scale battery storage would supply four hours of electric supply, including approximately 11,200 MWh of energy storage capacity.

Similar to the issue with the grid-scale battery storage, smaller-scale battery storage would not provide any energy replacement for the residential and business needs that are currently supplied by natural gas. Customers might still receive electricity service from the batteries, but would not have any natural gas service. Likewise, the same issues exist in that the system of batteries would need to be fully charged at all times, but would be charged and discharged on a regular basis and operated by the CAISO as an ongoing resource it could count on for grid reliability purposes. Therefore, depending on the timing of a natural gas outage, there is no certainty that the system of batteries would be fully charged when needed.³⁸

The Applicants could not identify any other reliable alternate energy options that do not require the installation of a new gas transmission pipeline.³⁹

Alternative H was included in the Ruling⁴⁰ but was not included within the PEA.

Henceforth, Alternatives H1 and H2 will be referred to as “Alternative Energy.”

I. Offshore Route Alternative

The Offshore Route Alternative assumes construction of a 36-inch diameter underwater pipeline off of the shore of Southern California, transitioning from offshore to onshore at Line 3010/3011 intersection (receiving point for supply gas to other pipelines in San Diego region). Figure 2 below shows a potential route for this Alternative.

For additional information regarding Alternative I, please refer to the PEA.⁴¹

³⁷ See Prepared Direct Testimony of S. Ali Yari (March 21, 2016).

³⁸ See Prepared Direct Testimony of S. Ali Yari (March 21, 2016).

³⁹ See Prepared Direct Testimony of S. Ali Yari (March 21, 2016).

⁴⁰ Ruling, page 13.

⁴¹ PEA, Chapter 5.2.2, Page 5-6.

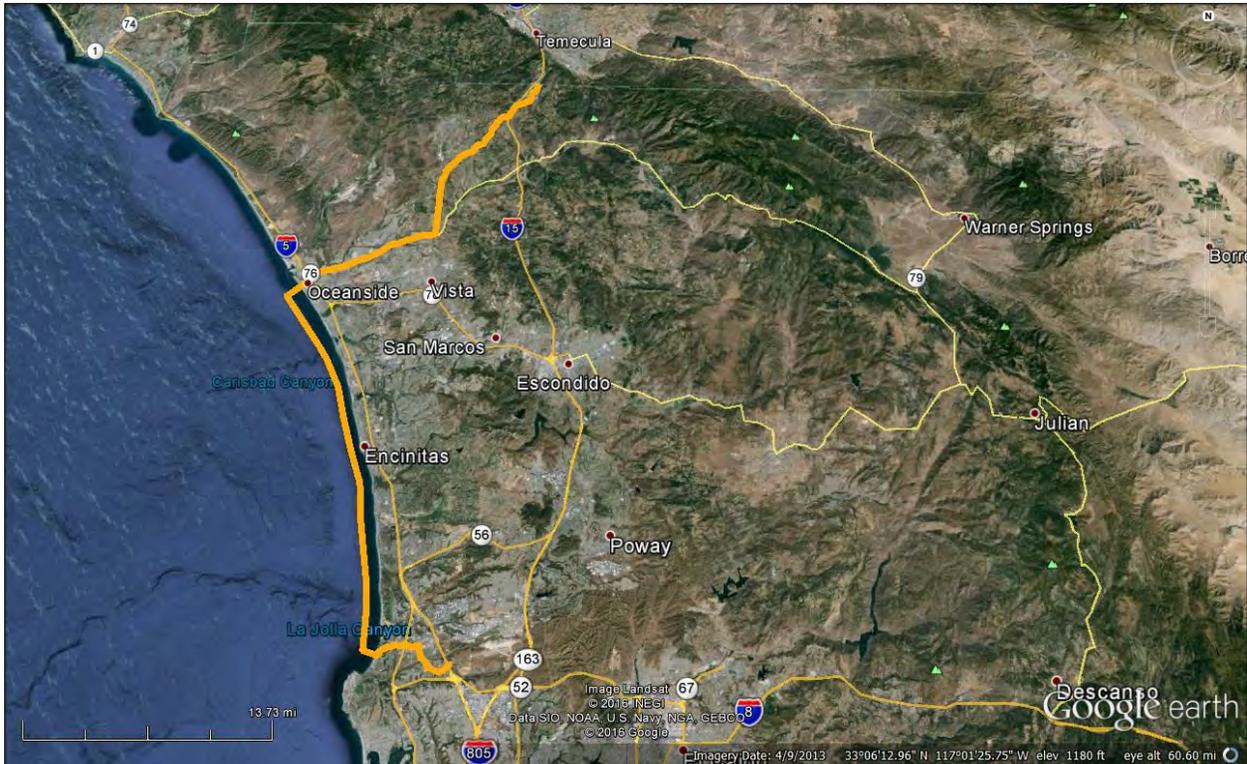


Figure 2 - Offshore Route Alternative (Conceptual - illustrative purposes only)

J. Cross-County Pipeline Route Alternatives

The Cross-County Pipeline Route Alternatives comprise three distinguishable routes from Riverside and Imperial counties to the San Diego area. The alternative routes are shown in Figure 3 and discussed below.

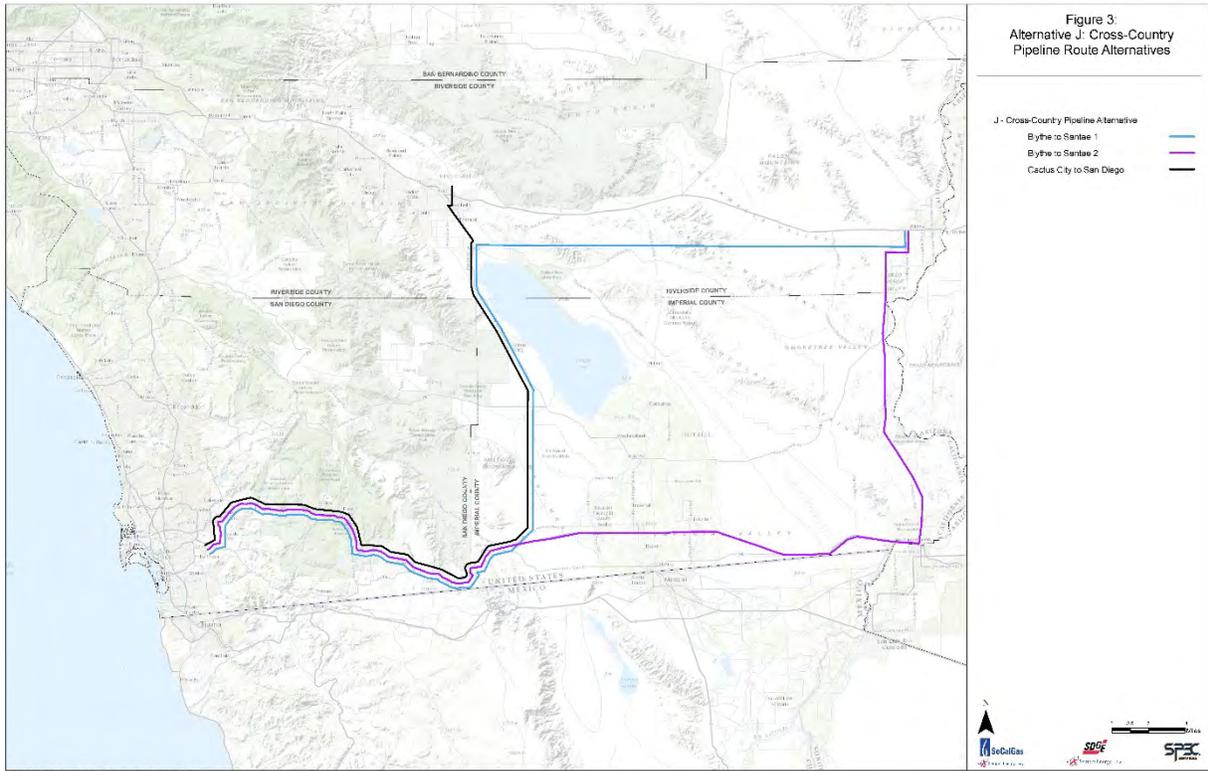


Figure 3 - Cross County Pipeline Route Alternatives (Conceptual - illustrative purposes only)

1. Blythe to Santee Alternative 1

This 222 mile cross-county pipeline initiates in the City of Blythe and traverses directly west, veering south near the northwestern corner of the Salton Sea in Riverside County. The route would then shift southwardly through Imperial County until just north of Ocotillo, at which point the route would run in a general westerly direction until its terminus within the community of Spring Valley. Approximately 202 miles of pipeline would be sited cross-county on undeveloped land, including land that is managed by eight different state and federal agencies.⁴²

2. Blythe to Santee Alternative 2

This 223 mile cross-county pipeline initiates in the City of Blythe and travels south until nearly reaching the City of Yuma, Arizona. At the City of Yuma, the route would veer west, following I-8 until its terminus within the community of Spring Valley. This Alternative would run through Riverside, Imperial, and San Diego counties. Approximately 199 miles of pipeline would be sited cross-county on undeveloped land, including land that is managed by eight different state and federal agencies.⁴³

⁴² PEA, Chapter 5.0, page 5-28.

⁴³ PEA, Chapter 5.0, page 5-30.

3. Cactus City to San Diego

This 160 mile cross-county pipeline initiates in Cactus City and travel south until just north of Ocotillo, at which point the route would shift west and travel generally in a western direction until its terminus within the community of Spring Valley. Approximately 120 miles of pipeline would be sited cross-county on undeveloped land that is managed by eight different state and federal agencies.⁴⁴

Alternatives J1-J3 were included in the Ruling as “Cross-County Pipeline Route Alternatives.”⁴⁵ For additional information regarding Alternatives J1-J3, please refer to the PEA.⁴⁶

K. Second Pipeline along Line 3010 Alternative

The Second Pipeline along Line 3010 Alternative would consist of constructing a new 36-inch pipeline approximately 45 miles in length, running adjacent to the existing 30-inch Line 3010. The second pipeline would originate at the existing Rainbow Metering Station and terminate at Line 3010’s interconnect with Line 2010.

For additional information regarding Alternative K, please refer to the PEA.⁴⁷

⁴⁴ PEA, Chapter 5.0, page 5-32.

⁴⁵ Ruling, page 13.

⁴⁶ PEA, Chapter 5.2.3, Pages 5-28, 5-30, 5-32.

⁴⁷ PEA, Chapter 5.2.3, Page 5-33.

IV. COSTS ANALYSIS

A. Methodology

The Ruling⁴⁸ directs Applicants to file an Amended Application that includes a cost analysis comparing the Proposed Project with any feasible alternative sources of power, in compliance with Section 1003(d) and Rule 3.1(f). Section 1003(d) requires “*Every electrical and every gas corporation submitting an application to the commission for a certificate authorizing the new construction of any electrical plant, line, or extension or gas plant, line or extension... shall include all of the following information... (d) a cost analysis comparing the project with any feasible alternative sources of power.*” Rule 3.1(f) requires “*a statement detailing the estimated cost of proposed construction or extension and the estimated annual costs, both fixed and operating associate therewith. In the case of a utility which has not yet commenced service or which has been rendering service for less than 12 months, the applicant shall file as part of the application supporting statements or exhibits showing that the proposed construction is in the public interest, and whether it is economically feasible.*”

In most cases, implementing the Proposed Project or one of the Alternatives will avoid certain costs that would arise if another alternative were implemented. To illustrate, constructing a new pipeline to replace the transmission function of Line 1600 would reduce or avoid certain costs associated with operating the Moreno Valley Compressor Station. The methodology used to account for these “avoided costs” (or savings), and develop a “net cost” for the Proposed Project and each of the Alternatives is expressed in simple terms as follows:

$$\text{Fixed Costs} + \text{O\&M Costs} + \text{Avoided Costs} = \text{Net Costs}$$

For the purposes of this Cost-Effectiveness Analysis, the Applicants’ do not distinguish between capital and expense costs.

The Applicants developed the fixed cost estimate for the Proposed Project and Alternatives using common, industry standard estimating practices, aligned with Association for the Advancement of Cost Engineering Recommended Practices.⁴⁹ The estimates are based on a combination of market research, historical data, parametric modeling, semi-detailed unit costs and order-of-magnitude estimating based on experience and engineering judgment. The level of scope definition and estimating accuracy has been defined by references to the Association for the Advancement of Cost Engineering (AACE) RP 56R-08 Classification system, described below.

For the Proposed Project and all the Alternatives except the Hydrotest Alternative (Alternative B) and Replace Line 1600 in Place with a New 16-inch Transmission Pipeline Alternative

⁴⁸ Ruling, pages 11-12.

⁴⁹ AACE® International Recommended Practice No. 56R-08.

(Alternative D), Line 1600 would be de-rated and operate as a distribution asset. The costs for de-rating Line 1600 are included in the fixed cost estimate for all the Alternatives except Alternatives B and D. The costs for de-rating Line 1600 were developed based on a combination of historical data, semi-detailed unit costs, and engineering experience and judgment. Under the Hydrotest Alternative, it is anticipated that Line 1600 will be replaced within approximately 20 years.

Applicants also estimated the on-going, annual operating costs for the Proposed Project and the Alternatives. The operating costs for the pipeline alternatives also include amounts for complying with Transmission Integrity Management Program (TIMP) requirements. The operating cost estimates were developed using a combination of historical operations and maintenance costs and other estimates based on Applicants' engineering judgment. This analysis assumes that operating costs for the Otay Mesa Alternatives are included in Applicants' contract pricing.

B. Estimated Costs of the Proposed Project and Alternatives

Cost Estimate Classification

In support of the Application filing in September 2015, Applicants developed a cost estimate for the Proposed Project based on a defined route, semi-detailed design and engineering, and a robust environmental assessment. By contrast, the maturity of the estimates for each Alternative is lower, due to the lack of detailed definition for key project cost drivers – such as scope definition, level of completed design and engineering, material and labor requirements, permitting needs, environmental requirements, and schedule/sequence assumptions.

For those Alternatives that were not carried forward by Applicants in the PEA⁵⁰ – the Off-Shore Route Alternative, Existing Alignment Alternatives (Replace Line 1600 In-Place with a New 16-inch Transmission Pipeline Alternative, New 16" or 36" Pipe Parallel to Line 1600), LNG Alternatives, Infrastructure Corridor Alternative, and the Northern Baja Alternative – detailed cost estimates were not prepared. Only high-level cost estimates are available for those Alternatives, which were previously determined by the Applicants to be imprudent as compared to the Proposed Project.

The Applicants' estimating team evaluated each of the project estimates against the AACE International⁵¹ Recommended Practices, specifically, the cost estimate classification system, to classify the level of maturity of each estimate. The AACE classification is based on the

⁵⁰ PEA, Chapter 5.0, pages 5-6 through 5-15.

⁵¹ AACE International developed a guideline for cost estimate classification in the late 1960s to early 1970s. Those guidelines and standards are generally accepted in the engineering and construction communities as a means for evaluating the maturity of a project cost estimate.

relationship between scope definition and estimate accuracy. The estimate accuracy range is based on known scope, but excludes unforeseen risks that could alter that scope.⁵²

The AACE matrix maturity levels are defined on a scale from 1 through 5 based on Primary Characteristics and Secondary Characteristics, as shown below:

Table 5 - Cost Estimate Classification Matrix for Building and General Construction Industries

ESTIMATE CLASS	Primary Characteristic	Secondary Characteristic		
	MATURITY LEVEL OF PROJECT DEFINITION DELIVERABLES Expressed as % of complete definition	END USAGE Typical purpose of estimate	METHODOLOGY Typical estimating method	EXPECTED ACCURACY RANGE Typical variation in low and high ranges ⁵³
Class 5	0% to 2%	Functional area, or concept screening	SF or m ² factoring, parametric models, judgment, or analogy	L: -20% to -30% H: +30% to +50%
Class 4	1% to 15%	Schematic design or concept study	Parametric models, assembly driven models	L: -10% to -20% H: +20% to +30%
Class 3	10% to 40%	Design development, budget authorization, feasibility	Semi-detailed unit costs with assembly level line items	L: -5% to -15% H: +10% to +20%
Class 2	30% to 75%	Control or bid/tender, semi-detailed	Detailed unit costs with forced detailed take-off	L: -5% to -10% H: +5% to +15%
Class 1	65% to 100%	Check estimate or pre bid/tender, change order	Detailed unit costs with detailed take-off	L: -3% to -5% H: +3% to +10%

The cost estimates prepared by the Applicants were developed based on the known and anticipated project scope at the time of the filing (September 2015), along with additional estimating information that was collected or developed for the Proposed Project and certain alternative projects that were subsequently identified in the Ruling. Table 6 below shows the estimated fixed cost and annual operating costs for the Proposed Projects and each of the Alternatives.

⁵² AACE Recommended Practice, No. 56R-08, Cost Estimate Classification System – As Applied for the Building and General Construction Industries, TCM Framework: 7.3 – Cost Estimating and Budgeting, Rev. December 5, 2012. 7 AACE International Recommended Practice, No. 34-R-05, TCM Framework: 7.3 - Cost Estimating and Budgeting, 2007, p. 4.

⁵³ The state of construction complexity and availability of applicable reference cost data affect the range markedly. The +/- value represents typical percentage variation of actual cost from the cost estimate after application of contingency (typically at a 50% level of confidence) for given scope.

The estimated costs for the Proposed Project and the Alternatives include contingency. Per the AACE, contingency is defined as “a cost element of the estimate used to cover the uncertainty and variability associated with a cost estimate, and unforeseeable elements of cost within the defined project scope.”⁵⁴ Including a contingency allows for uncertain cost elements to be included in the project budget, even though the exact contingency-related expenditures and unforeseen events are currently unknown.

Table 6 - Estimated Fixed and Operating Costs⁵⁵

Alt. No.	Project Name	(Millions of 2015 Dollars)	
		Fixed Cost	Annual Operating Cost ⁵⁶
A	Proposed Project (Rainbow to Line 2010 Route)	\$441.9	\$0.3
B	Hydrotest Alternative	\$112.9	\$0.5
C1	Alt Diameter Pipeline, Proposed Route (10")	\$297.6	\$0.3 ⁵⁷
C2	Alt Diameter Pipeline, Proposed Route (12")	\$320.1	\$0.3 ⁵⁸
C3	Alt Diameter Pipeline, Proposed Route (16")	\$337.1	\$0.3
C4	Alt Diameter Pipeline, Proposed Route (20")	\$352.9	\$0.3
C5	Alt Diameter Pipeline, Proposed Route (24")	\$361.2	\$0.3
C6	Alt Diameter Pipeline, Proposed Route (30")	\$392.2	\$0.3
C7	Alt Diameter Pipeline, Proposed Route (42")	\$527.5	\$0.3
D	Replace Line 1600 in-Place with a New 16-inch Transmission Pipeline Alternative	\$556.1	\$0.4
E/F	Otay Mesa Alternatives	\$977.1	\$45 ⁵⁹
G	LNG Storage (Peak-Shaver) Alternative AKA (United States – LNG Alternative)	\$2,669.7	\$1.2
H1	Alternate Energy (Battery) Alternative – Grid Scale	\$8,415.1	\$1.2
H2	Alternate Energy (Battery) Alternative – Smaller Scale	\$10,095.1	\$1.2
I	Offshore Route Alternative	\$1,449.9	\$0.5

⁵⁴ AACE International Recommended Practice No. 34R-05, TCM Framework: 7.3 – Cost Estimating and Budgeting, 2007, p. 4.

⁵⁵ Prepared Direct Testimony of Neil Navin (March 21, 2016), page 31, workpaper Estimated Fixed and Operating Costs for Proposed Project and Alternatives

⁵⁶ Annual Operating Costs includes the costs for complying with TIMP. The Applicants incur TIMP costs once every seven years. TIMP costs were divided by 7 to determine the “annual” TIMP costs. That portion – 1/7 – were added to the annual O&M costs to determine total operating costs.

⁵⁷ The 10-inch and 12-inch alternate diameter pipelines do not meet regulatory requirements for natural gas demand on a 1-in-10 year winter day. It is assumed that these alternatives will require the import of gas via the Otay Mesa receipt point. These additional import costs have been accounted for by including them as O&M costs in order to calculate net costs. This analysis can be seen in Section V, Avoided Cost.

⁵⁸ *Id.*

⁵⁹ Estimated costs to transport natural gas. See Prepared Direct Testimony of Gwen Marelli (March 21, 2016), page 7.

Alt. No.	Project Name	(Millions of 2015 Dollars)	
		Fixed Cost	Annual Operating Cost ⁵⁶
J1	Blythe to Santee Alternative 1	\$1,377.5	\$1.4
J2	Blythe to Santee Alternative 2	\$1,315.5	\$1.4
J3	Cactus City to San Diego Alternative	\$1,143.4	\$1.0
K	Second Pipeline Along Line 3010 Alternative	\$595.2	\$0.3

Cost Estimate Assumptions

Described below are the respective assumptions and inclusion/exclusion considered for the Proposed Project and Alternatives.

Alternative A: Proposed Project (Rainbow to Line 2010 Route)

Applicants developed direct cost estimates for the Proposed Project based on the known and anticipated project scope at the time of the Application’s filing (September 2015). The cost estimates have been updated to include the de-rating of Line 1600 to distribution pressure. The direct cost estimates include costs for material and equipment procurement, construction, engineering and design, environmental permitting and mitigation, other project execution-related activities, and company labor. The cost estimate is within a Class 3 range of accuracy as defined by AACE.⁶⁰

Alternative B: Hydrotest

Cost estimates were developed for this project based on historic information and experience with similar types of projects. The level of contingency was decided using expert judgment, based on the accuracy of the estimate which reflects a Level 4 class estimated as defined by AACE classification system.

Alternative C1: Alternative Diameter Pipeline, Proposed Route (10’’)

High-level cost estimates have been developed for this Alternative. Costs for this Alternative were scaled from the Proposed Project on a cost per mile basis. This project involves the same proposed route and similar components as the Proposed Project though in different quantities. Other costs for activities such as engineering, survey, and right-of-way acquisition, should be comparable, on a unit cost basis, to the estimates developed for the Proposed Project. A 10-inch alternate diameter pipeline does not meet regulatory requirements for natural gas demand on a 1-in-10 year winter day. It is therefore assumed that this Alternative will require the import of gas via the Otay Mesa receipt point.

⁶⁰ See Prepared Direct Testimony of Neil Navin (March 21, 2016), page 16

Alternative C2: Alternative Diameter Pipeline, Proposed Route (12’)

High-level cost estimates have been developed for this Alternative. Costs for this Alternative were scaled from the Proposed Project on a cost per mile basis. This project involves the same proposed route and similar components as the Proposed Project though in different quantities. The pipeline material specifications for each alternative would be similar to the Proposed Project. Other costs for activities such as engineering, survey, and right-of-way acquisition, should be comparable, on a unit cost basis, to the estimates developed for the Proposed Project. A 12-inch alternate diameter pipeline does not meet regulatory requirements for natural gas demand on a 1-in-10 year winter day. It is therefore assumed that this Alternative will require the import of gas via the Otay Mesa receipt point.

Alternative C3: Alternative Diameter Pipeline, Proposed Route (16’)

High-level cost estimates have been developed for this Alternative. Costs for this Alternative were scaled from the Proposed Project on a cost per mile basis. This project involves the same proposed route and similar components as the Proposed Project though in different quantities. The costs for activities such as engineering, survey, and right-of-way acquisition, should be comparable, on a unit cost basis, to the estimates developed for the Proposed Project.

Alternative C4: Alternative Diameter Pipeline, Proposed Route (20’)

High-level cost estimates have been developed for this Alternative. Costs for this Alternative were scaled from the Proposed Project on a cost per mile basis. This project involves the same proposed route and similar components as the Proposed Project though in different quantities. Other costs for activities such as engineering, survey, and right-of-way acquisition, should be comparable, on a unit cost basis, to the estimates developed for the Proposed Project.

Alternative C5: Alternative Diameter Pipeline, Proposed Route (24’)

High-level cost estimates have been developed for this Alternative. Costs for this Alternative were scaled from the Proposed Project on a cost per mile basis. This project involves the same proposed route and similar components as the Proposed Project though in different quantities. Other costs for activities such as engineering, survey, and right-of-way acquisition, should be comparable, on a unit cost basis, to the estimates developed for the Proposed Project.

Alternative C6: Alternative Diameter Pipeline, Proposed Route (30’)

High-level cost estimates have been developed for this Alternative. Costs for this Alternative were scaled from the Proposed Project on a cost per mile basis. This project involves the same proposed route and similar components as the Proposed Project though in different quantities. Other costs for activities such as engineering, survey, and right-of-way acquisition, should be comparable, on a unit cost basis, to the estimates developed for the Proposed Project.

Alternative C7: Alternative Diameter Pipeline, Proposed Route (42’)

High-level cost estimates have been developed for this Alternative. Costs for this Alternative were scaled from the Proposed Project on a cost per mile basis. This project involves the same proposed route and similar components as the Proposed Project though in different quantities. Other costs for activities such as engineering, survey, and right-of-way acquisition, should be comparable, on a unit cost basis, to the estimates developed for the Proposed Project.

Alternative D: Replace Line 1600 in Place with a New 16" Transmission Pipeline Alternative (In-Kind Replacement)

High-level cost estimates have been developed for this Alternative. Costs for this Alternative were scaled from the Proposed Project on a cost per mile basis. This project involves similar components as the Proposed Project though in different quantities. Other costs for activities such as engineering and survey should be comparable, on a unit cost basis, to the estimates developed for the Proposed Project. Right-of-way acquisition costs for this Alternative are significantly greater than those for the Proposed Project.⁶¹

Alternative E/F: Otay Mesa Alternatives

In evaluating the Otay Mesa Alternatives, the Applicants identified both a low end cost and a high end cost for building out capacity to provide service under these Alternatives. The low end cost is based on existing rates for the pipelines and rates for facilities in service since 2002.⁶² The high end cost is based on recently published pipeline costs for projects proposed or awarded for construction in Arizona and Northern Mexico. The high end cost assumes the North Baja Pipeline System and Gasoducto Rosarito System are looped from Ehrenberg to TGN.

Alternative G: LNG Storage (Peak-Shaver) Alternative AKA (United States – LNG Alternative)

The estimate for this Alternative was based on evaluating the costs for a similar LNG storage facility project, and developing factored estimates for the supply and construction of four LNG storage facilities based on each facility’s operational requirements. These estimates were developed for each LNG storage facility by comparing them to available, actual costs for an existing LNG storage facility. Liquefaction costs were excluded – LNG plant costs have been factored based on re-gasification and storage only.

⁶¹ A feasibility study was conducted to evaluate the feasibility of acquiring the necessary Right of Ways.

⁶² See Prepared Direct Testimony of Gwen Marelli (March 21, 2016), page 7.

Alternative H: Alternate Energy (Battery) and Alternative (Alternative H1 - Grid Scale and Alternative H2 - Smaller Scale)

Costs for both the grid scale and smaller scale alternatives were developed based on a rough order of magnitude estimate. The estimate considered energy storage capacity, amount of land required, number of sites and project complexity.

The Grid Scale Alternative assumes installation of lithium-ion batteries at \$500/kWh (kilowatt hours). For approximately 2,802 MW (megawatts) of power and four hours of energy, approximately 11,200 MWh (megawatt hours) of capacity is required. Between 100 and 125 acres of land is needed for this installation.

The Smaller Scale Alternative assumes approximately 11,200 MWh of energy storage capacity for four hours of electric supply, projected at an installed cost of \$600/ kWh. The difference in cost per kWh accounts for the number of sites required to host the smaller scale battery locations.

Alternative I: Off-Shore Alternative

A high level cost estimate for this Alternative was prepared based on considering broad project assumptions. There is a lack of scope definition. The estimate is based on a productivity efficiency factor for marine project conditions. Permitting costs and costs arising as a result of environmental considerations were assumed to be very high.

Alternative J1: Blythe to Santee Alternative 1

High-level cost estimates have been developed for this Alternative. This project involves similar components as the Proposed Project though in significantly different quantities. Costs for this Alternative were scaled from the Proposed Project on a cost per mile basis and adjusted for population density and terrain type. The pipeline material specifications for each alternative would be similar to the Proposed Project. Class estimate for this Alternative is very high level based on the lack of scope definition and that broad assumptions are considered.

Alternative J2: Blythe to Santee Alternative 2

High-level cost estimates have been developed for this Alternative. This project involves similar components as the Proposed Project though in significantly different quantities. Costs for this Alternative were scaled from the Proposed Project on a cost per mile basis and adjusted for population density and terrain type. The pipeline material specifications for each alternative would be similar to the Proposed Project. Class estimate for this Alternative is very high level based on the lack of scope definition and that broad assumptions are considered.

Alternative J3: Cactus City to San Diego Alternative

High-level cost estimates have been developed for this Alternative. This project involves similar components as the Proposed Project though in significantly different quantities. Costs for this Alternative were scaled from the Proposed Project on a cost per mile basis and adjusted for population density and terrain type. The pipeline material specifications for each alternative would be similar to the Proposed Project. Class estimate for this Alternative is very high level based on the lack of scope definition and that broad assumptions are considered.

Alternative K: Second Pipeline along Line 3010 Alternative

High-level cost estimates have been developed for this Alternative. This project involves similar components as the Proposed Project though in different quantities. The pipeline material specifications for each alternative would be similar to the Proposed Project. Other costs for activities such as engineering and surveying, should be comparable, on a unit cost basis, to the estimates developed for the Proposed Project. Right of way acquisition costs for this Alternative are significantly greater than those for the Proposed Project.⁶³

C. Avoided Costs Associated with the Proposed Project and Alternatives

The Applicants analyzed the total avoided costs that would accrue over an assumed 100 year useful life⁶⁴ for the Proposed Project and Alternatives involving construction of a new pipeline (all Alternatives except the Hydrotest Alternative and the Replace Line 1600 In Place with a 16” Pipeline Alternative). This analysis allowed for the evaluation of:

- The anticipated avoided costs over set periods of time;
- Both one-time and recurring avoided costs; and
- The net cost that incorporates both the total cost for installing the project and the avoided costs.

The Applicants’ methodology⁶⁵ for calculating the avoided costs is as follows:

- Determine the various cost elements that make up the two types of avoided costs (described in the following section);

⁶³ A feasibility study was conducted to evaluate the feasibility of acquiring the necessary Right of Ways.

⁶⁴ The Role of Pipeline Age in Pipeline Safety, Kiefner and Rosenfield states that “...a well-maintained and periodically assessed pipeline can safely transport natural gas indefinitely.” A 100 year lifetime period has been assumed for calculation purposes.

⁶⁵ The Applicants use a conservative methodology for conducting the avoided cost analysis. The Applicants’ method is based on conservative assumptions and is commonly used in evaluating the costs of projects over time. Other methods could be used to analyze avoided costs over time.

- Tabulate the avoided costs on a time line for the Proposed Project and for those Alternatives to which they apply;
- Escalate the avoided costs over time by applying an inflation rate of 2.9%;⁶⁶
- Discount the avoided costs back to 2015 at 7.79%,⁶⁷ resulting in avoided costs presented in 2015 values; and

Calculate the net cost by adding the estimated fixed cost plus the present value of operating expenses and avoided costs over 100 years shown in

- Table 8.

It is assumed that avoided costs will begin to accrue from the year that the Proposed Project and Alternatives become operational.⁶⁸

Two avoided costs are associated with not having to hydrotest Line 1600, and are accounted for in this analysis, as follows:

Avoided Cost 1: Future Replacement of Line 1600

Even if Line 1600 is hydrotested, it is prudent to assume that it will need to be replaced eventually. Thus, this set of avoided costs include the cost associated with replacing Line 1600 at some point in the future. The Applicants have established a 20-year interval as a reasonable expectation for the expiration of the benefits from pressure testing. This interval is based upon engineering judgment, and Line 1600 would likely either need to be replaced or re-evaluated depending upon a number of factors that would ultimately include coating degradation, cathodic protection performance, time-dependent threat growth, leakage maintenance program demands, and time-independent threat rates.⁶⁹

The avoided costs analysis assumes Line 1600 operating as a transmission asset will be replaced in 20 years. These avoided costs are realized by the Proposed Project and the Alternatives that contemplate derating Line 1600.

⁶⁶ Inflation rate based on IHS Fourth Quarter 2015 Construction Cost Index Forecasts for Gas Utility Construction: Pacific Region for Transmission Plant averaged from 2017 through 2025.

⁶⁷ SDG&E discount rate. *See* Prepared Direct Testimony of Michael Woodruff (March 21, 2016).

⁶⁸ *See* Prepared Direct Testimony of Neil Navin (March 21, 2016), page 31: Workpaper – Estimated Fixed and Operating Costs for Proposed Project and Alternatives.

⁶⁹ *See* Prepared Direct Testimony of Travis Sera (March 21, 2016), page 24.

Avoided Cost 2: Moreno Compressor Station Operations

For the Proposed Project, or certain Alternatives (C4, C5, C6, C7, I, J1, J2, J3, K)⁷⁰ there can be a potential impact on the costs associated with the annual operations and maintenance of the Moreno Compressor Station^{71,72} as well as the amounts expended for emissions.

The following sections describe these avoided cost elements in more detail.

1. Future Replacement of Line 1600

Overview of Current Costs

Line 1600, if hydrotested and maintained at transmission level service (the Hydrotest Alternative), will be abandoned and/or replaced earlier than the Proposed Project or any of the Alternatives that would allow Line 1600 to be de-rated because Line 1600 will have a shorter usable asset lifespan. The estimated cost of installing a new 16-inch diameter pipeline along the same route as the Proposed Project, which is the most efficient replacement option from a cost perspective, is \$337.1M. The estimated remaining life of Line 1600 is assumed to be 20 years or less.

Source of Avoided Cost

The Proposed Project and Alternatives except the Hydrotest Alternative will have a useful life in excess of Line 1600 if it is maintained as a transmission asset. This analysis assumes that the Proposed Project and the Alternatives will have a service life of 100 years. Over the life of the Proposed Project and the Alternatives, the costs related to the eventual replacement of Line 1600 will be avoided.

Assumptions

For the purpose of this avoided costs analysis, it is assumed that Line 1600 will be replaced with a 16-inch diameter transmission pipeline along the same route as the Proposed Project. It is assumed that the physical replacement work will take two years.

⁷⁰ The cross county lines (J1, J2 and J3) are not directly connected to the Moreno Compressor Station, but are assumed to provide similar benefits with regards to avoided costs as the Proposed Project, due to the additional capacity inherent to a 36" pipeline. Due to the length of these lines, it is possible that additional compression may be needed to balance the gas flow in the system. However, at this stage in the design, it is not known whether this additional compression will be required.

⁷¹ See Prepared Direct Testimony of Neil Navin (March 21, 2016), Attachment A – PSRP Report at Attachment XII - Moreno Compressor Station PSRP Report.

⁷² For the Proposed Project, it is assumed that the Moreno Compressor Station would only require reduced operations to function minimally as a safeguard during extreme or unplanned capacity interruption scenarios. See Prepared Direct Testimony of Neil Navin (March 21, 2016), Attachment A – PSRP Report at Attachment XII - Moreno Compressor Station PSRP Report.

The costs for replacing Line 1600 in the future make up the avoided costs for future Line 1600 Replacement in the cost avoidance analysis.

2. Moreno Compressor Station Operations

*Overview of Current Costs*⁷³

The Proposed Project and certain Alternatives would reduce the need for compression at Moreno Compressor Station. Although compression at Moreno would likely still be needed at certain times, many of the operating costs could potentially be avoided or reduced. The associated avoided costs include the following:

Emission Fees and Permitting: Based on average annual costs for emissions, emissions subjected to fee, and applied fee rates. Average cost from 2011 to 2014 is \$44,748.

Operations and Maintenance: Based on average annual costs for labor and non-labor costs. Average annual costs for 2010 to 2015 is \$2,613,907.

Fuel: Based on the average cost of fuel used, with the average price per dekatherm for the California border in 2021 assumed to be \$3.23.⁷⁴ Average annual costs based on usage for 2011 to 2013 is \$1,400,000.

NOx Sales and Purchases: Each year, the Applicants are allocated a fixed number of credits for NOx RECLAIM emissions.⁷⁵ When emissions are exceeded, additional credits have to be purchased. Similarly, unused credits can be sold at spot market prices. Average annual emissions at Moreno Compressor Station from 2012 to 2015 were 139,338 lbs. The average cost for emission credits is approximately \$14 per lb.

GHG Costs: Applicants pay for greenhouse gas (GHG) emissions arising from Moreno Compressor Station operations.⁷⁶ The average annual GHG emissions from 2012 to 2014 were 25,159 metric tons. Projected annual GHG costs are \$1,320,830 per annum based on a levelized price per ton of \$52 per metric ton.

⁷³ Based on the figures provided within the Prepared Direct Testimony of Neil Navin (March 21, 2016), Attachment A – PSRP Report at Attachment XII - Moreno Compressor Station PSRP Report.

⁷⁴ Based on CMEGroup Globex Futures.

⁷⁵ See Assembly Bill (AB) 32 (California Global Warming Solutions Act of 2006) - <http://www.arb.ca.gov/cc/ab32/ab32.htm>

⁷⁶ Pursuant to AB 32 and the Governor's Executive Order S-01-07.

Source of Avoided Cost

The estimated annual cost savings resulting from assuming reduced operations at Moreno Compressor Station for the Proposed Project and certain Alternatives is approximately \$5.87 million, calculated as:⁷⁷

Table 7 - Savings associated with the installation of a 36” or larger pipeline

Cost Element	Annual Savings
O&M Non-Labor	(\$295,077)
Fuel	(\$1,363,626)
NOx Purchases	(\$1,162,000)
NOx Sales	(\$691,125)
GHG Cap & Trade Cost	(\$1,254,789)
Capital Spending	(\$1,100,000)
Annual Sum	(\$5,866,617)

Assumptions

Avoided costs relating to the Moreno Compressor Station will be incurred for the Proposed Project and Alternatives C4, C5, C6, C7, I, J1, J2, J3 and K, as follows:

- Alternative C7 (42” pipeline) and Alternatives I (Off-shore), J1, J2, and J3 (Cross-County Alternatives)⁷⁸ and K (Second Pipeline along Line 3010) will provide the same reduction in operational requirements to the Moreno Compressor Station as the Proposed Project.

⁷⁷ The Moreno Compressor Station PSRP Report (Prepared Direct Testimony of Neil Navin (March 21, 2016), Attachment A – PSRP Report at Attachment XII) makes the following assumptions with regards to cost saving should the Proposed Project be implemented:

- The Moreno Compressor Station operations will be reduced by 95% to function minimally as a safe guard during extreme or unplanned capacity interruption scenarios for a 36” line.
- Fuel, NOx credit purchases and sales, and GHG costs are reduced in direct proportion (*i.e.*, 1:1) as the reduction in operation;
- Emission fees and permitting costs will remain unchanged due to the need of maintaining permitting for the compressor the station;
- Labor costs will remain unchanged, and Non-labor costs will be reduced by \$300,000 (or 20% of annual cost average); and
- \$1.1M in capital spending will be avoided (based on historical capital spending).

⁷⁸ The cross county lines (J1, J2 and J3) are not directly connected to the Moreno Compressor Station, but are assumed to provide similar benefits with regards to avoided costs as the Proposed Project, due to the additional capacity inherent to a 36” pipeline. Due to the length of these lines, it is possible that additional compression may be needed to balance the gas flow in the system. However, at this stage in the design, it is not known whether this additional compression will be required.

- Alternatives C4, C5 and C6 (20”, 24” and 30” pipelines, respectively) will provide some reduction in operational requirements to the Moreno Compressor Station, assumed to be in direct proportion to the reduction in pipeline diameter.⁷⁹

The analysis assumes that the remaining Alternatives will not have any effect on the current state operational output of the Moreno Compressor Station and, therefore, do not accrue avoided costs.

D. Net Costs of the Proposed Project and Alternatives

The table below shows the avoided costs associated the Proposed Project and the Alternatives:

Table 8 - Avoided Costs (Millions of 2015 Dollars)

Alt No.	Project Name	Fixed Cost	Total O&M Cost ⁸⁰	Avoided Cost	Net Cost
A	Proposed Project (36” pipeline Rainbow to Line 2010 Route)	\$441.9	\$4.6	(\$190.3)	\$256.2
B	Hydrotest Alternative	\$112.9	\$5.8	\$0.0	\$118.7
C1	Alt Diameter Pipeline, Proposed Route (10”)	\$297.6	\$105.3	(\$100.3)	\$302.7
C2	Alt Diameter Pipeline, Proposed Route (12”)	\$320.1	\$71.8	(\$100.3)	\$291.6
C3	Alt Diameter Pipeline, Proposed Route (16”)	\$337.1	\$4.6	(\$100.3)	\$241.4
C4	Alt Diameter Pipeline, Proposed Route (20”)	\$352.9	\$4.6	(\$118.3)	\$239.2
C5	Alt Diameter Pipeline, Proposed Route (24”)	\$361.2	\$4.6	(\$136.3)	\$229.6
C6	Alt Diameter Pipeline, Proposed Route (30”)	\$392.2	\$4.6	(\$163.3)	\$233.5
C7	Alt Diameter Pipeline, Proposed Route (42”)	\$527.5	\$4.6	(\$190.3)	\$341.9
D	Replace Line 1600 in Place with a New 16” Transmission Pipeline	\$556.1	\$4.4	\$0.0	\$560.4
E/F	Otay Mesa Alternatives	\$977.1	\$0.0	(\$100.3)	\$876.8
G	LNG Storage (Peak-Shaver) Alternative	\$2,669.7	\$15.3	(\$100.3)	\$2,584.7
H1	Alternate Energy Alternative: Grid-Scale Batteries	\$8,415.1	\$15.3	(\$100.3)	\$8,330.1
H2	Alternate Energy Alternative: Smaller-Scale Batteries	\$10,095.1	\$15.3	(\$100.3)	\$10,010.1
I	Offshore Route	\$1,449.9	\$5.1	(\$159.5)	\$1,295.5
J1	Blythe to Santee Alternative 1	\$1,377.5	\$16.7	(\$175.0)	\$1,219.3
J2	Blythe to Santee Alternative 2	\$1,315.5	\$16.8	(\$175.0)	\$1,157.3
J3	Cactus City to San Diego Alternative	\$1,143.4	\$12.7	(\$175.0)	\$981.1
K	Second Pipeline Along Line 3010 Alternative	\$595.2	\$3.5	(\$171.6)	\$427.1

⁷⁹ The Moreno Compressor Station PSRP Report (Prepared Direct Testimony of Neil Navin (March 21, 2016), Attachment A – PSRP Report at Attachment XII) shows a straight line reduction in operations in proportion to pipeline diameter between 36” and 16” diameters.

⁸⁰ Present value of O&M and TIMP costs over 100 years. Also includes present value of gas transportation costs via Otay Mesa for Alternatives C1 and C2.

The results of the costs analysis show that the “least-cost” alternative is the Hydrotest Alternative, which has an estimated net cost of \$118.7 million. Table 9 shows the Proposed Project and remaining Alternatives grouped together by range of net costs. After the Hydrotest Alternative, the next group of least-cost alternatives are clustered together in the \$225 million to \$260 million range. This second least-cost category includes alternate diameter sizes ranging from 16- to 36-inches (*i.e.*, the Proposed Project). The third least-cost category has a larger range, from \$290 million to \$430 million, and includes Alternative Diameters of 10-, 12- and 42-inches as well as the Second Pipeline Along Line 3010 Alternative.

The remaining two categories of Alternatives far exceed the net costs of the Proposed Project. These last two “greatest cost” categories include Alternatives whose net costs range from \$500 million to \$1 billion (Replace Line 1600 in Place with a New 16-inch Pipeline, Otay Mesa Alternatives and Cactus City to San Diego Alternative) and over \$1 billion (Blythe to Santee Pipeline Routes, Alternatives 1 and 2, Off-Shore, LNG Storage, and Alternative Energy Alternatives).

Table 9 - Relative Costs of Proposed Project and Alternatives from Least to Greatest Net Cost

Net Cost Range	Alt No.	Project Name	Net Cost
\$100 M to \$200 M	B	Hydrotest	\$118.7 M
\$225 M to \$260 M	C5	Alt Diameter Pipeline 24"	\$229.6 M
	C6	Alt Diameter Pipeline 30"	\$233.5 M
	C4	Alt Diameter Pipeline 20"	\$239.2 M
	C3	Alt Diameter Pipeline 16"	\$241.4M
	A	Proposed Project (36" Diameter)	\$256.2 M
\$290 M to \$430 M	C2	Alt Diameter Pipeline 12"	\$291.6 M
	C1	Alt Diameter Pipeline 10"	\$302.7 M
	C7	Alt Diameter Pipeline 42"	\$341.9 M
	K	Second Pipeline Along Line 3010 Alternative	\$427.1 M
\$500 M to \$1Billion	D	Replace Line 1600 In Place with a New 16-inch Transmission Pipeline	\$560.4 M
	E/F	Otay Mesa Alternatives	\$876.8 M
	J3	Cactus City to San Diego Alternative	\$981.1 M
Over \$1 Billion	J2	Blythe to Santee Alternative 2	\$1,157.3 M
	J1	Blythe to Santee Alternative 1	\$1,219.3 M
	I	Offshore Route Alternative	\$1,295.5 M
	G	LNG Storage Alternative	\$2,584.7 M
	H2	Alternate Energy Alternative: Smaller Scale Batteries	\$10,010.1 M
	H1	Alternative Energy Alternative: Grid Scale Battery	\$8,330.1 M

V. BENEFITS ANALYSIS⁸¹

This Cost-Effectiveness Analysis included an evaluation of the different types of benefits across the seven benefit types set forth in the Ruling. The benefits were quantified and scored using a benefits evaluation model that was developed by PwC, with input and data from the Applicants. This evaluation complies with the requirement in the Ruling to apply quantifiable data to define the relative benefits of the Proposed Project and the Alternatives.⁸² In addition to the quantifiable benefits, the Applicants identified a few project benefits that could not be readily quantified.

Approach and Methodology

To comply with the requirement to apply quantifiable data to define the relative benefits of the projects, PwC and the Applicants developed a model (referred to herein as the “benefits evaluation model”) to quantitatively evaluate and score the relative benefits of the Proposed Project and each of the Alternatives. PwC and the Applicants first considered desirable outcomes (*e.g.*, enhanced safety) and quantifiable characteristics (*e.g.*, percent reduction in incidents per High Consequence Area (HCA) mile) associated with the seven benefits categories identified in the Ruling. The model was then created to evaluate 16 specific benefits, each of which falls within one of the seven categories identified in the Ruling. Care was taken to treat each benefit as unique and not counted more than one time in the scoring model.

After the benefits were defined, PwC and the Applicants developed quantifiable scoring criteria so that benefits could be objectively evaluated and scored. The types of quantifiable metrics used in the scoring criteria include the percentage or measurable increase/reduction in a known quantity or unit of measure/metric that is used to define a benefit. For instance, a quantitative threshold expressed in terms of MMcf/d is used to quantify the increases expected in system capacity for the Proposed Project and each of the Alternatives. Similarly, the number of incidents per HCA mile is one metric relied on to quantify and score safety performance.

The complete list of benefits included in the scoring model and the metric or measure used to quantify and score each one, is listed in Table 10 of this Cost-Effectiveness Analysis.

The scoring criteria are generally applied on a 1 to 5 scale. In the scoring benefits model, 1 is the lowest (worst) score and 5 is the highest (best) score. The scores were averaged within each of the seven benefit categories and then those seven average scores were summed to determine the final benefit score for the Proposed Project and the Alternatives.

⁸¹ The avoided costs associated with the Proposed Project and each Alternative may also be viewed as a benefit. In order to avoid double-counting, however, avoided costs are not discussed in this section.

⁸² Ruling, page 12.

For certain benefits, there is no obvious measure or metric against which the benefit is generally compared. For those benefits, the scoring scale was defined to allow for an objective evaluation of the Proposed Project and the Alternatives against the scale and a quantitative measure of the benefit defined. For instance, measuring long-term safety benefits of a transmission pipeline is an important benefit and must be included in the overall analysis. Because there is no standard measure or metric for evaluating this benefit, the Applicants defined this benefit on an objective scale, defined by technical insight. This benefit type can then be scored and that score included in the overall quantitative benefits evaluation.

Once the scoring was complete for the Proposed Project and the Alternatives across each benefit category, the total benefit score was determined and a relative quantifiable benefit ranking was prepared.

Table 10 - Benefits Evaluation Scoring Summary

Benefits Criteria	Proposed Project - 36"	Hydrotest	Alt Diameter Pipelines - 10"	Alt Diameter Pipelines - 12"	Alt Diameter Pipelines - 16"	Alt Diameter Pipelines - 20"	Alt Diameter Pipelines - 24"	Alt Diameter Pipelines - 30"	Alt Diameter Pipelines - 42"	Replace Line 1600 In-Place	Otay Mesa Alternatives	LNG Storage	Alt Energy - Grid Scale	Alt Energy - Smaller Scale	Offshore Route	Blythe to Santee Alt 1	Blythe to Santee Alt 2	Cactus City to SD	2nd Pipeline Along Line 3010
1. Safety	5	3	5	5	5	5	5	5	5	4	4	3	3	3	4	4	4	4	4
2. Reliability	5	1	1	1	3	4	4	5	5	3	1	2	2	2	5	5	5	5	5
3. Operational Flexibility	5	4	4	4	4	5	5	5	5	4	3	4	4	4	5	5	5	5	5
4. System Capacity	5	3	2	2	3	4	4	5	5	3	5	3	3	3	5	5	5	5	5
5. Gas Storage thru Line Pack	5	3	2	2	3	4	4	5	5	3	5	3	3	3	5	5	5	5	5
6. Reduction in Gas Price for Ratepayers	3	3	3	3	3	3	3	3	3	3	1	1	3	3	3	3	3	3	3
7. Other Benefits	5	3	1	1	3	4	4	4	5	3	5	5	1	1	5	5	5	5	5
Total of Average Scores	27.6	17.0	15.5	15.5	20.6	24.1	24.5	25.9	27.6	20.4	19.0	18.6	16.2	16.2	27.0	27.2	27.2	27.2	27.2
Overall Relative Rank	1	15	18	18	11	10	9	8	1	12	13	14	16	16	7	3	3	3	3

(1 is the lowest (worst) score and 5 is the highest (best) score; Overall Relative Rank – 1 is the highest and 18 is the lowest)

A. Increased Safety

Increased safety benefits were scored against the criteria in the benefits evaluation model. For the purposes of this evaluation it is assumed that the Proposed Project and all of the Alternatives will comply with State laws to pressure test or replace Line 1600.

1. Evaluating Benefits using the Benefits Evaluation Model

The increased safety benefits and the respective scoring criteria are described below.

- 1.1 Increased safety margin to prevent pipeline rupture through the de-rating of Line 1600:⁸³

Evaluating the increased safety margins in terms of the percentage of specified minimum yield strength (SMYS) on Line 1600.

1. N/A
2. Line 1600 operating at 800 psi (49% of SMYS) - Transmission Function
3. Line 1600 operating at 640 psi (39% of SMYS) - Transmission Function
4. Line 1600 operating at 320 psi (<20% of SMYS) - Distribution Function
5. Removal of Line 1600

- 1.2 Long-term Safety Benefit of Transmission Pipeline Project: Ability to sustain safety over the life of the transmission pipeline due to aspects such as:

- Presence of known significant anomalies,
- Presence of known anomalies, and
- Future resiliency or strength of design:
 - Thickness of material
 - Corrosion protection
 - Protective coating
 - Installation techniques that prevent damage to the pipe

The scale for scoring the projects against this benefit is:

1. Anomalies persist in transmission pipeline
2. N/A
3. No transmission pipeline is part of the project
4. N/A
5. Meets or exceeds modern design standards

- 1.3 Reduction in incidents per HCA mile of pipeline:⁸⁴ Using the Department of Transportation's (DOT) Pipeline and Hazardous Materials Safety Administration (PHMSA) data, age, type of pipeline material, wall thickness, and other parameters, a percentage reduction or increase in the number of incidents per HCA mile was able to be quantified.

The scale for scoring the projects against this benefit is:

1. > 25% increase in potential incidents/ HCA mile
2. 0-25% increase in potential incidents/HCA mile
3. No change in potential incidents/HCA mile likelihood
4. 0-25% reduction in incidents/ HCA mile
5. > 25% reduction in incidents/ HCA mile

⁸³ See Prepared Direct Testimony of Travis Sera (March 21, 2016).

⁸⁴ See Section V.H, Pipeline Failure Analysis

- 1.4 Increased real-time awareness of excavation damage: Ability to detect excavation damage in real-time to prevent or mitigate larger incidents from occurring.

The scale for scoring the projects against this benefit is:

1. Reduced capabilities for real-time awareness of excavation damage
2. N/A
3. No change in capabilities for real-time awareness of excavation damage
4. N/A
5. Increased capabilities for real-time awareness of excavation damage

- 1.5 Achievement of “as soon as practicable” safety objective:⁸⁵ Based on estimated completion or in-service year.

The scale for scoring the projects against this benefit is:

1. Beyond 2026
2. Complete by 2026
3. Complete by 2024
4. Complete by 2022
5. Complete by 2020

⁸⁵ In Decision (D.) 11-06-017, Ordering Paragraph 5, the Commission directed pipeline operators to develop a plan to test or replace all transmission pipelines that do not have documentation of a pressure test “as soon as practicable.”

The results of the safety benefits scoring are shown in Table 11 below.

Table 11 - Increased Safety Benefits Score

Safety Benefits	Proposed Project - 36"	Hydrotest	Alt Diameter - 10"	Alt Diameter - 12"	Alt Diameter - 16"	Alt Diameter - 20"	Alt Diameter - 24"	Alt Diameter - 30"	Alt Diameter - 42"	Replace Line 1600 In-Place	Otay Mesa Alternatives	LNG Storage	Alt Energy – Grid Scale	Alt Energy – Smaller Scale	Offshore Route	Blythe to Santee Alt 1	Blythe to Santee Alt 2	Cactus City to SD	2nd Pipeline Along Line 3010
1.1 Increased safety margin to prevent pipeline rupture through the de-rating of Line 1600 ⁸⁶	4	3	4	4	4	4	4	4	4	5	4	4	4	4	4	4	4	4	4
1.2 Long-term Safety Benefit of Transmission Pipeline	5	1	5	5	5	5	5	5	5	5	3	3	3	3	5	5	5	5	5
1.3 Reduction in incidents per HCA mile of pipeline	5	3	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
1.4 Increased real-time awareness of excavation damage	5	3	5	5	5	5	5	5	5	5	3	3	3	3	5	5	5	5	5
1.5 Achievement of “as soon as practicable” safety objective	4	4	4	4	4	4	4	4	4	2	3	2	2	2	1	2	2	2	2
Average Score	5	3	5	5	5	5	5	5	5	4	4	3	3	3	4	4	4	4	4

(1 is the lowest (worst) score and 5 is the highest (best) score)

⁸⁶ Line 1600 will be de-rated for all Alternatives except the Hydrotest Alternative and the Line 1600 Replace in Place with a New 16-inch Pipeline.

Results of the increased safety benefits evaluation are discussed below.

a) *Proposed Project*

The Proposed Project eliminates the need to operate Line 1600 at a higher pressure and instead allows for its de-rating at a lower and safer pressure that will improve overall system safety margins.

The Proposed Project will feature a new 36” pipeline (in addition to the de-rated Line 1600) that meets or exceeds design standards and ensures the longer term safety benefit of the transmission system.

The Proposed Project will also reduce the number of incidents per HCA mile in the system.^{87,88}

Ability to achieve “as soon as practicable” safety objective based on completion or in-service year.

b) *Hydrotest*

If Line 1600 remains a transmission asset, the risks of long seam weld hook crack failures, exposure to time dependent threats (such as corrosion), and other material and design related factors that can interact with non-state-of-the-art vulnerabilities to create increased risk remain as well, and therefore do not support the long term safety benefit of transmission pipeline.

Additionally, there are no significant changes in incidents per HCA mile if Line 1600 is hydrotested and remains in transmission level service.

No improvements in real-time awareness of excavation damages.

Ability to achieve “as soon as practicable” safety objective based on completion or in-service year.

⁸⁷ See Section V.H, Pipeline Failure Analysis.

⁸⁸ See Section V.H, Pipeline Failure Analysis.

c) *Alternative Diameter Pipelines*

Table 12 - Safety Benefits of Alternative Diameter Pipelines

Project	Safety Benefits
Alternative Diameter Pipelines 10" through 42" (with a de-rated Line 1600 at distribution pressure)	<p>De-rating of Line 1600 to distribution service will improve overall system safety margin.</p> <p>The new transmission pipeline meets or exceeds modern design standards for longer term safety benefit of transmission pipeline safety.</p> <p>Fewer incidents per HCA mile due to the use of state-of-the-art materials and fabrication techniques.</p> <p>Increased capability for real-time awareness of excavation damages.</p> <p>Ability to achieve "as soon as practicable" safety objective based on completion or in-service year.</p>

d) *Other Alternative Projects*

Table 13 - Safety Benefits of Other Alternatives

Project	Safety Benefits
Replace Line 1600 In-Place with a New 16-inch Transmission Pipeline (with removal of Line 1600)	<p>The removal and replacement of Line 1600 will improve overall system safety margin.</p> <p>The new transmission pipeline meets or exceeds modern design standards for longer-term safety benefit of transmission pipeline safety.</p> <p>Fewer incidents per HCA mile due to the use of state-of-the-art materials and fabrication techniques.</p> <p>Increased capability for real-time awareness of excavation damages.</p> <p>Unable to achieve "as soon as practicable" safety objective based on completion or in-service year.</p>
<p>De-rated Line 1600 is assumed for each of the below options (but no transmission pipeline is part of the project):</p> <ul style="list-style-type: none"> • Otay Mesa Alternatives • LNG Storage • Alternate Energy – Grid Scale • Alternate Energy – Smaller Scale 	<p>De-rating of Line 1600 to distribution service will improve overall system safety margin.</p> <p>There is no new transmission pipeline to meet or exceed modern design standards for longer-term safety benefit of transmission pipeline safety.</p> <p>Fewer incidents per HCA mile due a de-rated distribution Line 1600.</p> <p>No improvements in real-time awareness of excavation damages.</p> <p>Low ability to achieve "as soon as practicable" safety objective based on completion or in-service year for the Otay Mesa, the</p>

Project	Safety Benefits
	LNG and Alternate Energy Alternatives.
Alternative Pipelines – 36” (with a de-rated Line 1600) <ul style="list-style-type: none"> • Blythe to Santee Alt 1 • Blythe to Santee Alt 2 • Cactus City to SD • 2nd Pipeline Along Line 3010 • Offshore Route 	De-rating of Line 1600 to distribution service will improve overall system safety margin. The new transmission pipeline meets or exceeds modern design standards for longer term safety benefit of transmission pipeline safety. Fewer incidents per HCA mile due to the use of state-of-the-art materials and fabrication techniques. Increased capability for real-time awareness of excavation damages (for the Offshore Alternative this applies to segments that are on land). Low ability to achieve “as soon as practicable” safety objective based on completion or in-service year varies with these projects, with the Offshore Pipeline scoring the worst at 1, and the Cross County lines and the 2 nd Pipeline Along 3010 scoring 2s.

B. Increased Reliability

System reliability refers to the ability to maintain safe, consistent, and continuous service to customers. System reliability is insured by maintaining safe operating pressures, which in turn result from having sufficient supply to meet demand and sufficient pipeline and storage capacity.

Using modern design standards and state-of-the-art materials and technology can increase the reliability of the physical gas transmission asset. Additionally, extra capacity as a result of a larger pipe diameter and the ability to operate safely at a higher pressure, can help improve the inherent reliability of a system during events when (a) projected daily demand exceeds forecast levels or (b) intra-day demands fluctuate in a manner that exceeds current operating parameters.

The Proposed Project and Alternatives were evaluated and scored in terms of their impact on increasing the current reliability/redundancy of the Applicants’ gas transmission system. The three main distinctions in assessing the impacts to reliability/redundancy are as follows:

- No change to system reliability/redundancy;
- Increased system reliability/redundancy, and
- Decreased system reliability/redundancy.

1. Evaluating Benefits using the Benefits Evaluation Model

Please note, system capacity-related reliability benefits are implicit in the evaluation of increased reliability. These benefits are included in the “Increased System Capacity” section below in order to avoid double-counting the benefits.

Increased reliability benefits have been assessed by evaluating and scoring the reliability aspects of the Proposed Project and Alternatives using the benefits evaluation model described above.

The increased reliability benefits of the respective scoring criteria are described below.

- 2.1 Redundancy to natural gas transmission system:

Ability for a project to provide redundancy to the natural gas system should an unplanned event occur and place any of the two primary gas transmission assets (Line 3010 and Moreno Compression Station) out of service. The scale for scoring the projects against this benefit is:

1. Reduced Level of System Redundancy
2. Existing Level of System Redundancy
3. Increased System Redundancy
4. Complete Redundancy for Line 3010
5. Complete Redundancy for Line 3010 or Moreno Compressor Station

- 2.2 Curtailment impact to core gas customers: An outage scenario analysis⁸⁹ has been performed to model the impact of the Alternatives on overall system reliability. The analysis evaluates curtailments to gas customers in the case of an outage or reduction in pressure of Line 3010 under current conditions, given the hypothetical availability of the Proposed Project or Alternates. A range of scenarios were modeled across variabilities in gas supply from Otay Mesa and seasonal variations in gas demand. SDG&E Gas Rule 14⁹⁰ was used to segregate impact to the key customer classes in order of their curtailment priority. The scenario analysis methodology and approach is discussed in detail in Section H, Supporting Analysis.

The scale for scoring the Alternatives against this benefit is based on a normalization of the average curtailment measured across all scenarios modeled for each Project Alternative. The average percentage of gas curtailment identified under each Project Alternative was normalized from 0% to 100%, and the following scores (1 through 5) were applied accordingly.

1. Normalized curtailment impacts are above 81% of the maximum in all Project Alternatives⁹¹

⁸⁹ See Section H for a detailed description of the scenario analysis performed.

⁹⁰ See Prepared Direct Testimony of Gwen Marelli (March 21, 2016), page 2.

⁹¹ Scores are based on a normalization of the average curtailment impacts under each Project Alternate, compared to the maximum impact for all Project Alternates. The maximum curtailment impact to the

2. Normalized curtailment impacts are between 61% and 80% of the maximum in all Project Alternatives
 3. Normalized curtailment impacts are between 41% and 60% of the maximum in all Project Alternatives
 4. Normalized curtailment impacts are between 21% and 40% of the maximum in all Project Alternatives
 5. Normalized curtailment impacts are between 0% and 20% of the maximum in all Project Alternatives
- 2.3 Curtailment impact to electric generation (EG) gas customers: An outage scenario analysis⁹² has been performed to model the impact of the Alternatives on overall system reliability. The analysis evaluates curtailments to customers in the case of an outage or reduction in pressure of Line 3010 under current conditions, given the hypothetical availability of the Proposed Project or Alternatives. A range of scenarios were modeled across variabilities in gas supply from Otay Mesa and seasonal variations in gas demand. SDG&E Gas Rule 14⁹³ was used to segregate impact to the key customer classes in order of their curtailment priority. The scenario analysis methodology and approach is discussed in detail in Section H, Supporting Analysis.

The scale for scoring the Alternatives against this benefit is based on a normalization of the average curtailment measured across all scenarios modeled for each Project Alternative. The average percentage of gas curtailment identified under each Project Alternative was normalized from 0% to 100%, and the following scores (1 through 5) were applied accordingly.

1. Normalized curtailment impacts are above 81% of the maximum in all Project Alternatives⁹⁴
2. Normalized curtailment impacts are between 61% and 80% of the maximum in all Project Alternatives
3. Normalized curtailment impacts are between 41% and 60% of the maximum in all Project Alternatives
4. Normalized curtailment impacts are between 21% and 40% of the maximum in all Project Alternatives
5. Normalized curtailment impacts are between 0% and 20% of the maximum in all Project Alternatives

core gas customer class, as an average across the 48 unique scenarios modeled per Project Alternate, was a 20.8% curtailment of gas services.

⁹² See Section H for a detailed description of the scenario analysis performed.

⁹³ See Prepared Direct Testimony (March 21, 2016) of Gwen Marelli, page 2.

⁹⁴ Scores are based on a normalization of the average curtailment impacts under each Project Alternate, compared to the maximum impact for all Project Alternates. The maximum curtailment impact to the electric generation (EG) gas customer class, as an average across the 48 unique scenarios modeled per Project Alternative, was a 46.6% curtailment of gas services.

- 2.4 Curtailment impact to non-core, non-EG gas customers: An outage scenario analysis⁹⁵ has been performed to model the impact of the Alternatives on overall system reliability. The analysis evaluates gas curtailments to customers in the case of an outage or reduction in pressure of Line 3010 under current conditions, given the hypothetical availability of the Proposed Project or Alternatives. A range of scenarios were modeled across variabilities in gas supply from Otay Mesa and seasonal variations in gas demand. SDG&E Gas Rule 14⁹⁶ was used to segregate impact to the key customer classes in order of their curtailment priority. The scenario analysis methodology and approach is discussed in detail in Section H, Supporting Analysis.

The scale for scoring the Alternatives against this benefit is based on a normalization of the average curtailment measured across all scenarios modeled for each Project Alternative. The average percentage of gas curtailment identified under each Project Alternative was normalized from 0 to 100%, and the following scores (1 through 5) were applied accordingly.

1. Normalized curtailment impacts are above 81% of the maximum in all Project Alternatives⁹⁷
 2. Normalized curtailment impacts are between 61% and 80% of the maximum in all Project Alternatives
 3. Normalized curtailment impacts are between 41% and 60% of the maximum in all Project Alternatives
 4. Normalized curtailment impacts are between 21% and 40% of the maximum in all Project Alternatives
 5. Normalized curtailment impacts are between 0% and 20% of the maximum in all Project Alternatives
- 2.5 Curtailment impact to electric customers: An outage scenario analysis⁹⁸ has been performed to model the impact of the Alternatives on overall system reliability. The analysis evaluates electric curtailments to customers in the case of an outage or reduction in pressure of Line 3010 under current conditions, given the hypothetical availability of the Proposed Project or Alternatives. A range of scenarios were modeled across variabilities in gas supply from Otay Mesa and seasonal variations in gas and electric demand. SDG&E Gas Rule 14⁹⁹ was used to segregate impact to the key customer classes in order of their curtailment priority. The scenario analysis methodology and approach is discussed in detail in Section H, Supporting Analyses.

⁹⁵ See Section H for a detailed description of the scenario analysis performed.

⁹⁶ See Prepared Direct Testimony of Gwen Marelli, (March 21, 2016), page 2.

⁹⁷ Scores are based on a normalization of the average curtailment impacts under each Project Alternate, compared to the maximum impact for all Project Alternates. The maximum curtailment impact to the non-core, non-EG gas customer class, as an average across the 48 unique scenarios modeled per Project Alternative, was a 63.2% curtailment of gas services.

⁹⁸ See Section H for a detailed description of the scenario analysis performed.

⁹⁹ See Prepared Direct Testimony of Gwen Marelli, (March 21, 2016), page 2.

The scale for scoring the Alternatives against this benefit is based on a normalization of the average curtailment measured across all scenarios modeled for each Project Alternative. The average percentage of curtailment required under each Project Alternative was normalized from 0 to 100%, and the following scores (1 through 5) were applied accordingly.

1. Normalized curtailment impacts are above 81% of the maximum in all Project Alternatives¹⁰⁰
2. Normalized curtailment impacts are between 61% and 80% of the maximum in all Project Alternatives
3. Normalized curtailment impacts are between 41% and 60% of the maximum in all Project Alternatives
4. Normalized curtailment impacts are between 21% and 40% of the maximum in all Project Alternatives
5. Normalized curtailment impacts are between 0% and 20% of the maximum in all Project Alternatives

The results of the increased reliability benefits scoring are shown in Table below.

Table 14 - Increased Reliability Benefits Score

Reliability Benefits	Proposed Project - 36"	Hydrotest	Alt Diameter - 10"	Alt Diameter - 12"	Alt Diameter - 16"	Alt Diameter - 20"	Alt Diameter - 24"	Alt Diameter - 30"	Alt Diameter - 42"	Replace Line 1600 In-Place	Otay Mesa Alternatives	LNG Storage	Alt Energy – Grid Scale	Alt Energy – Smaller Scale	Offshore Route	Blythe to Santee Alt 1	Blythe to Santee Alt 2	Cactus City to SD and Pipeline Along Line 3010	
2.1 Redundancy to natural gas transmission system	5	2	1	1	2	3	3	4	5	2	3	3	1	1	5	5	5	5	5
2.2 Curtailment impact to core gas customers	5	1	3	3	5	5	5	5	5	5	1	1	1	1	5	5	5	5	5
2.3 Curtailment impact to electric generation (EG) gas customers	5	1	1	1	3	4	5	5	5	3	1	1	1	1	5	5	5	5	5

¹⁰⁰ Scores are based on a normalization of the average curtailment impacts under each Project Alternative, compared to the maximum impact for all Project Alternatives. The maximum curtailment impact to the electric customer class, as an average across the 48 unique scenarios modeled per Project Alternative, was a 4.2% curtailment of electric services.

Reliability Benefits	Proposed Project - 36"	Hydrotest	Alt Diameter - 10"	Alt Diameter - 12"	Alt Diameter - 16"	Alt Diameter - 20"	Alt Diameter - 24"	Alt Diameter - 30"	Alt Diameter - 42"	Replace Line 1600 In-Place	Otay Mesa Alternatives	LNG Storage	Alt Energy – Grid Scale	Alt Energy – Smaller Scale	Offshore Route	Blythe to Santee Alt 1	Blythe to Santee Alt 2	Cactus City to SD	Line 1600 to Moreno Compressor Station	3010
2.4 Curtailment impact to non-core, non-EG gas customers	5	1	1	1	2	3	4	5	5	2	1	1	1	1	5	5	5	5	5	5
2.5 Curtailment impact to electric customers	5	1	1	1	3	5	5	5	5	3	1	5	5	5	5	5	5	5	5	5
Average Score	5	1	1	1	3	4	4	5	5	3	1	2	2	2	5	5	5	5	5	5

(1 is the lowest (worst) score and 5 is the highest (best) score)

Results of the increased reliability benefits evaluation are discussed below.

a) Proposed Project

The Proposed Project will provide significant benefits in system reliability and resiliency.

The Proposed Project will provide complete redundancy to Line 3010 or Moreno Compressor Station in the event of a loss of either facility.

Based on a detailed outage and curtailment scenario analysis, the Proposed Project is expected to be amongst the projects that are estimated to result in the least amount of potential curtailment of customers across curtailment priorities defined by SDG&E Gas Rule 14.¹⁰¹

b) Hydrotest

Hydrotesting Line 1600 does not provide any significant additional benefits to system reliability to what is currently available to the gas system.

Based on a detailed outage and curtailment scenario analysis, the Proposed Project is expected to be amongst the projects that are estimated to result in the greatest amount of potential curtailment of customers across curtailment priorities defined by SDG&E Gas Rule 14.

¹⁰¹ See Prepared Direct Testimony of Gwen Marelli (March 21, 2016), page 2.

c) Alternative Diameter Pipelines

Table 15 - Reliability Benefits of Alternative Diameter Pipelines and the Replace Line 1600 In-Place with a New 16-inch Transmission Pipeline

Project	Reliability/Redundancy Benefits
Alternative diameter 10" through 12" (with a de-rated Line 1600 at distribution pressure)	Reduced level of system redundancy. See scoring Table for average curtailment percentages as defined by SDG&E's customer groups by order of service interruption priority.
Alternative diameter 16" (with a de-rated Line 1600 at distribution pressure) and the Replace Line 1600 In-Place with a New 16-inch Transmission Pipeline Alternative (no Line 1600)	Existing level of system redundancy. See scoring Table for average curtailment percentages as defined by SDG&E's customer groups by order of service interruption priority.
Alternative diameter pipelines 20" and 24" (with a de-rated Line 1600 at distribution pressure)	Increased System Redundancy. See scoring Table for average curtailment percentages as defined by SDG&E's customer groups by order of service interruption priority.
Alternative diameter pipeline 30" (with a de-rated Line 1600 at distribution pressure)	Complete Redundancy for Line 3010. See scoring Table for average curtailment percentages as defined by SDG&E's customer groups by order of service interruption priority.
Alternative diameter pipeline 42" (with a de-rated Line 1600 at distribution pressure)	Complete Redundancy for Line 3010 or Moreno Compressor Station. See scoring Table for average curtailment percentages as defined by SDG&E's customer groups by order of service interruption priority.

d) Other Alternatives

Table 16 - Reliability Benefits of Other Alternatives

Project	Reliability/Resiliency Benefits
Otay Mesa Alternatives (with a de-rated Line 1600 at distribution pressure)	Increased System Redundancy. See scoring Table for average curtailment percentages as defined by SDG&E's customer groups by order of service interruption priority.
Alternative pipelines: <ul style="list-style-type: none"> • Blythe-Santee Alt 1 • Blythe-Santee Alt 2 • Cactus City to SD • 2nd Pipeline Along Line 3010 • Offshore Route (with a de-rated Line 1600 at distribution pressure)	Complete Redundancy for Line 3010 or Moreno Compressor Station. See scoring Table for average curtailment percentages as defined by SDG&E's customer groups by order of service interruption priority.
<ul style="list-style-type: none"> • LNG Storage • Alternate Energy – Grid 	Increased System Redundancy for the LNG Storage option with Reduced System Redundancy for the Alternate Energy Alternatives.

Project	Reliability/Resiliency Benefits
Scale • Alternate Energy – Smaller Scale (Includes a de-rated Line 1600 at distribution pressure for all three above)	See scoring Table for average curtailment percentages as defined by SDG&E’s customer groups by order of service interruption priority.

C. Increased Operational Flexibility

Increased operational flexibility is defined as the ability of the system to respond to operational (supply or demand) uncertainty in a manner that sustains normal operations with minimal impact to customers. Incremental pipeline capacity can provide flexibility to operate the Applicants’ system by expanding the options available to handle stress conditions on a daily and hourly basis that put system integrity and customer service at risk.

Operational flexibility¹⁰² can be improved through the following means:

1. Increased capacity to handle intra-day or peak demand fluctuations; and
2. The ability to control day-to-day operations of the system without reliance on external systems or entities (complete asset control)

2. Evaluating Benefits using the Benefits Evaluation Model

Increased operational flexibility benefits have been assessed by evaluating and scoring the operational flexibility aspects of the Proposed Project and Alternatives using the benefits evaluation model described above.

The increased operational flexibility benefits of the respective scoring criteria are described below.

- 3.1 Meeting current and future natural gas peak demand: Ability to meet increasingly volatile daily and hourly peak demand due to: increased reliance on gas-fired EG to supplement closure of the San Onofre Nuclear Generating Station (SONGS) and dependence on intermittent renewable power; need to meet future peak demand due to increases in the use of renewable energy sources (up to 50% renewable generation by 2030); forecasted growth in the population of the San Diego greater metropolitan area (up by 1 million people by 2035).

The scale for scoring the projects against this benefit is:

1. No ability to meet current peak or future peak demand.
2. Decrease in the ability to meet current peak or future peak demand.
3. No increase in the ability to meet current peak or future peak demand.
4. Improved ability to meet current peak demand, but unlikely to meet future forecast peak demand.

¹⁰² See Prepared Direct Testimony of Davis Bisi (March 21, 2016).

5. Ability to meet and/or exceed the demands of current and all predicted future peak demand through 2035.

- 3.2 Utility Operational Control of Asset: Ability to control the physical asset by SDG&E.

The scale for scoring the projects against this benefit is binary:

1. Utility does not have operational control over asset
2. N/A
3. N/A
4. N/A
5. Utility has operational control over asset

The results of the increased operational flexibility scoring are shown in Table 17 below.

Table 17 - Increased Operational Flexibility Benefits Score

Operational Flexibility Benefits	Proposed Project - 36"	Hydrotest	Alt Diameter - 10"	Alt Diameter - 12"	Alt Diameter - 16"	Alt Diameter - 20"	Alt Diameter - 24"	Alt Diameter - 30"	Alt Diameter - 42"	Replace Line 1600 In-Place	Otay Mesa Alternatives	Alt Energy – Grid Scale	Alt Energy – Smaller Scale	Offshore Route	Blythe to Santee Alt 1	Blythe to Santee Alt 2	Cactus City to SD	2nd Pipeline Along Line 3010
3.1 Meeting current and future natural gas peak demand	5	3	2	2	3	4	4	4	5	3	5	3	3	5	5	5	5	5
3.2 Utility Operational Control of Asset	5	5	5	5	5	5	5	5	5	5	1	5	5	5	5	5	5	5
Average Score	5	4	4	4	4	5	5	5	5	4	3	4	4	5	5	5	5	5

(1 is the lowest (worst) score and 5 is the highest (best) score)

Results of the increased operational flexibility benefits evaluation are discussed below.

a) *Proposed Project*

The Proposed Project will replace an existing 16-inch diameter pipeline with a 36-inch diameter pipeline, which will increase the transmission capacity of the gas system in San Diego County by approximately 200 MMcfd. This increase in capacity will enhance the Applicants’ ability to reliably manage the fluctuating peak demand of core and noncore customers, including electric generation (EG) and clean transportation. The new line would provide incremental system capacity and increase operational flexibility by expanding the options available to handle stress conditions on a daily and hourly basis that put customer service at risk.

The Proposed Project is able to meet and/or exceed the demands of current and all predicted future peak demand through 2035.

Under the Proposed Project, the Applicants retain operational control of the asset.

b) *Hydrotest*

There will be no increase in system capacity after the hydrotesting on Line 1600 is complete, and a potential short-term decrease in system capacity during the hydrotesting of Line 1600. In order to backfill the loss of supply from Line 1600 (~100 MMcfd), natural gas would have to be imported from Otay Mesa.

The lack of any increase in system capacity results in no change to the current operational flexibility and therefore no increase in the ability to meet current peak or future peak demand. Under this option the Applicants retain operational control of the asset.

c) *Alternative Diameter Pipelines*

Table 18 - Operational Flexibility Benefits of Alternative Diameter Pipelines

Project	Operational Flexibility Benefits
Alternative diameter 10" through 12" (with a de-rated Line 1600 at distribution pressure)	Decrease in the ability to meet current peak or future peak demand. Under this option the Applicants retain operational control of the asset.
Alternative diameter 16" (with a de-rated Line 1600 at distribution pressure)	No increase in the ability to meet current peak or future peak demand. Under this option the Applicants retain operational control of the asset.
Alternative diameter 20" through 30" (with a de-rated Line 1600 at distribution pressure)	Improved ability to meet current peak demand, but unlikely to meet future forecast peak demand through 2035. Under this option the Applicants retain operational control of the asset.
Alternative diameter 42" (with a de-rated Line 1600 at distribution pressure)	Ability to meet and/or exceed the demands of current and all predicted future peak demand through 2035. Under this option the Applicants retain operational control of the asset.

d) *Other Alternative Projects*

Table 19 - Operational Flexibility Benefits of Other Alternatives

Project	Operational Flexibility Benefits
Replace Line 1600 In-Place with a New 16-inch Transmission Pipeline Replacement (no Line 1600)	No increase in the ability to meet current peak or future peak demand. Under this option the Applicants retain operational control of the asset.

Project	Operational Flexibility Benefits
Otay Mesa Alternatives (with a de-rated Line 1600 at distribution pressure)	Ability to meet and/or exceed the demands of current and all predicted future peak demand through 2035. Under this option the Applicants do not retain operational control of the asset as the lines are owned and operated by third-party entities.
Alternative pipelines: <ul style="list-style-type: none"> • Blythe to Santee Alt 1 • Blythe to Santee Alt 2 • Cactus City to SD • 2nd Pipeline Along Line 3010 • Offshore Route (with a de-rated Line 1600 at distribution pressure for all cases above)	Ability to meet and/or exceed the demands of current and all predicted future peak demand through 2035. Under this option the Applicants retain operational control of the asset.
<ul style="list-style-type: none"> • LNG Storage • Alternative Energy (with a de-rated Line 1600 at distribution pressure for both cases above) 	No increase in the ability to meet current peak or future peak demand. Under this option the Applicants retain operational control of the asset.

D. Increased System Capacity

The Proposed Project and Alternatives were evaluated in terms of increased system capacity. The three elements of operational flexibility are:

- No change to system capacity
- Increased system capacity
- Decreased system capacity

1. Evaluating Benefits using the Benefits Evaluation Model

Increased system capacity benefits have been assessed by evaluating and scoring the capacity aspects of the Proposed Project and Alternatives using the benefits evaluation model described above.

The increased system capacity benefits of the respective scoring criteria are described below.

- 4.1 Impact to system capacity:¹⁰³ Ability of the project option to increase current system capacity. This impact is based on the diameter of the pipe and other critical design features. Increased system capacity can also help improve the system’s ability to meet additional load demands if the need arises. During intra-day, peak or extreme weather demand fluctuations, extra capacity can help bridge the gap between design and higher load scenarios.

The scale for scoring the projects against this benefit is:

1. Reduces system capacity by more than 20%
2. Reduces system capacity by up to 20%
3. No change to system capacity
4. Increases system capacity by up to 20%
5. Increases system capacity by more than 20%

The results of the increased capacity scoring are shown in Table 20 below.

Table 20 - Increased System Capacity Benefits Score

System Capacity Benefits	Proposed Project - 36"	Hydrotest	Alt Diameter - 10"	Alt Diameter - 12"	Alt Diameter - 16"	Alt Diameter - 20"	Alt Diameter - 24"	Alt Diameter - 30"	Alt Diameter - 42"	Replace Line 1600 In-Place	Otay Mesa Alternatives	LNG Storage	Alt Energy – Grid Scale	Alt Energy – Smaller Scale	Offshore Route	Blythe to Santee Alt 1	Blythe to Santee Alt 2	Cactus City to SD	2nd Pipeline Along Line 3010
4.1 Impact to system capacity	5	3	2	2	3	4	4	5	5	3	5	3	3	3	5	5	5	5	5

(1 is the lowest (worst) score and 5 is the highest (best) score)

Results of the increased capacity benefits evaluation are discussed below.

a) Proposed Project

The Proposed Project will increase overall gas system capacity. This increase in capacity will improve the ability to manage intra-day and peak load. To this end, the installation of a new 36” pipeline¹⁰⁴ is projected to add an additional 200 MMcfd (30%)¹⁰⁵ of system capacity.

¹⁰³ See Prepared Direct Testimony of David Bisi (March 21, 2016).

¹⁰⁴ In this scenario, Line 1600 will be consequentially de-rated to distribution operating pressures and no longer be considered a transmission asset.

¹⁰⁵ Current system capacity = 630 MMcfd in the winter operating season.

b) *Hydrotest*

A hydrotested Line 1600 will not add any incremental capacity to the system and will therefore not provide any of the benefits applicable to the Proposed Project above or the Alternatives.

c) *Alternate Diameter Pipelines*

Table 21 - System Capacity Benefits of Alternative Diameter Pipelines

Project	System Capacity Benefits
Alternate diameter 10" through 12" (with a de-rated Line 1600 at distribution pressure)	Reduces system capacity by up to 20%.
Alternate diameter 16" (with a de-rated Line 1600 at distribution pressure)	No change to system capacity.
Alternate diameter 20" and 24" (with a de-rated Line 1600 at distribution pressure)	Increases system capacity by up to 20%.
Alternate diameter 30" through 42"	Increases system capacity by more than 20%.

d) *Other Alternatives*

Table 22 - System Capacity Benefits of Other Alternatives

Project	System Capacity Benefits
Replace Line 1600 In-Place with a New 16-inch Transmission Pipeline Alternative (with no Line 1600)	No change to system capacity.
Otay Mesa Alternatives (with a de-rated Line 1600 at distribution pressure)	Increases system capacity by more than 20%.
Alternate pipelines: <ul style="list-style-type: none"> • Blythe to Santee Alt 1 • Blythe to Santee Alt 2 • Cactus City to SD • 2nd Pipeline Along Line 3010 • Offshore Route (with a de-rated Line 1600 at distribution pressure for cases above)	Increases system capacity by more than 20%.
<ul style="list-style-type: none"> • LNG Storage • Alternate Energy – Grid Scale • Alternate Energy – Smaller Scale (with a de-rated Line 1600 at distribution pressure for cases above)	No change to system capacity.

E. Increased Gas Storage through Line Pack

All additional pipelines on the SDG&E system incrementally increase the system line pack to greater or lesser extents. Line pack simply provides an operational buffer to changes in customer demand, and any incremental benefit that line pack provides is implicitly captured by the potential increases in system capacity provided in Section D above.

F. Reductions in Gas Price for Ratepayers

Reduction in gas prices to ratepayers is not expected for any of the project options and under two projects there is a potential for increases to ratepayer gas prices as discussed below.

- 6.1 Reduction in gas prices to ratepayers: Reduction in gas prices to ratepayers is not expected for any of the options being discussed presently and for two of the Alternatives (Otay Mesa and LNG Storage) there is a potential for an increase in gas prices to ratepayers owing to transportation costs to fill LNG tanks and the incremental transportation costs for supply from Otay Mesa.

This benefit was scored as follows:¹⁰⁶

1. Increase in gas prices to ratepayers expected
2. N/A
3. No change in gas prices to ratepayers expected
4. N/A
5. Potential reduction in gas prices to ratepayers

Table 23 - Reduction in Gas Prices to Ratepayers Benefit Scores

Gas Prices to Ratepayers	Proposed Project - 36"	Hydrotest	Alt Diameter - 10"	Alt Diameter - 12"	Alt Diameter - 16"	Alt Diameter - 20"	Alt Diameter - 24"	Alt Diameter - 30"	Alt Diameter - 42"	Replace Line 1600 In-Place	Otay Mesa Alternatives	LNG Storage	Alt Energy – Grid Scale	Alt Energy – Smaller Scale	Offshore Route	Blythe to Santee Alt 1	Blythe to Santee Alt 2	Cactus City to SD	2nd Pipeline Along Line 3010
6.1 Reduction in gas prices to ratepayers	3	3	3	3	3	3	3	3	3	3	1	1	3	3	3	3	3	3	3

(1 is the lowest (worst) score and 5 is the highest (best) score)

¹⁰⁶ See Prepared Direct Testimony of Gwen Marelli (March 21, 2016) for further details.

G. Other Benefits

Other benefits assessed in this study include environmental and other external or societal impacts as a result of any of the project options. The primary topics evaluate emissions reductions, air quality improvements, and the environmental and jurisdictional zoning impacts of route or site selection. Of these, net emissions reductions as a benefit is scored below.

1. Evaluating Benefits using the Benefits Evaluation Model

Other benefits have been assessed by evaluating and scoring the different aspects of benefits generated by the Proposed Project and Alternatives using the benefits evaluation model described above.

The other benefits and their respective scoring criteria are described below.

- 7.1 Emissions reductions due to reduced operating hours at Moreno Compressor Station:¹⁰⁷
The ability to manage excess capacity or load demand with minimal compression can lead to significant reductions in emissions at Moreno Compressor Station and a consequential reduction in combustion emissions of GHGs such as carbon dioxide, as well as a reduction in emissions of other pollutants such as nitrous oxides.

The scale for scoring the projects against this benefit is:

1. Potential increase in net emissions at Moreno Compressor Station
2. N/A
3. 0% reduction in net emissions at Moreno Compressor Station
4. 0% to 75% reduction in net emissions at Moreno Compressor Station
5. 75% or greater reduction in net emissions at Moreno Compressor Station

¹⁰⁷ Based on the figures provided within the Moreno Compressor Station – PSRP Report. *See* Prepared Direct Testimony of Neil Navin (March 21, 2016), Attachment A – PSRP Report at Attachment XII.

2. Results of Analyses

Table 24 - Summary of Other Benefits Scores

Other benefits	Proposed Project - 36"	Hydrotest	Alt Diameter - 10"	Alt Diameter - 12"	Alt Diameter - 16"	Alt Diameter - 20"	Alt Diameter - 24"	Alt Diameter - 30"	Alt Diameter - 42"	Replace Line 1600 In-Place	Otay Mesa Alternatives	LNG Storage	Alt Energy – Grid Scale	Alt Energy – Smaller Scale	Offshore Route	Blythe to Santee Alt 1	Blythe to Santee Alt 2	Cactus City to SD	2nd Pipeline Along Line 3010
7.1 Emissions reductions due to reduced operating hours at compressor stations	5	3	1	1	3	4	4	4	5	3	5	5	1	1	5	5	5	5	5

(1 is the lowest (worst) score and 5 is the highest (best) score)

Results of the other benefits evaluation are discussed below.

a) *Proposed Project*

The Proposed Project will reduce net emissions at the Moreno Compressor Station by 75% or greater.¹⁰⁸ The reduced operating hours at Moreno Compressor Station will result in a net reduction in emissions of GHGs such as carbon dioxide and methane, as well as a reduction in emissions of other pollutants such as nitrous oxides.

b) *Hydrotest*

A hydrotested Line 1600 is not expected to change the current level of emissions at Moreno Compressor Station as a result of no incremental redundancy or capacity offered by this option.

¹⁰⁸ It is assumed that the Moreno Compressor Station would only require reduced operations to function minimally as a safeguard during extreme or unplanned capacity interruption scenarios. The Moreno Compressor Station PSRP Report uses a high case of reduced operations by 95%. See Prepared Direct Testimony of Neil Navin (March 21, 2016), Attachment A – PSRP Report at Attachment XII.

c) *Alternative Diameter Pipelines*

Table 25 - Other Benefits of Alternative Diameter Pipelines

Project	Net Emissions at Moreno Compressor Station
Alternative diameter 10" through 12" (with a de-rated Line 1600 at distribution pressure)	Potential increase in net emissions at Moreno Compressor Station.
Alternative diameter 16" (with a de-rated Line 1600 at distribution pressure)	0% reduction in net emissions at Moreno Compressor Station.
Alternative diameter 20" through 30" (with a de-rated Line 1600 at distribution pressure)	0% to 75% reduction in net emissions at Moreno Compressor Station.
Alternative diameter 42" (with a de-rated Line 1600 at distribution pressure)	75% or greater reduction in net emissions at Moreno Compressor Station.

d) *Other Alternatives*

Table 26 - Other Benefits of Other Alternatives

Project	Net Emissions at Moreno Compressor Station
Replace Line 1600 In-Place with a New 16-ince Transmission Pipeline Alternative (no Line 1600)	0% reduction in net emissions at Moreno Compressor Station.
Otay Mesa Alternatives (with a de-rated Line 1600 at distribution pressure)	75% or greater reduction in net emissions at Moreno Compressor Station.
Alternative pipelines ¹⁰⁹ : <ul style="list-style-type: none"> • Blythe to Santee Alt 1 • Blythe to Santee Alt 2 • Cactus City to SD • 2nd Pipeline Along Line 3010 • Offshore Route (with a de-rated Line 1600 at distribution pressure for cases above)	75% or greater reduction in net emissions at Moreno Compressor Station.
<ul style="list-style-type: none"> • LNG Storage • Alternate Energy (with a de-rated Line 1600 at distribution pressure for cases above)	<p>75% or greater reduction in net emissions at Moreno Compressor Station for the LNG Storage Alternative.</p> <p>Potential increase in net emissions at Moreno Compressor Station for the Alternate Energy solutions owing to the de-rating of Line 1600 and no addition of new transmission pipeline under this Alternative.</p>

¹⁰⁹ The Cross County lines (J1, J2 and J3) are not directly connected to the Moreno Compressor Station, but are assumed to provide similar benefits with regards to avoided costs as the Proposed Project, due to the additional capacity inherent to a 36" pipeline. Due to the length of these lines, it is possible that additional compression may be needed to balance the gas flow in the system. However, at this stage in the design, it is not known whether this additional compression will be required.

H. Supporting Analysis

This section describes the approach and methodology used to estimate the impact of the various project options on overall system reliability introduced in Section VI.B above.

1. Pipeline Failure Analysis

Davies Consulting, LLC, with input and data from the Applicants, analyzed the potential failure rates for the existing Line 1600, the Proposed Project, and two proposed Alternatives: the 30” diameter pipeline (Alternative C5) and the 42” diameter pipeline (Alternative C6).

The Applicants’ method for comparing alternatives is by calculating the likelihood of an incident in an HCA mile as represented by the risk score in the equation below:

$$\text{Risk} = \text{Likelihood of Incident} \times \text{HCA Miles}$$

Where in accordance with Title 49 of the Code of Federal Regulations (49 CFR) Part 191.3, an “incident” is currently defined as any of the following events:

1. An event that involves a release of gas from a pipeline and
 - a) A death, or personal injury necessitating in-patient hospitalization; or
 - b) Estimated property damage, including cost of gas lost, of the operator or others, or both, of \$50,000 or more.
2. An event that is significant, in the judgment of the operator, even though it did not meet the criteria of paragraph.

a) *Likelihood of Pipeline Incidents*

To calculate the likelihood of pipeline incidents, the Applicants used historical pipeline incident and mileage data from PHMSA.¹¹⁰ The Applicants downloaded PHMSA’s Gas Transmission and Gathering Incident Data from 1970-1984, 1984-2001, 2002-2009, and 2010-present (filtering 2010 to present to only show incidents up to 2014, as all 2015 incidents may not yet be included). For each data set, the Applicants filtered the data to exclude gathering pipelines, offshore incidents,¹¹¹ and incidents attributable to a compressor or compressor station, all of which were not relevant to this analysis.

To analyze the risk of an incident on a pipeline like Line 1600, the Applicants filtered the data to remove any pipelines constructed after 1960 or having a diameter other than 16 inches. The year

¹¹⁰ <http://www.phmsa.dot.gov/pipeline/library/data-stats/raw-data>

¹¹¹ Prior to 1984, the incident data did not include a flag by which to identify offshore versus onshore incidents so the filtering of offshore incidents was only applicable to 1984 and beyond.

1960 was chosen based on “Integrity Characteristics of Vintage Pipelines,” which identifies 1960 as approximately the cutoff date for “historic” versus “modern” pipeline manufacturing.¹¹² More specifically, the report indicates that between 1950 and 1970, modern manufacturing techniques for pipelines were introduced, and “historic” practices were phased out. The report indicates that the use of flash welding, which was used in constructing Line 1600, peaked in 1950 and was phased out by 1970. To calculate the number of incidents on historic pipelines similar to Line 1600, the Applicants used all of the remaining unfiltered records for each dataset. The total remaining incidents, for the period 1970 to 2014, on onshore transmission pipelines constructed prior to 1960, is 125.

The PHMSA annual mileage report provides the total miles of pipeline by decade of installation and, separately, by diameter. The incident rate for pre-1960 16-inch pipelines was determined using the PHMSA reported information.¹¹³ Eight percent of all installed pipe has a diameter of 16 inches. The Applicants multiplied the total number of pre-1960 vintage pipeline miles by 8% to determine the number of mile-years needed to calculate the incident rate. The incident rate was then calculated to be **35.4E-05, or about 0.354 per thousand mile-years.**

To determine the incident rate on a new/modern pipeline, similar to the Proposed Project, the Applicants relied on a similar methodology to that described above. The team selected an incident and installation mileage date range of 2000 to 2014. Applying this filter to 36-inch pipe resulted in the identification of one incident. In order to increase the sample size to provide a more meaningful result, the Applicants expanded the diameter filter to include pipelines between 30-inches and 42-inches. The PHMSA incident data, reported 6 incidents that occurred on pipelines with diameters between 30-inch to 42-inch installed between 2000 and 2014. It should be noted, however, that one of these incidents was attributable to stripped threads, and the Proposed Project will not be subject to such failures by design. Thus, the comparable number of incidents of pipelines similar to the Proposed Project would be 5.

To determine the mile-years needed in the calculation of incident rate, the team collected the miles of 30-inch to 42-inch pipeline constructed between 2000 and 2009 and the miles constructed between 2010 and 2014. The share of 30-inch to 42-inch pipeline in the system is approximately 25%. Thus, the incident rate for onshore transmission 30-inch to 42-inch pipelines installed between 2000 and 2014 is **6.4 E-05, or 0.064 per thousand mile-years.**

Between the historic period in which Line 1600 was installed and the current modern period in which the proposed pipeline (Line 3602) will be installed, many improvements have been made in terms of testing, maintenance, and operations. These improvements, in addition to the new material and design, may have further reduced the likelihood of an incident on newly installed pipelines. Thus, to be conservative, it may be better to compare the incident rate over the same time period of 2000 to 2014.

¹¹² Clark, E. B., B. N. Leis, and R. J. Eiber. “Integrity Characteristics of Vintage Pipelines.” 2010. P7.

¹¹³ The PHMSA definition of incident was used for the Applicants’ analysis.

Once again, when identifying onshore transmission line incidents during the period between 2000 and 2014, there was insufficient data to use pipelines exactly 16 inches in diameter. Thus, the Applicants expanded the consideration to include pipelines with diameters between 12 and 20 inches. The share of pipelines between 12 and 20 inches is approximately 28%. Thus, the incident rate for onshore transmission 12-inch to 20-inch pipelines installed between 2000 and 2014 is **9.15E-05, or 0.0915 per thousand mile-years**.

As illustrated in Table 27, pipelines similar to Line 1600 have higher incident rates as compared to lines similar to the Proposed Project (Line 3602).

Table 27 - Incident Rates

Line	Incident Period	Incident Rate per Thousand Mile Years
Line similar to 1600	1970 – 2014	0.354
Line similar to 1600	2000 – 2014	0.0915
Line similar to 3602 ¹¹⁴	2000 - 2014	0.064

b) Consideration of Cause-Specific Incidents

In addition to a decrease in the probability of an incident based on year of installation, the Proposed Project will also have a reduced likelihood of an incident compared to Line 1600 because it will be less susceptible to corrosion, will be installed with features that reduce the likelihood of third-party damage (e.g., mesh and intrusion detection monitoring), and thicker pipe wall necessarily implies much greater puncture resistance.¹¹⁵ The European Gas Pipeline Incident Data Group (EGIG)¹¹⁶ has collected data on 1,060 incidents on over 100,000 kilometers of natural gas pipeline. This data shows that “[f]or pipelines having a wall thickness of 15 millimeters or thicker, there have been no corrosion or third-party damage incidents reported.”¹¹⁷ Because the Proposed Project will have a minimum thickness of 0.625 inches (15.875 millimeter), the EGIG data suggests that the likelihood of corrosion and third party damage is negligible.¹¹⁸

¹¹⁴ The Proposed Project, because of its modern construction and safety practices, is likely to have a lower incident rate.

¹¹⁵ For a detailed list of additional safety-enhancing features of the Proposed Project, see Prepared Direct Testimony of Deanna Haines (March 21, 2016).

¹¹⁶ Horalek V., Bolt R, EGIG Pipeline Incident Database: Safety Performances Determines the Acceptability of Cross Country Gas Transmission Systems

¹¹⁷ Horalek V., Bolt R, EGIG Pipeline Incident Database: Safety Performances Determines the Acceptability of Cross Country Gas Transmission Systems

¹¹⁸ See Prepared Direct Testimony of Neil Navin (March 21, 2016), for the physical specifications of the Proposed Project.

As shown in Figure 4 below, nationwide 39% (and in California, 43%) of all incidents are a result of corrosion or third party damage.¹¹⁹ According to EGIG data, no incidents caused by corrosion or third parties have been reported on a pipeline with a wall thickness greater than 15 millimeters. Assuming that this data is accurate for future incidents in California, the incident rate for pipelines with a wall thickness greater than 15 millimeters should be 43% lower.

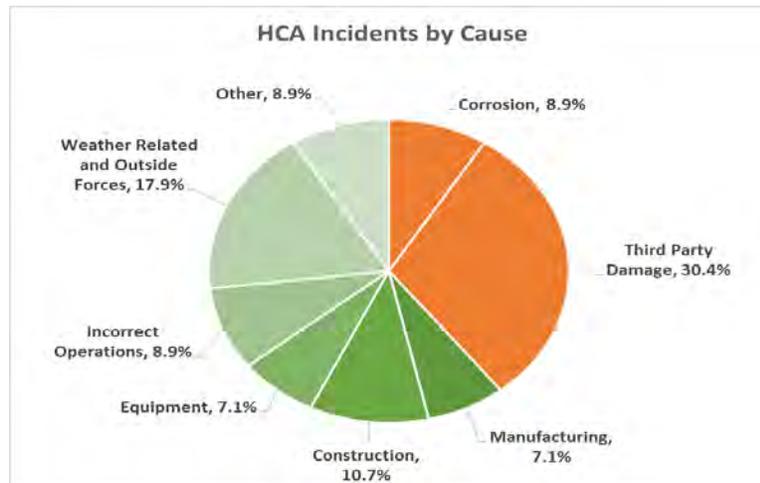


Figure 4 - HCA Incidents by Cause

A 43% reduction, however, is larger than the difference in incident rates calculated for Lines 1600 and the Proposed Project from the PHMSA database. The calculated incident rates of 9.15E-05 for thinner pipelines like Line 1600 and 6.4 E-05 for thicker pipelines like the Proposed Project results in a decrease of 29%. The Applicants' analysis uses the more conservative 29% decrease rate.

c) Additional Considerations

There are several other factors that support the finding that the Proposed Project will have a reduced likelihood of incident than a pipeline like Line 1600. They are presented here for consideration, but are not used in the risk score calculation as they are not quantifiable due to data limitations.

Modern steels have greatly improved fracture toughness which also diminishes the likelihood of puncture and the tendency for burst.¹²⁰ In other words, modern pipes are much more likely to leak than to rupture.

¹¹⁹ Information compiled at the federal level by PHMSA and published at location <http://primis.phmsa.dot.gov/gasimp/performanceasures.htm>

¹²⁰ See B.N. Leis, O.C. Chang, T.A. Bubenik. "Leak versus Rupture Considerations for Steel Low-Stress Pipelines, GRI Report-00/0232." 2001. P11. See B.N. Leis and X.K. Zhu. "Leak vs. Rupture Boundary for Pipes with a Focus on Low Toughness and/or Ductility, PRCI Report PR-003-063526." 2012. A-3, A-8.

Modern manufacturing techniques may also further reduce the likelihood of an incident. The EGIG report finds that “the observed failure frequencies for pipelines constructed before 1964 are significantly higher than pipelines constructed after 1964.”¹²¹ According to Figure 4, better manufacturing of the new pipe would potentially eliminate the likelihood by an additional 7.1% of incidents, as the incidents attributable to non-state-of-the-art manufacturing and construction would be eliminated.

In addition, A.O. Smith, the company that manufactured the pipe for Line 1600, was the manufacturer for pipe involved in 415 incidents due to manufacturing, according to the PHMSA incident records. Most of the causes of these incidents are attributed to either corrosion or to manufacturing defects.

d) HCA Miles of Proposed Alternatives

The impact of an incident depends on whether the incident occurs in a high consequence area (HCA). Comparing potential impacts of an incident on each of the Alternatives requires a calculation of number of HCA miles affected by the incident. The HCA for a pipeline is a function of the proximity of structures to the pipeline, the size of the pipeline, and the pressure at which the pipeline is operating. For Line 1600, which operates at a transmission pressure of 640 psi, the HCA is 32.7 miles. Operating at distribution pressure of 320 psi, the HCA for Line 1600 is 2.3 miles.¹²² The Proposed Project, operating at 800 psi, has an HCA of 32.1 miles.¹²³

Table 28 - HCA Miles

Pipeline Option	HCA Miles
Line 1600 Transmission Pressure	32.7
Line 1600 De-rated at 320 psi.	2.3
Proposed Line 3602	32.1

e) Risk Score of Proposed Alternatives

The risk score of the Alternatives is calculated as the product of the likelihood of an incident (incident rate) on the pipeline and the HCA mileage of the pipeline. Table presents the risk scores for each component of the Alternatives analyzed.

¹²¹ Horalek V., Bolt R, EGIG Pipeline Incident Database: Safety Performances Determines the Acceptability of Cross Country Gas Transmission Systems, p.8.

¹²² Line 1600, once de-rated, will be a distribution line and will therefore not be subject to Subpart O and TIMP regulations. Using HCA comparison for a de-rated Line 1600 is shown for comparability purposes only.

¹²³ Calculated pursuant to 49 CFR 192.903.

Table 29 - Risk Scores

Pipeline Option	Likelihood of Incident	HCA Miles	Risk Score
Line 1600 Transmission Pressure	0.0915	32.7	2.99
Line 1600 De-rated	0.0915	2.3	0.21
Proposed Project 3602	0.064	32.1	2.05

Note that even without accounting for the potential incident rate reduction of derating Line 1600, the risk score of the de-rated line is only 7% of the line at transmission pressure.

Combining the risk scores of the Proposed Project and the de-rated Line 1600 results in:

$$\text{Risk Score of Proposed Alternative} = \sqrt{0.21^2 + 2.05^2} = 2.06$$

The risk score for the Hydrotest Alternative is:

$$\text{Risk Score of (Hydrotest) Alternative} = 2.99$$

The Proposed Project – a new 36-inch pipeline plus a de-rated Line 1600 operating at distribution-level operating pressure – has a total risk score of 2.06. Line 1600, operating at transmission-level operating pressure, has a risk score of 2.99. Therefore, the Proposed Project has a reduced incident rate of 31% in HCA miles, while increasing the capacity of the transmission pipeline serving SDG&E’s service territory.

2. Scenario Analysis

a) Analysis Overview

One of the primary drivers for the Proposed Project is to alleviate the current reliance on Line 3010 for transmission duties on the SDG&E gas system. To more clearly delineate the implications of this current reliance and the value of the proposed system redundancy, an analysis has been performed on scenarios where Line 3010 is operational in combination with the Proposed Project and each of the Alternatives. The objectives of the analysis are to assess the gas and electric curtailment impacts associated with an outage or reduction in pressure of Line 3010 if each of the Alternatives is also in place.

The analysis identifies impacts under various demand conditions and for a variety of available supply combinations. The basis of the analysis is explained in more detail below, and the results are discussed at the close of this section.

It is important to note, the Applicants’ gas transmission system is designed to meet a 1 in 10 design criterion. The Ruling, however, requires the Applicants to “apply quantifiable data to define the relative [reliability benefits]” of the Proposed Project. For purposes of identifying and quantifying the potential reliability benefits of the Proposed Project, PwC, with input from Applicants, generated a series of plausible scenarios in addition to the 1-in-10 design criterion. The assumptions used to generate these scenarios reflect engineering judgment and historical experience operating the gas transmission system. These scenarios were generated for the limited purpose of complying with the Ruling within a short timeframe and do not constitute the basis of new design criteria.

b) Assumptions, Parameters, and Variables

The scenario analysis is performed for a variety of cases, but the following assumptions apply universally.

Table 30 - Base Assumptions for Scenario Analysis

Base Assumptions
The impact is based on a 1-day outage or reduction in pressure of Line 3010, which can be extrapolated as needed
Moreno Compressor Station is functioning
An impact to Line 3010 has occurred in the northern section of the pipeline

The scenario analysis is performed across 3 main parameter sets as indicated in the table below.

Table 31 - Parameter Sets for Scenario Analysis

Project Alternatives Parameter Set	Line 3010 Parameter Set	Otay Mesa Supply Parameter Set
Line 1600 (Pre/Post Hydrotesting)	Line 3010 Complete Outage	Otay Mesa Full Supply
Line 1600 (During Hydrotesting)	Line 3010 at 80%	Otay Mesa Medium Supply
Line 3602 (Proposed Project)		Otay Mesa Low Supply
Alternate Diameter Pipeline 10"		Otay Mesa No Supply
Alternate Diameter Pipeline 12"		
Alternate Diameter Pipeline 16"		
Alternate Diameter Pipeline 20"		
Alternate Diameter Pipeline 24"		
Alternate Diameter Pipeline 30"		
Alternate Diameter Pipeline 42"		
Replace L1600 In-Place Alternative		
Otay Mesa Alternatives		
LNG Storage Alternative		
Alt Energy Alternative (Grid-Scale)		
Alt Energy Alternative (Smaller-Scale)		
Offshore Route		
Blythe to Santee Alternative 1		
Blythe to Santee Alternative 2		
Cactus City to San Diego Alternative		
Second Pipeline Along L3010 Alternative		

Each scenario has variables applied related to the time of year under which the scenario occurs and the supply available from Otay Mesa.

Table 32 - Seasonal Demand Variables for Scenario Analysis

Seasonal Demand Variables		
	Natural Gas Demand	Electric Demand
Example Summer Day With Low Electrical Generation	Example Summer day for Core, Electric Generation and Non-Core, Non-EG customers with low Natural Gas demand for Electrical Generation.	Example Summer day with low electric demand.
Example Summer Day With High Electrical Generation	Example Summer day for Core, Electric Generation and Non-Core, Non-EG customers with high Natural Gas demand for Electrical Generation.	Example Summer day with high electric demand.
Example Winter Day	Example Winter day for Core, Electric Generation and Non-Core, Non-EG customers.	Example Winter day for electric demand.
Winter 1 in 10 Year Day	Example Winter 1 in 10 Year day for Core, Electric Generation and Non-Core, Non-EG customers.	Example Winter 1 in 10 Year day for electric demand.
Example Spring Day	Example Spring day for Core, Electric Generation and Non-Core, Non-EG customers.	Example Spring day for electric demand.
Example Fall Day	Example Fall day for Core, Electric Generation and Non-Core, Non-EG customers.	Example Fall day for electric demand.

The base assumptions and variables result in 48 unique scenarios for each of the 20 identified situations: Line 1600 Pre or Post Hydrotesting, Line 1600 During Hydrotesting, the Proposed Project (Line 3602), and the 17 Project Alternatives. This results in a total of 960 unique scenarios for analysis.

Illustrated in Table 33 below is an example of the unique 48 scenarios for one Alternative (Alternate Diameter Pipeline 12"), which is replicated against each of the Alternatives.

Table 33 - Example of 48 Scenarios Analyzed for Alternate Diameter Pipeline 12"

		1. Example Summer Low-EG Day								2. Example Summer High-EG Day								3. Example Winter Day							
Scenario ID		4.1.1.1	4.2.1.1	4.1.2.1	4.2.2.1	4.1.3.1	4.2.3.1	4.1.4.1	4.2.4.1	4.1.1.2	4.2.1.2	4.1.2.2	4.2.2.2	4.1.3.2	4.2.3.2	4.1.4.2	4.2.4.2	4.1.1.3	4.2.1.3	4.1.2.3	4.2.2.3	4.1.3.3	4.2.3.3	4.1.4.3	4.2.4.3
Project Alternate	Alt. 12"	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Line 3010	80%	✓		✓		✓		✓		✓		✓		✓		✓		✓		✓		✓		✓	
	0%		✓		✓		✓		✓		✓		✓		✓		✓		✓		✓		✓		✓
Otay Mesa Supply	High	✓	✓							✓	✓							✓	✓						
	Medium			✓	✓							✓	✓							✓	✓				
	Low					✓	✓							✓	✓							✓	✓		
	None							✓	✓							✓	✓							✓	✓

		4. Winter 1-in-10 Year Day								5. Example Spring Day								6. Example Fall Day							
Scenario ID		4.1.1.4	4.2.1.4	4.1.2.4	4.2.2.4	4.1.3.4	4.2.3.4	4.1.4.4	4.2.4.4	4.1.1.5	4.2.1.5	4.1.2.5	4.2.2.5	4.1.3.5	4.2.3.5	4.1.4.5	4.2.4.5	4.1.1.6	4.2.1.6	4.1.2.6	4.2.2.6	4.1.3.6	4.2.3.6	4.1.4.6	4.2.4.6
Project Alternate	Alt. 12"	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Line 3010	80%	✓		✓		✓		✓		✓		✓		✓		✓		✓		✓		✓		✓	
	0%		✓		✓		✓		✓		✓		✓		✓		✓		✓		✓		✓		✓
Otay Mesa Supply	High	✓	✓							✓	✓							✓	✓						
	Medium			✓	✓							✓	✓							✓	✓				
	Low					✓	✓							✓	✓							✓	✓		
	None							✓	✓							✓	✓							✓	✓

c) *Summary Methodology*

A first step in the analysis involved a comparison of SDG&E’s natural gas supply and customer demand under each of the six seasonal demand conditions. The table below presents SDG&E’s customer natural gas demand data, as well as the various natural gas supply combinations analyzed in the study.¹²⁴

Table 34 - Natural gas customer demand and supply combinations under each seasonal demand conditions¹²⁵

	1. Example Summer Low-EG Day MMcfd	2. Example Summer High-EG Day MMcfd	3. Example Winter Day MMcfd	4. Winter 1- in-10 Year Day MMcfd	5. Example Spring Day MMcfd	6. Example Fall Day MMcfd
Natural Gas Demand [MMcfd]						
Core Demand	100	100	310	350	170	180
Electric Generation (EG) Demand	100	300	165	165	220	270
Non-Core, Non-EG Demand	75	75	62	62	75	75
Total Demand	275	475	537	577	465	525
Natural Gas Supply Combinations [MMcfd]						
Project Alternatives Capacity						
Line 1600 (Pre/Post Hydrotesting)	150	150	150	150	150	150
Line 1600 (During Hydrotesting)	0	0	0	0	0	0
Line 3602 (Proposed Project)	680	680	680	680	680	680
Alternate Diameter Pipeline 10"	50	50	50	50	50	50
Alternate Diameter Pipeline 12"	70	70	70	70	70	70
Alternate Diameter Pipeline 16" ¹²⁶	160	160	160	160	160	160
Alternate Diameter Pipeline 20"	250	250	250	250	250	250
Alternate Diameter Pipeline 24"	400	400	400	400	400	400

¹²⁴ Natural gas supply from Otay Mesa Receipt Point was determined through an analysis of 2014-2015 flow data from the Gasoducto Rosarito pipeline that feeds into it.

¹²⁵ The gas transmission system is designed to meet a 1 in 10 design criterion. The Ruling, however, requires the Applicants to “apply quantifiable data to define the relative [reliability benefits]” of the Proposed Project. For purposes of identifying and quantifying the potential reliability benefits of the Proposed Project, PwC, with input from the Applicants, generated a series of plausible scenarios in addition to the 1 in 10 design criterion. The assumptions used to generate these scenarios reflect engineering judgment and historical experience operating the gas transmission system. These scenarios were generated for the limited purpose of complying with the Ruling within a short timeframe and do not constitute the basis of new design criteria.

¹²⁶ This scenario analysis uses 160 MMcfd and reflects the capacity of a new 16-inch pipeline operating at 800 psi. The remainder of the Cost-Effectiveness Analysis assumes 150 MMcfd for all 16-inch pipelines. The capacity difference between a 16-inch pipeline at 640 psi and 800 psi is considered negligible and does not significantly impact the outcome of this analysis.

	1. Example Summer Low-EG Day MMcfd	2. Example Summer High-EG Day MMcfd	3. Example Winter Day MMcfd	4. Winter 1- in-10 Year Day MMcfd	5. Example Spring Day MMcfd	6. Example Fall Day MMcfd
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Natural Gas Demand [MMcfd]						
Alternate Diameter Pipeline 30"	600	600	600	600	600	600
Alternate Diameter Pipeline 42"	710	710	710	710	710	710
Replace Line 1600 In-Place Alternative	160	160	160	160	160	160
Otay Mesa Alternatives	400	400	400	400	400	400
LNG Storage Alternative	0	0	0	0	0	0
Alt Energy Alternative (Grid-Scale)	0	0	0	0	0	0
Alt Energy Alternative (Smaller-Scale)	0	0	0	0	0	0
Offshore Route	680	680	680	680	680	680
Blythe to Santee Alternative 1	680	680	680	680	680	680
Blythe to Santee Alternative 2	680	680	680	680	680	680
Cactus City to San Diego Alternative	680	680	680	680	680	680
Second Pipeline Along Line 3010 Alternative	680	680	680	680	680	680
Line 3010 Parameter						
Line 3010 Complete Outage	0	0	0	0	0	0
Line 3010 at 80%	380	380	380	380	380	380
Otay Mesa Supply¹²⁷						
Otay Mesa Full Supply	295	86	313	313	329	324
Otay Mesa Medium Supply	156	60	230	230	244	247
Otay Mesa Low Supply	33	33	148	148	130	168
Otay Mesa No Supply	0	0	0	0	0	0

Table 35 - Electric customer demand and supply combinations under each seasonal demand conditions

	1. Example Summer Low-EG Day MW	2. Example Summer High-EG Day MW	3. Example Winter Day MW	4. Winter 1- in-10 Year Day MW	5. Example Spring Day MW	6. Example Fall Day MW
Electric Demand (MW)¹²⁸						
Peak Electric Demand	3,062	3,723	2,969	3,328	2,693	3,019
Electric Supply Combinations (MW)						
Natural Gas Fired Electric Generation	562	1,686	1,124	1,124	1,236	1,517
Renewable Electric Generation	70	70	70	70	70	70
Electric Import Capacity	2,500	2,500	2,500	2,500	2,500	2,500

Subsequently, supply combinations are established for each of the 960 scenarios, and then analyzed against the customer demand under those conditions. The following key outputs are gathered.

Table 36 - Outputs of Assessed Impacts

Outputs of Assessed Impacts	
General Impacts	<ul style="list-style-type: none"> • Is immediate curtailment at Electrical Generation stations required? • Overall capacity shortfalls in MMcfd
Curtailment to Gas Customers ¹²⁹	<ul style="list-style-type: none"> • Curtailment for Core Customers (% of service impacted, # of customers affected)¹³⁰ • Curtailment for Electric Generation (EG) Customers (% of service impacted) • Curtailment for Non-Core, Non-EG Customers (% of service impacted)
Curtailment to Electric Meters	<ul style="list-style-type: none"> • Curtailment to Electric Meters (% of service impacted, # of meters affected)

d) Summary Results

Outcomes of the 960 scenarios analyzed have been summarized in Figure 5 below. The graph presents the average percentage of curtailment for each gas customer class and outages to electric customers for the 20 situations.

¹²⁹ The Scenario Analysis applies the order of gas customer curtailments as described in the Prepared Direct Testimony of Gwen Marelli (March 21, 2016), page 2.

¹³⁰ Operational activities related to an outage are not factored in determining the number of core customers affected.

Figure 5 - Scenario Analysis Summary Results

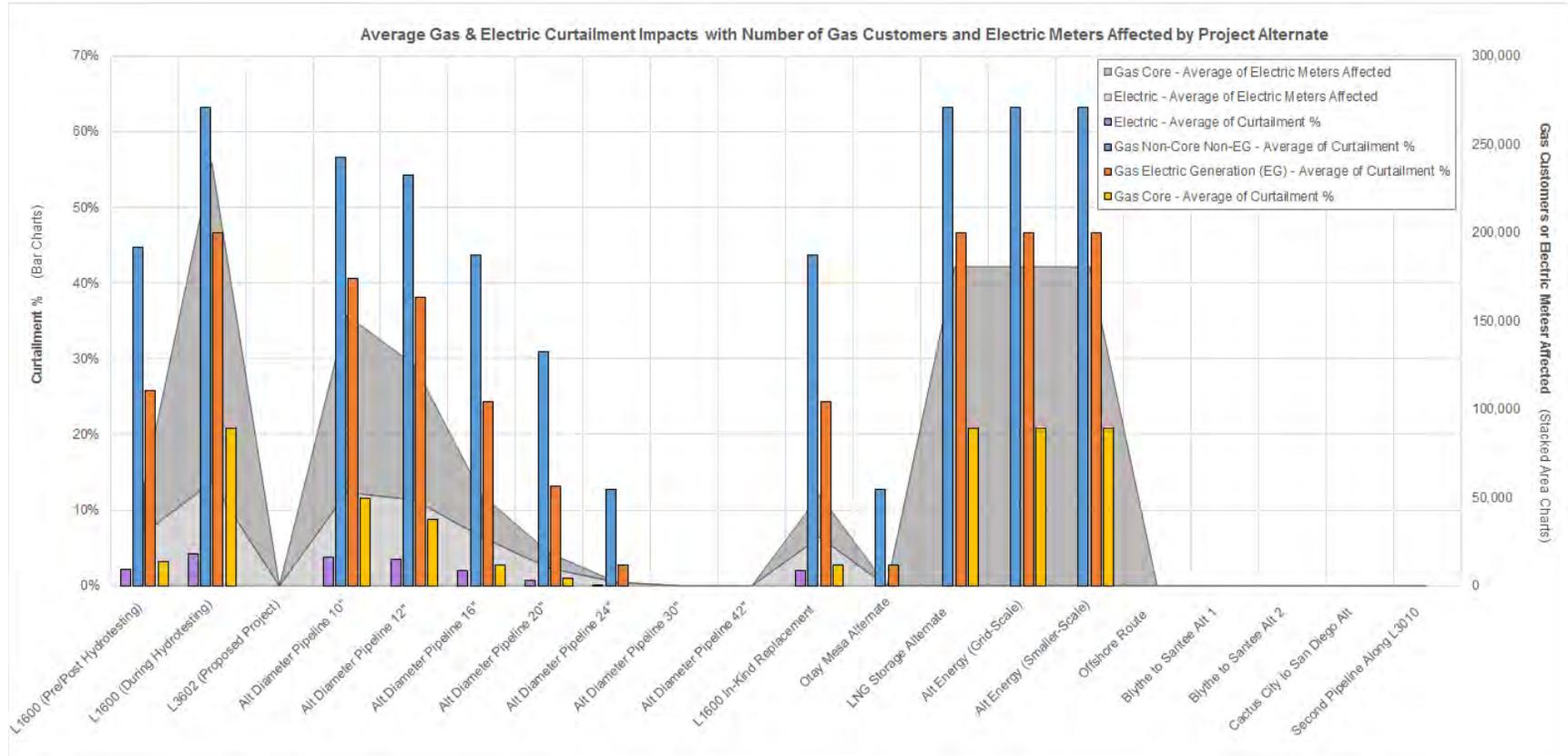


Table 37 - Ranking of Project Alternatives by Average Curtailment

Project Alternative	Scoring of Average Curtailment Severity (Relative to other Project Alternatives, with range 1-Worst to 5-Best)			
	Gas Non-Core, Non-EG Customers	Gas Electric Generation (EG) Customers	Gas Core Customers	Electric
Line 1600 (Pre/Post Hydrotesting)	2	3	5	3
Line 1600 (During Hydrotesting)	1	1	1	1
Line 3602 (Proposed Project)	5	5	5	5
Alt Diameter Pipeline 10"	1	1	3	1
Alt Diameter Pipeline 12"	1	1	3	1
Alt Diameter Pipeline 16"	2	3	5	3
Alt Diameter Pipeline 20"	3	4	5	5
Alt Diameter Pipeline 24"	4	5	5	5
Alt Diameter Pipeline 30"	5	5	5	5
Alt Diameter Pipeline 42"	5	5	5	5
Replace Line 1600 in Place with a New 16" Transmission Pipeline	2	3	5	3
Otay Mesa Alternatives	4	5	5	5
LNG Storage Alternative	1	1	1	5
Alt Energy (Grid-Scale)	1	1	1	5
Alt Energy (Smaller-Scale)	1	1	1	5
Offshore Route	5	5	5	5
Blythe to Santee Alt 1	5	5	5	5
Blythe to Santee Alt 2	5	5	5	5
Cactus City to San Diego Alt	5	5	5	5
Second Pipeline Along Line 3010	5	5	5	5

From the graph and table above, it is evident that the highest and lowest reliability impacts were observed as follows.

Table 38 - Best and Worst Performing Alternatives

Best Performing	Worst Performing
Line 3602 (Proposed Project)	Line 1600 (Pre/Post Hydrotesting)
Alternate Diameter Pipeline 24"	Line 1600 (During Hydrotesting)
Alternate Diameter Pipeline 30"	Alt Diameter Pipeline 10"
Otay Mesa Alternatives	Alt Diameter Pipeline 12"
Offshore Route	Alt Diameter Pipeline 16"
Blythe to Santee Alternative 1	Replace Line 1600 in Place with a New 16" Transmission Pipeline
Blythe to Santee Alternative 2	LNG Storage Alternative
Cactus City to San Diego Alternative	Alt Energy (Grid-Scale)
Second Pipeline Along Line 3010 Alternative	Alt Energy (Smaller-Scale)

I. Benefits Analysis Summary

The following table provides the relative rank of the Proposed Project and Alternatives.

Table 39 - Relative Benefits of Proposed Project and Alternatives from Greatest to Least Benefits

Alt No.	Project Name	Benefits Rank
A	Proposed Project (36" Diameter)	1
C7	Alt Diameter Pipeline 42"	1
J1	Blythe to Santee Alternative 1	3
J2	Blythe to Santee Alternative 2	3
J3	Cactus City to San Diego Alternative	3
K	Second Pipeline Along Line 3010 Alternative	3
I	Offshore Route Alternative	7
C6	Alt Diameter Pipeline 30"	8
C5	Alt Diameter Pipeline 24"	9
C4	Alt Diameter Pipeline 20"	10
C3	Alt Diameter Pipeline 16"	11
D	Replace Line 1600 In Place with a New 16-inch Transmission Pipeline	12
E/F	Otay Mesa Alternatives	13
G	LNG Storage Alternative	14
B	Hydrotest	15
H1	Alternative Energy Alternative: Grid Scale Battery	16
H2	Alternate Energy Alternative: Smaller Scale Batteries	16
C1	Alt Diameter Pipeline 10"	18
C2	Alt Diameter Pipeline 12"	18

The results of the benefits analysis show that the Proposed Project and 42-inch Alternative Diameter Pipeline offer the most benefits. Four Alternatives comprise the next highest-ranked

group, the Cross-Country Pipeline Route Alternatives (Blythe to Santee Pipeline Routes, Alternatives 1 and 2; Cactus City to San Diego Alternative) and the Second Pipeline Along Line 3010 Alternative. The Off-Shore Route offers the third-most benefits, followed in descending order by several Alternative Diameter Pipelines (30-, 24-, 20-, and 16-inches), Replace Line 1600 In Place with a New 16-inch Alternative, the Otay Mesa Alternatives. The LNG Storage Alternative ranked 14th in terms of benefits, followed by the Hydrotest Alternative and the Alternative Energy Alternatives. The Alternative Diameter Pipelines of 10- and 12-inches offer the least benefits of all the Alternatives.

New, larger diameter pipelines outperform the “least-cost” (Hydrotest Alternative) in six out of the seven categories (safety, reliability, operational flexibility, system capacity, gas storage through line pack, and other benefits) and receive the same score for the category of reduction in gas price for ratepayers. As compared to other larger diameter pipelines, the Proposed Project provides additional reliability, operational flexibility, system capacity, gas storage through line pack, and other benefits.

VI. CONCLUSION

With data and input from the Applicants, PwC prepared this Cost-Effectiveness Analysis to comply with the Ruling. The analysis applies quantifiable data to define the relative costs and benefits of the Proposed Project and the range of Alternatives identified in the Ruling. The relative costs and benefits of the Proposed Project and Alternatives are set forth in the following table.

Table 40 - Proposed Project and Alternatives Relative Benefit Ranking and Net Costs

	Description	Benefit Rank	Net Cost (\$M)
A	Proposed Project (Rainbow to Line 2010 Route)	1	\$256.2
B	Hydrotest Alternative	15	\$118.7
C1	Alt Diameter Pipeline, Proposed Route (10")	18	\$302.7
C2	Alt Diameter Pipeline, Proposed Route (12")	18	\$291.6
C3	Alt Diameter Pipeline, Proposed Route (16")	11	\$241.4
C4	Alt Diameter Pipeline, Proposed Route (20")	10	\$239.2
C5	Alt Diameter Pipeline, Proposed Route (24")	9	\$229.6
C6	Alt Diameter Pipeline, Proposed Route (30")	8	\$233.5
C7	Alt Diameter Pipeline, Proposed Route (42")	1	\$341.9
D	Replace Line 1600 in Place with a New 16" Transmission Pipeline	12	\$560.4
E/F	Otay Mesa Alternatives	13	\$876.8
G	LNG Storage (Peak-Shaver) Alternative AKA (United States – LNG Alternative)	14	\$2,584.7
H1	Alternate Energy (Battery) Alternative – Grid Scale	16	\$8,330.1
H2	Alternate Energy (Battery) Alternative – Smaller Scale	16	\$10,010.1
I	Offshore Route Alternative	7	\$1,295.5
J1	Blythe to Santee Alternative 1	3	\$1,219.3
J2	Blythe to Santee Alternative 2	3	\$1,157.3
J3	Cactus City to San Diego Alternative	3	\$981.1
K	Second Pipeline Along Line 3010 Alternative	3	\$427.1

When considering both net project costs and benefits, the Proposed Project is the most cost-effective, prudent Alternative, as it provides more benefits than any of the Alternatives except for the 42-inch diameter pipeline, which provides the same level of benefits but costs \$86 million more (on a net cost basis) than the Proposed Project.

Although the costs analysis concludes that the “least-cost” alternative is the Hydrotest Alternative, which is estimated to cost \$118.7 million on a net cost basis, the group of “second least-cost” alternatives ranges from \$225 million to \$260 million and includes the Proposed Project. The third least-cost group has a larger range, from \$290 million to \$430 million, and the remaining two groups of Alternatives far exceed the net costs of the Proposed Project. These two “greatest cost” categories include Alternatives whose net costs range from \$500 million to

\$1 billion (Replace Line 1600 In-Place with a New 16-inch Transmission Pipeline Alternative, Otay Mesa Alternatives, Cactus City to San Diego Alternative) and more than \$1 billion (Blythe to Santee Pipeline Routes, Alternatives 1 and 2, Off-Shore, LNG Storage, and Alternative Energy Alternatives).

In terms of benefits, the Proposed Project and 42-inch diameter pipeline ranked highest. Four Alternatives comprise the next highest-ranked group, the Cross-Country Pipeline Route Alternatives (Blythe to Santee Pipeline Routes, Alternatives 1 and 2; Cactus City to San Diego Alternative) and the Second Pipeline Along Line 3010 Alternative. The remaining projects are ranked in descending order, with the 10- and 12-inch Alternative Diameter Pipelines ranking lowest in terms of benefits. The “least-cost” Hydrotest Alternative ranked 15th out of 19.

New, larger diameter pipelines outperform the “least-cost” (Hydrotest Alternative) in six out of the seven benefits categories (safety, reliability, operational flexibility, system capacity, gas storage through line pack, and other benefits) and receive the same score for the category of reduction in gas price for ratepayers. As compared to other larger diameter pipelines, the Proposed Project provides additional reliability, operational flexibility, system capacity, gas storage through line pack, and other benefits.

The Proposed Project would provide more benefits than the 16-, 20-, 24- and 30-inch Alternate Diameter Pipelines without adding significantly higher costs. By contrast, the 42-inch Alternate Diameter Pipeline offers the same benefits as the Proposed Project but costs approximately \$86 million more. For these reasons, the Proposed Project is identified as the overall most cost-effective alternative.

EXHIBIT C

Application No.: A.15-09-013
Exhibit No.: SDGE-13
Witnesses: Douglas M. Schneider
David M. Bisi
Sharim B. Chaudhury
Paul Borkovich
S. Ali Yari
Allison Smith
Deanna Haines
Travis Sera
Norm G. Kohls

REBUTTAL TESTIMONY
OF
SAN DIEGO GAS & ELECTRIC COMPANY
AND
SOUTHERN CALIFORNIA GAS COMPANY

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

June 12, 2017

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ATTACHMENT J.1 to J.2:	Utilities’ Revisions of SCGC-01 Tables
ATTACHMENT K.1 to K.2:	Sierra Club’s Responses to Utilities’ Data Requests
ATTACHMENT L:	Effect of Updating Electricity Forecast workpaper
ATTACHMENT M:	Comparison CED 2013 Revised AAEE vs CED 2015 AAEE

ATTACHMENT N:	NERC TPL-001-4
ATTACHMENT O:	Peak RC's SOL Methodology for Operations Horizon
ATTACHMENT P.1 to P.2:	IID Energy Consumers Advisory Committee Meeting Minutes
ATTACHMENT Q:	ECA Terms and Conditions
ATTACHMENT R.1 to R.3:	LNG Studies
ATTACHMENT S:	Confidentiality Declaration

The following Attachments have confidential versions, which will be served on parties who may receive confidential material in this proceeding.

ATTACHMENT A-C
ATTACHMENT B.1-C
ATTACHMENT B.2-C
ATTACHMENT B.3-C
ATTACHMENT B.4-C
ATTACHMENT B.5-C
ATTACHMENT B.9-C
ATTACHMENT F.1-C

1 **CHAPTER 5. INTERVENORS HAVE NOT IDENTIFIED ANY VIABLE OTAY MESA**
2 **ALTERNATIVE (Witness: Paul Borkovich)**

3 ORA and SCGC suggest that delivery of natural gas to SDG&E's Otay Mesa receipt
4 point would meet the reliability and resiliency purpose of the Utilities' Proposed Project at less
5 cost.³⁰³ Neither submits persuasive evidence to support that claim.

6 ORA simply attempts to defer addressing the critical questions regarding potential Otay
7 Mesa alternatives. Although ORA admits that defining the need to be met, *i.e.*, the level of
8 reliability that the Commission wishes to provide SDG&E's customers, is critical to determining
9 whether a viable Otay Mesa alternative exists, ORA suggests that question be deferred until
10 more information is gathered.³⁰⁴ Yet, without a Commission determination regarding the need to
11 be met, it is unknown what volume of gas delivery is sought under what terms. Although ORA
12 recommends that the Commission grant the Utilities authority to issue a Request for Offers
13 (RFO), ORA has declined to answer the Utilities' questions regarding the terms of such an
14 RFO.³⁰⁵ While ORA testifies that it "anticipates" that gas deliveries at Otay Mesa would be less
15 expensive than the Proposed Project, to-date ORA refuses to identify any basis for this assertion,
16 instead ORA recommends "that SoCalGas/SDG&E's Gas Acquisitions Group would propose a
17 package."³⁰⁶ As previously stated, the Utilities would need to know the Commission's position
18 on the need to be met to determine whether an RFO is feasible and on what terms.

19 SCGC takes a different approach. SCGC identifies that various problems that the
20 Proposed Project seeks to address, and then proffers its potential solutions. SCGC recognizes the
21 Utilities' concern that, following de-rating of Line 1600, an outage of Line 3010 or the Moreno

³⁰³ ORA-01 at 25-31; SCGC-01 at 18-20.

³⁰⁴ ORA-01 at 2.

³⁰⁵ Attachment C.7 (ORA Updated Response to Utilities DR-7, Q12).

³⁰⁶ Attachment C.5 (ORA Updated Response to Utilities DR-4, Q6).

1 Compressor Station could result in: (1) a loss of service to SDG&E’s gas customers and (2) a
2 loss of electric service to SDG&E’s electric customers if gas service to gas-fired electric
3 generation in San Diego is curtailed.³⁰⁷ SCGC proposes receipt of gas at Otay Mesa as part of its
4 potential alternative solutions.³⁰⁸ However, for the reasons outlined below, SCGC’s Otay Mesa
5 options are either inadequate to address the Utilities’ concerns or are more expensive than the
6 Proposed Project.

7 **Section 1. ORA Raises Issues But Proffers No Facts to Support an Otay Mesa**
8 **Alternative**

9 **A. ORA Declines to Discuss the Need to be Met, and Thus Whether an**
10 **Otay Mesa Alternative Can Meet the Need**

11 ORA recognizes that, to determine whether an Otay Mesa alternative can meet the need
12 of SDG&E’s customers for reliable gas service, the Commission must determine that need, *i.e.*,
13 the appropriate level of reliability. ORA testifies:

14 In attempting to answer Scoping Memo Question 3, the Commission could
15 be drawn back to the ultimate question of need determination. This is
16 because a typical estimate of cost (i.e., Price x Quantity) depends in part
17 on the quantities required to fulfill the need to be met. The Supplemental
18 Testimony of Mr. Borkovich regarding the Otay Mesa alternatives
19 suggests that the Otay Mesa alternatives could have a range of costs
20 depending on the determination of need to be met established by the
21 Commission for which publicly verifiable information may or may not be
22 obtained...³⁰⁹

23 ORA then explains why a Commission determination of need is relevant:

24 For instance, at a minimum, the need to be met could range from the level
25 required to meet the current reliability standard up to some unverified
26 higher level of capacity deemed necessary to meet emergency events such

³⁰⁷ SCGC-01 at 20-25.

³⁰⁸ SCGC-01 at 25-27.

³⁰⁹ ORA-01 at 2 (emphasis added).

1 as the Line 3010 or Moreno Compressor Station outage scenarios outlined
2 in the Applicants' testimony.³¹⁰

3 Nonetheless, ORA declines to address the need to be met, stating: "At this time, the
4 Commission should not make the need determination because of the substantial amount of
5 information that is yet to be gathered and verified."³¹¹ To the contrary, the Commission must
6 determine the need to be met before further evaluation of Otay Mesa alternatives is useful. As
7 explained in Supplemental Testimony, the Commission should decide whether to maintain the
8 Utilities' current system capacity after Line 1600 is de-rated, whether the Utilities should be able
9 to serve some or all of SDG&E's customers in the event of outages on Line 3010 or at the
10 Moreno Compressor Station, and whether the Utilities should be required to obtain firm capacity
11 rights or be allowed to rely on interruptible capacity that may or may not be available when
12 needed.³¹² The Commission's determinations will inform the volume and nature of gas delivery
13 rights under an Otay Mesa alternative, and thus whether such an alternative is viable.

14 ORA contends that the Utilities "should strive to serve" all customers in the event of a
15 Line 3010 outage or Moreno Compressor Station outage, but then notes such outages are rare.

16 Q. Does ORA consider it prudent to be able to serve all SDG&E gas
17 customers (including core, non-core and electric generation) in the event
18 of a Line 3010 outage, less than all SDG&E gas customers, or none of
19 SDG&E gas customers? ...

20 A. ORA maintains that SDG&E should strive to serve all its customers in
21 the event of a Line 3010 outage, pursuant to its obligation to serve
22 mandate. However, Exhibit ORA-03 concludes and provides data
23 supporting its conclusion that "Recent historic data show that the
24 occurrence of unplanned outages on Line 3010 and at Moreno Compressor
25 Station has been rare." Pages 2 through 6 of that exhibit provide the data
26 in support of that statement. ORA reserves the right to take a position on

³¹⁰ ORA-01 at 3.

³¹¹ ORA-01 at 3.

³¹² SDGE-12 at Chapter 4.

1 this issue based upon responses to discovery or testimony from other
2 parties.³¹³

3 To determine whether any Otay Mesa alternative is viable or cost-effective, the Commission
4 must decide whether the Utilities should be able to serve some or all of its customers in the event
5 of a Line 3010 outage or Moreno Compressor Station outage, or whether it is prudent to accept
6 the risk of serving none.

7 **B. ORA Recommends an RFO, But Provides No Proposed Terms**
8 **Because It Takes No Position on the Need to be Met**

9 ORA requests that the Commission direct the Utilities to issue an RFO, stating:

10 Given Applicants' reticence...to issue a RFO's without Commission
11 instruction, the Commission should order Applicants to issue enough
12 RFO's to discern how owners of pipeline and/or storage capacity and
13 sellers of gas to the Otay Mesa receipt point might respond.³¹⁴

14 In order to obtain the "additional information" that ORA claims is needed to fully analyze the
15 Otay Mesa alternatives, an RFO must be sufficiently tailored to solicit useful and relevant
16 information (as well as have Commission authorization to be considered credible in the market).
17 Specifically, the RFO terms must be based on what the need is. In Supplemental Testimony, the
18 Utilities provided the Commission with a "road map" to assist in their determination of the need
19 to be met.³¹⁵

20 Throughout its testimony, ORA advocates for an RFO without providing proposed terms
21 or stating a position on the need to be met. When pressed for their input on RFO terms, ORA
22 acknowledged that they have not developed any specific terms for an RFO.

³¹³ Attachment C.7 (ORA Response to Utilities' DR-7, Q17 (Line 3010) & Q18 (Moreno Compressor Station)).

³¹⁴ ORA-01 at 19.

³¹⁵ SDGE-12 at 40-42.

1 In ORA-1 at 2, ORA states that it recommends: “The Commission
2 authorizes the conduct of an Request for Offer (RFO) regarding the Otay
3 Mesa Alternatives....” With respect to such testimony:

4 a. State whether such RFO should seek delivery of gas to SDG&E’s Otay
5 Mesa receipt point. If so, state all material terms of such RFO, including
6 but not limited to the volume of gas sought, how often such gas would be
7 delivered, and the duration of the proposed Contract.

8 b. State whether such RFO should seek firm capacity on each of the North
9 Baja Pipeline, Gasoducto Rosarito and TGN. If so, state all material terms
10 of such RFO, including but not limited to the volume of firm capacity
11 sought on each pipeline, and the duration of the proposed contract.

12 c. State whether such RFO should seek storage capacity at the ECA
13 storage facility. If so, state all material terms of such RFO, including but
14 not limited to the volume of storage capacity sought, rights to re-
15 gasification and delivery to SDG&E’s Otay Mesa receipt point, and the
16 duration of the proposed contract.

17 Response No.12a:

18 Because of the need for additional information related to the Otay Mesa
19 Alternatives discussed in Exhibit ORA-01, ORA has not developed the
20 specific material terms of such RFO which will have the objective of
21 seeking reliable delivery of gas to SDG&E’s Otay Mesa receipt point at
22 this time.

23 Response No.12b:

24 Please refer to the above response 12a.

25 Response No.12c:

26 Please refer to the above response 12a.³¹⁶

27 The Utilities previously prepared a draft RFO for binding offers for firm delivery rights
28 to the Otay Mesa receipt point and provided it to Energy Division for review in July 2016. The
29 Utilities indicated that, because their affiliates owned some of the pipelines located in Mexico
30 that would deliver gas to Otay Mesa as well as ECA, the Commission would need to authorize

³¹⁶ Attachment C.7 (ORA Response to Utilities’ DR 7, Q.12) (emphasis added).

1 the RFO. It has been nearly a year since the Utilities presented the draft RFO to the Energy
2 Division, and the Commission has yet to provide comment on or authorization for it.

3 Even if the Commission were to authorize an RFO now, they would need to make a
4 determination of the need to be met, which would dictate the terms (*i.e.*, quantity and term) of
5 the RFO. ORA fails to take a position on the need to be met or provide meaningful
6 recommendations for potential RFO terms.

7 Moreover, it is unclear whether the Commission will direct the Utilities to issue an RFO.
8 During the prehearing conference (PHC) on September 22, 2016, when discussing a potential
9 RFO, Administrative Law Judge Kersten acknowledged that “an [RFO] to explore multiyear
10 firm capacity...[is] probably premature and tampering with the market. By going out there and
11 asking for feedback is a way of influencing the market, and anything that may come back may
12 not even be real because it’s nonbinding.”³¹⁷ The Utilities agree that an RFO will elicit serious
13 offers only if it is binding upon the bidder and is issued under Commission authority.

14 **C. ORA Provides No Support for Its Vague Assertions About an Otay**
15 **Mesa Alternative**

16 Despite asserting elsewhere that more information must be gathered, ORA asserts: “ORA
17 anticipates that purchasing gas through Otay Mesa receipt point (Alternative E), would be
18 immensely less expensive than constructing a new pipeline....”³¹⁸ However, when the Utilities
19 asked ORA to explain the basis for this assertion, ORA declined to provide information about the
20 nature of the assumed contract, the source of gas, or the material terms of the assumed contract,

³¹⁷ PHC Transcript at 98:10-16.

³¹⁸ ORA-03 at 6 (footnote omitted).

1 including the price of gas or delivery rights.³¹⁹ Instead, ORA suggested that this is a Phase 2
2 issue and that the Utilities should “propose a package” that addresses these issues.

3 ORA objects to this question as outside the scope of Phase I of this
4 proceeding, and of ORA’s testimony. The evaluation of long-term
5 contracts and spot market purchases are within the scope of Phase II of
6 this proceeding, including questions 24, 25, 27, 28. ORA is considering
7 both long-term contract and spot market basis and intends at this time to
8 consider long-term and spot market purchases as part of the second phase
9 of this proceeding. ORA reserves the right to make future objections if
10 this question is asked as part of Phase II. As part of Phase II of this
11 proceeding, ORA would recommend that SoCalGas/SDG&E’s Gas
12 Acquisitions Group would propose a package that addresses all elements
13 of data request 6, and that it recommends is in the best interests of core
14 ratepayers.³²⁰

15 The Utilities have determined that the Proposed Project is in the best interests of its customers
16 for the safety, reliability, and operational flexibility reasons set forth in its testimony, and that the
17 Otay Mesa alternatives do not provide the same benefits and are not cost-effective.³²¹

18 In sum, ORA has presented no evidence that any Otay Mesa alternative is viable or cost-
19 effective,³²² or even addressed the critical question that would need to be answered to make that
20 determination, *i.e.*, what is the need to be met.

21 In Supplemental Testimony, the Utilities presented four outage scenarios and the
22 corresponding Otay Mesa deliveries required to cover the effect of the outage.³²³ ORA did not
23 address any of these scenarios in their testimony.

³¹⁹ Attachment C.5 (ORA Updated Response to Utilities’ DR-4, Q6).

³²⁰ Attachment C.5 (ORA Updated Response to Utilities’ DR-4, Q6.a). (emphasis added).

³²¹ See generally CEA.

³²² ORA wonders whether Shell, Gazprom, and IEnova LNG (the owners of the ECA LNG storage capacity) have “any interest” in making “productive use of the idle ECA storage capacity.” ORA-01 at 13. ORA, however, did not contact any of them to determine whether they had an interest. Attachment C.7 (ORA Response to Utilities’ DR-07, Q5).

³²³ SDGE-12 at 41.

1 **Section 2. SCGC Identifies Problems and Offers Solutions Utilizing the Otay**
2 **Mesa Alternatives That Do Not Work**

3 SCGC acknowledges the Utilities’ concerns regarding the reliability and resiliency of
4 SDG&E’s Gas System if Line 1600 is de-rated to distribution service, framing the concerns as
5 three “problems” as follows: (1) “the threat of insufficient transmission capacity to meet 1-in-10
6 year cold day demand if Line 1600 is reduced to distribution pressure for safety reasons as
7 proposed by the Applicants”; (2) “the threat of insufficient transmission capacity to meet core
8 customer needs in the event of an outage on Line 3010”; and (3) “the threat of curtailments to
9 electric generators in the event of a partial or full outage on Line 3010 that would adversely
10 affect electric reliability.”³²⁴

11 For each “problem,” SCGC offers as a complete or partial solution the delivery of gas at
12 Otay Mesa as an allegedly viable and more cost-effective solution than construction of a new gas
13 transmission pipeline, as the Utilities propose here. The issues with gas delivery at Otay Mesa
14 are roughly the same regardless of the “problem” it is meant to address.

15 As explained in both the updated prepared direct and supplemental testimony of Mr.
16 Borkovich, there are only two Otay Mesa alternatives: (1) obtaining capacity on the North Baja
17 California (BC) Pipeline System, which consists of three pipelines – North Baja Pipeline,
18 Gasoducto Rosarito, and Transportadora de Gas Natural (TGN) – to transport gas supply from
19 the El Paso Natural Gas (EPNG) South Mainline system to the SDG&E system at Otay Mesa
20 (North BC Pipeline System Alternative), and (2) obtaining LNG from the Energia Costa Azul
21 (ECA) LNG Storage Terminal that is vaporized and transported on the Gasoducto Rosarito LNG
22 Lateral and TGN system for delivery at Otay Mesa (ECA LNG Alternative).

³²⁴ SCGC-01 at 14, 20 and 38.

1 While the two Otay Mesa Alternatives may appear potentially viable on the surface,
2 given the existing infrastructure, the reality is that neither is viable unless the Commission
3 determines that it is acceptable to rely on “as-available” gas supplies for SDG&E’s customers
4 (core, non-core and electric generation) in the event of a Line 3010 forced outage. In such an
5 event, the Utilities would strive to obtain enough gas through Otay Mesa to supply at least the
6 core, but would have no contractual rights to obtain delivery of gas at Otay Mesa (and would not
7 have a redundant transmission pipeline to deliver it from Rainbow Metering Station). If the
8 Utilities could not obtain sufficient gas on an “as-available” basis in such an event, the
9 consequences could be severe, depending how much gas is available. The Utilities’ Proposed
10 Project provides assurance that sufficient gas will be available during a forced or planned Line
11 3010 outage (as well as a Moreno Compressor Station outage), and, at a minimum, firm contract
12 transportation rights from Ehrenberg to Otay Mesa would be needed to provide an approximate
13 similar assurance to SDG&E’s customers.

14 As discussed below, the North BC Pipeline System Alternative has very little firm
15 capacity available, almost certainly less than SDG&E’s customers would need in the event of a
16 forced outage of Line 3010. The Utilities do not recommend relying on the “interruptible
17 capacity” of the North BC Pipeline System, which is subject to the capacity holders’ needs to
18 serve other customers in Mexico and Arizona on a more regular basis.

19 As also discussed below, the ECA LNG Alternative should be dismissed as not viable or
20 cost-effective. The market already has determined that reliance on imported LNG is not cost-
21 effective, which is why the ECA facility is unused other than the owner’s delivery of sufficient
22 LNG to keep the facility in operation so that ECA can continue to collect storage charges due
23 under long-term contracts from the capacity holders (Shell, Gazprom, and IEnova LNG).

1 Because of the nature of LNG and ECA operations, the ECA facility effectively serves as a “way
2 station.” LNG is delivered by tanker to ECA and off-loaded into storage tanks. Because some
3 LNG must be sent out every day (as “boil off,” to maintain LNG quality, and for fuel to run plant
4 operations), long-term storage of LNG at ECA is not possible without periodic tanker deliveries
5 to maintain inventory to meet a specified demand. Ensuring that ECA would be able to deliver
6 gasified LNG when needed to respond to a forced Line 3010 outage would not be cost-effective.

7 **A. SCGC Does Not Identify a Viable Solution Utilizing the North BC**
8 **Pipeline System**

9 **1. Firm capacity on the North BC Pipeline System is insufficient**

10 To protect customers in the event of an outage on Line 3010, SCGC suggests the Utilities
11 “acquire firm capacity rights on one or more of the [North BC Pipeline System] pipelines.”³²⁵
12 SCGC’s solution seems like an easy fix, however, the Utilities understand that there are capacity
13 constraints on the North BC Pipeline System pathway. As mentioned above, the North BC
14 Pipeline System consists of three separate, interconnected pipelines to carry gas supply from the
15 east. The gas supply would originate from the EPNG South Mainline system east of Ehrenberg,
16 Arizona and enter the North Baja Pipeline traveling south through California to the international
17 border at Los Algodones, into Gasoducto Rosarito. The gas would then head west through
18 Mexico on Gasoducto Rosarito to TGN where it would head north and interconnect with the
19 Utilities’ system at the Otay Mesa receipt point.

20 As previously discussed in the updated prepared direct and supplemental testimony of
21 Mr. Borkovich, while some available firm capacity exists on the North Baja Pipeline, as of
22 February 2016 Gasoducto Rosarito has indicated that only 20 MMcfd of firm service is available

³²⁵ SCGC-01 at 29.

1 on their system from the North Baja Pipeline to the TGN system.³²⁶ This available firm capacity
 2 on the North BC Pipeline System is insufficient to cover the predicted 1-in-10 year cold day
 3 forecast of 548 MMcfd in 2025/26,³²⁷ as well as gas demand of the SDG&E core at any time
 4 during the year as shown in SCGC's Table 6.³²⁸

5 Table 3 below summarizes the current rates and capacity that the Utilities understand is
 6 available on the North BC Pipeline System (North Baja Pipeline, Gasoducto Rosarito and TGN).

7 **TABLE 3**
 8 **AVAILABLE FIRM CAPACITY FOR NORTH BC PIPELINE SYSTEM**

Pipeline	Reservation Charge	Volumetric Charge	Fuel Charge	Available Firm Capacity (Dth)
North Baja	\$0.13145	\$0.00066	\$0.0234	166,670
Gasoducto Rosarito	\$0.03724	\$0.00485	\$0.0083	15,000
TGN	\$0.029200	\$0.00169	\$0.0055	0

9 While the Utilities could issue an RFO for firm capacity on the North BC Pipeline
 10 System sufficient to supply expected core gas demand, if the Commission agrees that is the need
 11 to be met, the Utilities would expect the cost to be very significant. As discussed in the updated
 12 prepared direct testimony of Mr. Borkovich, capacity releases from existing customers would
 13 only be feasible if it were done on a long-term, permanent basis.³²⁹ This would require the
 14 releasing shippers to agree to take interruptible service rather than the firm service they
 15 originally negotiated for. Further, as set forth in Supplemental Testimony, the more likely result
 16 would be that existing customers would opt to retain their firm capacity while those interested in
 17 responding to the RFO would instead propose to construct a new pipeline in Mexico in order to

³²⁶ SDGE-12 at 50.

³²⁷ SDGE-12 at 41.

³²⁸ SCGC-01 at 21 (Table 6).

³²⁹ SDGE-06-R at 8.

1 increase capacity on the path from Ehrenberg to Otay Mesa and seek recovery of that cost plus
2 profit in a 15 to 20-year contract.³³⁰

3 **2. SCGC shows a lack of understanding of gas transportation service**
4 **scheduling**

5 Based on Mr. Borkovich's understanding of scheduling processes, SCGC's speculation
6 that firm transportation service rights on North Baja Pipeline could be used by an interruptible
7 shipper on Gasoducto Rosarito to displace firm Gasoducto Rosarito shippers is incorrect. The
8 scheduling of gas transportation service across interconnecting pipelines requires the nomination
9 of gas transportation for a specific quantity on each pipeline that is confirmed by each pipeline
10 based upon a number of factors including the priority of the shipper's transportation service
11 agreement (TSA). A downstream pipeline, in this case Gasoducto Rosarito, would normally
12 confirm nominations based on the priority of the Shipper's TSA on the Gasoducto Rosarito
13 system, and not on their priority status on the upstream pipeline, when the Gasoducto Rosarito
14 System is constrained.

15 **3. Interruptible capacity is too risky**

16 As explained in updated prepared direct testimony, interruptible service to Otay Mesa is
17 not readily available during periods of high sendout during the peak summer months in the North
18 Baja region.³³¹ At other times up to 150 MMcfd has been available to the Operational Hub for
19 use in support of recently scheduled maintenance activities. Contrary to SCGC's suggestion,³³²
20 relying on interruptible capacity is not prudent or remotely comparable to the Proposed Project.
21 The Utilities do not expect this capacity to be available if it is being utilized by firm customers.

³³⁰ SDGE-12 at 46-48.

³³¹ SDGE-06-R at 11.

³³² SCGC-01 at 27-28 and 61-62.

1 The availability of this slack capacity is expected to decline over time as domestic demand for
2 natural gas increases in the region.

3 **B. SCGC Does Not Identify a Viable Otay Mesa Alternative Utilizing the**
4 **ECA LNG Facility**

5 SCGC’s proposed solutions include both: (1) purchasing gasified LNG from ECA on an
6 “as-available” basis (in conjunction with utilizing any interruptible capacity available on the
7 North BC Pipeline System)³³³ and (2) contracting to maintain LNG in storage at ECA that can be
8 called upon when needed to supply SDG&E’s customers, treating the LNG storage cost as
9 “insurance” to ensure it is available when needed.³³⁴ SCGC claims that such “insurance” would
10 be far less expensive than the Proposed Project. Based on market conditions, statements made
11 by IEnova in successive annual reports, and ECA’s tariff terms and conditions, the Utilities
12 believe SCGC’s claims are likely incorrect due to the high cost of LNG service and the
13 continuing availability of slack pipeline capacity to firm shippers who reserved this capacity to
14 serve growing loads on the North BC Pipeline System.

15 **1. ECA terms and conditions**

16 Currently, the ECA LNG facility is not competitive because the market has determined
17 that importing LNG costs more and represents more hassle than buying pipeline gas produced in
18 the United States. The reasons that importing LNG is so expensive also reveals why SCGC’s
19 proposals are not viable or cost-effective options for potential Otay Mesa service providers.
20 Some of those reasons are set forth in ECA’s terms and conditions.

21 Any bidder offering to supply regasified LNG from ECA to the Utilities at Otay Mesa
22 (whether an RFP process from both existing ECA shipper or an entity with the financial ability

³³³ SCGC-01 at 27.

³³⁴ SCGC-01 at 32-36 and 61-64.

1 and expertise to become an ECA shipper) would need to obtain rights to import LNG through
2 ECA.

3 In order to gain a better understanding of the rates, terms and conditions applicable to
4 potential service providers under the ECA LNG alternative, the Utilities reviewed public copies
5 of ECA's current rates and ECA's Terminos y Condiciones para la Prestacion del Servicio de
6 Almaciento de Gas Natural Licuado (ECA Terms and Conditions).³³⁵ These documents bolster
7 the Utilities' belief, set forth in both Updated Prepared Direct and Supplemental Testimony, that
8 the cost of purchasing LNG from ECA is higher than the purchase of U.S. domestic supply.³³⁶
9 Further, the cost to reserve firm storage capacity and maintain inventory at ECA, sufficient to
10 meet a flowing supply requirement, do not make those costs any more reasonable in today's
11 market.

12 ECA's Terms and Conditions provides five requirements for Shippers contracting for
13 storage service at their facility. They are:

- 14 1. A maximum volume for the purpose of unloading the Shipper's Vessel;
- 15 2. Maximum Monthly Throughput;
- 16 3. Maximum Daily Deliver Quantity (MaxDDQ)
- 17 4. Minimum Daily Delivery Quantity (MinDDQ)
- 18 5. Maximum Storage Quantity (MSQ)

19 Shippers contract for a MSQ that specifies the quantity of LNG that ECA is obliged to
20 store on behalf of the Shipper during a specified period of time. The MaxDDQ is the maximum
21 quantity of vaporized gas that shippers can request for delivery to the Gasoducto LNG Lateral on

³³⁵ Relevant portions of the ECA Terms & Conditions are attached hereto as Attachment Q.

³³⁶ SDGE-12 at 49.

1 any Gas Day. The MaxDDQ is currently limited to 18.86% of MSQ in the ECA Terms and
2 Conditions.

3 The MinDDQ is a minimum daily withdrawal requirement imposed on shippers when
4 they store LNG at ECA. ECA requires a Shipper to withdraw stored quantities at or above its
5 MinDDQ each day until its stored quantity is reduced to zero or refreshed with a new LNG
6 delivery. A specific MinDDQ factor is not specified in the ECA Terms and Conditions, but it
7 appears that it needs to be sufficiently large to cover the boil off of the Shipper's stored quantity
8 and fuel required to maintain the operation of the ECA facility.³³⁷ Further as discussed below,
9 the physics of LNG result in boil off that alters the nature of the remaining stored LNG, such that
10 it must be vaporized and shipped out before it is no longer usable as natural gas.³³⁸ Thus, there is
11 need for the constant turnover of stored LNG at ECA.

12 In addition to the cost of purchasing LNG, ECA shippers must pay various charges to
13 ECA for use of the ECA facility. The rates currently applicable to ECA Shippers are translated
14 and converted to U.S. dollars and energy units in Table 4 below.

³³⁷ Attachment Q (ECA Terms & Conditions, § 1.6) (“Boil-Off of LNG’ gas shall refer to the low-pressure gas that (i) boils off from ECA's storage tanks and other System installations ...”); (ECA Terms & Conditions, § 5.3(A)) (“There may be occasions in which Shippers may not be able to withdraw their MinDDQs. In these cases, ECA may have to dispose of the LNG by venting. The Available Stored Quantity of affected the Shipper shall be reduced in proportion to the portion of the LNG vented applicable to the Shipper.”); (ECA Terms & Conditions, § 16) (“Therefore, ECA shall be entitled to withhold and use, at no cost or charge from Shipper’s Available Stored Quantity, a quantity of gas equal to the result of multiplying said Shipper's Available Stored Quantity by the percentage of gas required to operate the System.”).

³³⁸ Attachment Q (ECA Terms & Conditions, § 5.1(C) (“If the Shipper has delivered LNG that meets the requirements of Section 11.1, and provided that said Shipper has complied with its obligation to withdraw Gas or LNG before its quality falls below a non-condition level pursuant to the provisions of Section 5.3(C), ECA shall be required to deliver Natural Gas or LNG that can be sold commercially in accordance with the provisions of Section 11.1.”); (ECA Terms & Conditions, § 5.3(C) (“The Shipper shall be responsible for the withdrawal of its LNG from the System before its quality deteriorates to a level that cannot be traded in accordance with Section 11.1 of these General Terms and Conditions.”). (Emphasis added).

TABLE 4
CURRENT RATES FOR ECA SHIPPERS

Service	Units	Charge
Firm Base (FB)	Dollars/Dth/Day	0.07050
Interruptible Base (IB)	Dollars/Dth/Day	0.07043
Excess Storage Charge (ESC)	Dollars/Dth/Day	0.03173
Excess Storage Withdrawal Charge (ESWC)	Dollars/Dth	0.26730
Interruptible Sendout	Dollars/Dth	0.26703
Gas Reimbursement	%	1.25
Title Transfer	Dollars/Dth	0.00961

As used in Table 4 above, the following terms are defined as: Firm Base (FB) is firm storage service that is not subject to restrictions, reductions and interruptions except as provided for in the ECA General Terms and Conditions. Interruptible Base (IB) is interruptible storage service that is subject to restrictions, reductions and interruptions in order to provide FB storage service. The Excess Storage Charge (ESC) applies to LNG delivered by the Shipper that exceeds their MSQ. The Excess Storage Withdrawal Charge applies to shipper withdrawals from LNG storage that exceed their MaxDDQ. The Gas Reimbursement charge is a physical charge applicable to gas nominated for withdrawal from storage to cover boil-off gas and to provide fuel to maintain operation of the ECA facility.

The estimated cost to reserve enough ECA FB storage capacity to meet a Commission-approved flowing supply requirement at Otay Mesa can be calculated by dividing the FB reservation charge by the MaxDDQ percentage of MSQ. Based on current rates the charge for reserving FB storage capacity sufficient to meet an Otay Mesa firm delivery requirement is approximately \$0.3734 per Dth per day. This does not include the cost of supply to maintain this inventory at ECA. Table 5 below illustrates the cost to reserve firm capacity at ECA to supply

1 the capacity scenarios described in Supplemental Testimony (at 41) based on the ECA MaxDDQ
 2 percentage of MSQ limitation.³³⁹

3 **TABLE 5**
 4 **Cost to Reserve Firm Capacity at ECA**

Outage Scenario	Otay Mesa Delivery (MMcfd)	Required MSQ (MDth)	Daily Demand Charge (\$)	Annual Revenue Requirement (\$)
Line 1600 Replacement (replace capacity)	150	795	\$56,051	\$20,458,615
Moreno Station Outage (replace capacity)	290	1,538	\$108,404	\$39,567,460
Line 3010 Outage (replace capacity)	400 (lost capacity is 570, but Otay Mesa receipt capacity is 400)	2,121	\$149,523	\$54,575,895

5 The costs to purchase LNG and ship it to ECA, where it would cycle through the ECA
 6 facility in accordance with the ECA Terms and Conditions (including the MinDDQ), would be in
 7 addition to the storage reservation charges. The most recent LNG price reported by EIA for
 8 purchase at Sabine Pass for delivery to Mexico was \$5.25 per Dth for March 2017.³⁴⁰ This does
 9 not compare favorably to the EPNG South Mainline prices reported on the Intercontinental
 10 Exchange (ICE) for the same month that averaged \$2.63 per Dth.

11 Additional cost and shrinkage for tanker transportation from Sabine Pass to ECA would
 12 need to be added to the purchase cost to estimate a delivered LNG cost to ECA.

³³⁹ Please note that the current Otay Mesa receipt point capacity is 400 MMcfd.

³⁴⁰ https://www.eia.gov/dnav/ng/NG_MOVE_POE2_A_EPG0_PNG_DPMCF_M.htm

1 **2. SCGC’s “as-available” proposal does not work**

2 SCGC believes the Utilities’ core demand “could be supplemented as needed with
3 purchases of gas from ECA on an as-available basis.”³⁴¹ Because of the cost disparity between
4 domestic gas at Ehrenberg and imported LNG delivered to ECA, IEnova has stated that shippers
5 are not delivering LNG to the ECA facility. They have reported in successive annual reports that
6 IEnova LNG is making deliveries sufficient to keep ECA operational. There are no indications
7 that any incremental deliveries were made for commercial purposes in either 2015 or 2016. As a
8 result, regasified LNG from ECA is probably not available to meet a sudden unplanned demand
9 from SDG&E at Otay Mesa.

10 In February 2011, the SoCalGas Operational Hub was able to purchase gas supply that
11 originated from ECA when gas supply at Ehrenberg was not available in sufficient quantities to
12 meet Southern System demand. Unfortunately, these as-available purchases were not available
13 in sufficient amounts to prevent a curtailment of the SoCalGas Southern System and SDG&E
14 that was ordered on February 2011.

15 At the time these purchases were made, the Utilities’ backbone transportation service
16 (BTS) Shippers were making sporadic deliveries to Otay Mesa. This activity indicated that LNG
17 deliveries were being made to ECA in sufficient quantity to allow for the sale of gas that was
18 stored at the facility. However, that has not been the case since 2011.

19 The Utilities have not received a commercial gas delivery at Otay Mesa from a BTS
20 Shipper under normal operating conditions since 2011. All Otay Mesa receipts since then have
21 solely been made under orders from the System Operator to either the Operational Hub or Gas

³⁴¹ SCGC-01 at 27.

1 Acquisition. In all cases, the gas supply originated from the EPNG South Mainline and not
2 ECA.

3 More importantly, IEnova stated in their 2015 Annual Report and again in their 2016
4 Annual Report that ECA's LNG inventory is being maintained solely to keep the plant running.
5 IEnova asserts that continuing operation of the LNG terminal is required in order to collect firm
6 fixed storage charges under ECA's firm storage service agreements with Shell and Gazprom,
7 presumably until 2028 when these agreements both expire.

8 Given this situation, SCGC's suggestion that the Utilities could purchase as-available
9 supplies from ECA to offset either a planned outage or an emergency situation would only work
10 if regular tanker deliveries were scheduled to maintain storage inventory above current levels
11 that ECA requires to keep the plant operational. IEnova would need to retain enough LNG in the
12 tanks to avoid shutting down the plant when the Operational Hub requested delivery at Otay
13 Mesa to meet the demand requirements resulting from an unplanned outage on the SDG&E
14 system.

15 A recent real life example elsewhere in Mexico illustrates the steps needed and costs
16 incurred to obtain imported LNG for a planned outage.

17 On April 18, 2017, Reuters reported that Pemex started importing LNG from Cheniere
18 Energy's Sabine Pass export terminal in Louisiana to Mexico's Altamira import terminal earlier
19 that month in anticipation of a week-long maintenance outage on the NET Mexico pipeline in
20 Texas.³⁴² It was reported that three LNG tankers with respective cargo capacities of 3.6, 3.4 and
21 2.9 Bcf had or were waiting to make deliveries at Altamira to cover customer demand during the

³⁴² www.reuters.com/article/us-usa-mexico-natgas-lng-idUSKBN17K2HE

1 outage scheduled for April 9-15. It was also reported that two of the tankers had been diverted
2 north from the Panama Canal in order to make the deliveries.

3 Based on an average LNG cost of \$5.25 per Dth from the EIA website for Gulf Coast
4 LNG sold for Mexico delivery for March 2017,³⁴³ the costs of these tanker loads was in the
5 neighborhood of \$17 million apiece plus tanker transportation from Sabine Pass to Altamira.

6 Applying this real life example to an outage on the SDG&E system based on the current
7 situation at ECA would only work for a planned outage on the Utilities' system where: 1) prior
8 regulatory approval for the purchase of an LNG cargo at a gross cost in excess of \$17 million
9 (based on March 2017 LNG prices) was received; 2) the outage was scheduled far enough in
10 advance to purchase a cargo for delivery to ECA just prior to the start of the outage; and 3) it was
11 known in advance that either or both EPNG South Mainline supply and North Baja/Gasoducto
12 Rosarito/TGN capacity was insufficient to meet forecast demand during the outage period.

13 **3. SCGC's proposal for long-term LNG storage at ECA is not** 14 **practical based on the physics of LNG**

15 SCGC speculates that a yet to be explored option exists as an alternative to the Proposed
16 Project – the long term storage of LNG at ECA that would only be withdrawn when required to
17 address system outages.³⁴⁴ SCGC's proposal illustrates that it does not understand ECA, the
18 physics of LNG and its impact on the commercial operation of LNG storage facilities, and the
19 Utilities desire to avoid being inserted into an uneconomic LNG business proposition in lieu of
20 providing pipeline transportation service.

21 SCGC makes several unfounded claims regarding how a static storage proposal might
22 work. Getting into the details of an improbable standby agreement as suggested by SCGC is

³⁴³ https://www.eia.gov/dnav/ng/NG_MOVE_POE2_A_EPG0_PNG_DPMCF_M.htm

³⁴⁴ SCGC-01 at 32-36.

1 speculative at best and most likely physically impossible based on the operation of the ECA
2 facility as described below.

3 In theory, a standby service arrangement from ECA analogous to services provided by
4 unbundled storage shippers on the SoCalGas system sounds more appealing than buying
5 vaporized LNG every day to maintain reliability. Unfortunately, the physics of LNG and the
6 configuration of the ECA facility appear to make a long term storage alternative that SCGC
7 describes to be impractical.

8 (a) LNG physics and ECA's minimum daily requirement

9 LNG is a cryogenic liquid that is maintained at a temperature just below the boiling point
10 of natural gas at ambient pressure in insulated tanks designed for that purpose. The approximate
11 boiling point for natural gas at ambient pressure is -260 degrees C. LNG is constantly exposed
12 to heat and at times kinetic energy from the time it is liquefied and loaded into tankers to the
13 time it is vaporized and delivered to the receiving pipeline system. This added energy constantly
14 evaporates a portion of the LNG, referred to as boil-off gas (BOG), which continually changes
15 the quality of the remaining LNG over time. This process is referred to as ageing in the LNG
16 Industry.³⁴⁵

17 BOG primarily contains methane and nitrogen which are the more volatile (lower boiling
18 point) components of LNG. As this process continues, the stored LNG's specific gravity and
19 Btu value increases. As it ages, the risk that the LNG will no longer meet the gas quality

³⁴⁵ See, e.g., Attachment R.1 (*Weathering of stored Liquefied Natural Gas (LNG)*), 10th International Conference on Thermal Engineering: Theory and Applications, February 26-28, 2017, Muscat, Oman); Attachment R.2 (*Problem of Boil - off in LNG Supply Chain*, Trans. Marit. Science. 2013; 02: 91 – 100); Attachment R.3 (*Modelling of Boil-Off Gas in LNG Tanks: A Case Study*, E. Adom et al. / International Journal of Engineering and Technology Vol.2 (4), 2010, 292-296).

1 standards applicable to the pipeline systems destined to receive it must be managed by the
2 storage plant operator.

3 ECA does not have liquefaction facilities installed that can recover and liquefy BOG and
4 pipeline gas to maintain gas quality of stored LNG. This means the BOG has to be vented or
5 scheduled for delivery as part of the MinDDQ. Thus, ECA’s Terms & Conditions, § 5.3(A)
6 provides: “There may be occasions in which Shippers may not be able to withdraw their
7 MinDDQs. In these cases, ECA may have to dispose of the LNG by venting. The Available
8 Stored Quantity of affected the Shipper shall be reduced in proportion to the portion of the LNG
9 vented applicable to the Shipper.”³⁴⁶

10 LNG storage operators like ECA can adjust the quality of vaporized gas scheduled for
11 delivery to the SDG&E system by adding nitrogen to maintain its quality in order to meet the
12 Rule 30 standards. Use of this gas quality adjustment tool is limited by the ceiling on inert gas in
13 the gas quality specification. To avoid having non-marketable LNG in its storage tanks, ECA’s
14 Terms & Conditions require a shipper to withdraw its LNG before the quality falls to that point.
15 Section 5.1(C) provides: “If the Shipper has delivered LNG that meets the requirements of
16 Section 11.1, and provided that said Shipper has complied with its obligation to withdraw Gas or
17 LNG before its quality falls below a non-condition level pursuant to the provisions of Section
18 5.3(C), ECA shall be required to deliver Natural Gas or LNG that can be sold commercially in
19 accordance with the provisions of Section 11.1.”³⁴⁷ Similarly, § 5.3(C) provides: “The Shipper
20 shall be responsible for the withdrawal of its LNG from the System before its quality deteriorates

³⁴⁶ Attachment Q (ECA Terms & Conditions, § 5.3(A).

³⁴⁷ Attachment Q (ECA Terms & Conditions, § 5.1(C).

1 to a level that cannot be traded in accordance with Section 11.1 of these General Terms and
2 Conditions.”³⁴⁸

3 In order to maintain a stable operation, storage operators like ECA require their shippers
4 to withdraw a minimum quantity every day to: account for BOG; prevent the ageing of the gas
5 stored in the tanks; and to make gas available for the operator to maintain plant operation.

6 **(b) SCGC’s cost estimate is deeply flawed**

7 SCGC suggests that to ensure gas would be available in the event of a Line 3010 outage,
8 “Applicants would have to assure that LNG supplies would be held in storage at Costa Azul.”³⁴⁹
9 SCGC asserts that one ECA storage tank could store 3.39 Bcf volume of gas, which SCGC says
10 is “10 days of gas supply to core demand in the winter months and about 50 days of gas supply
11 to core demand in the summer months.”³⁵⁰ Speculating that a tanker with more LNG could be
12 sent to and arrive at ECA within five days, SCGC suggests “only half of one Costa Azul LNG
13 storage tank may be sufficient to cover core needs if Line 3010 were to go out of service during
14 the winter peak.”³⁵¹ Noting that the current ECA capacity holders are not importing LNG to
15 ECA other than enough to maintain it in operation, but yet owe storage fees under long term
16 contracts, SCGC suggests that they might be willing to offer LNG storage at a low cost. Finally,
17 SCGC proffers purported costs.³⁵²

18 SCGC’s assumptions and cost estimate are deeply flawed. First, SCGC fails to
19 understand the impact of the MinDDQ, discussed above. A load of LNG cannot remain in

³⁴⁸ Attachment Q (ECA Terms & Conditions, § 5.3(C).

³⁴⁹ SCGC-01 at 32.

³⁵⁰ SCGC-01 at 33.

³⁵¹ SCGC-01 at 33.

³⁵² SCGC-01 at 36.

1 storage for years until it is needed to serve SDG&E’s customers. ECA requires that its shippers
2 cycle their stored quantity relatively quickly through the use of the MinDDQ.

3 SCGC recognizes that BOG must be removed from the storage tank every day, but
4 mistakenly states: “The LNG boil-off rate for LNG tanks is 0.005 percent,” citing a technical
5 article.³⁵³ In fact, the article states: “As the operation pressure was dropped to 200mbar, all four
6 of the LNG tanks’ BOG levels reached 0.05vol%/day.”³⁵⁴

7 SCGC also ignores the LNG ageing arising from the BOG, and does not account for the
8 requirement to withdraw “LNG from the System before its quality deteriorates to a level that
9 cannot be traded.”³⁵⁵ Nor does SCGC account for ECA’s requirement that shippers provide gas
10 necessary to operate the facility. ECA Terms & Conditions, § 16 provides: “Therefore, ECA
11 shall be entitled to withhold and use, at no cost or charge from Shipper’s Available Stored
12 Quantity, a quantity of gas equal to the result of multiplying said Shipper's Available Stored
13 Quantity by the percentage of gas required to operate the System.”³⁵⁶ According to ECA’s rate
14 sheet, the amount of gas taken for facility operations is 1.25% on the gas withdrawn.

15 In short, SCGC’s proposal will require many shipments of LNG to ECA. Without
16 knowing exactly what the MinDDQ would be, the Utilities cannot determine how many times it
17 would be necessary to refill the storage amount each year. Clearly, SCGC’s concept, that a load
18 of LNG could be stored indefinitely, with only a purported \$44,000 of boil-off gas replaced
19 yearly, is mistaken given the MinDDQ. As discussed above, based on an average LNG cost of

³⁵³ SCGC-01 at 36, fn.128 (citing to Modelling of Boil-Off Gas in LNG Tanks: A Case Study, E. Adom et al. / International Journal of Engineering and Technology Vol.2 (4), 2010, 292-296 at 294).

³⁵⁴ Attachment R.3 (Modelling of Boil-Off Gas in LNG Tanks: A Case Study, E. Adom et al. / International Journal of Engineering and Technology Vol.2 (4), 2010, at 292, 295).

³⁵⁵ Attachment Q (ECA Terms & Conditions, § 5.3(C)).

³⁵⁶ Attachment Q (ECA Terms & Conditions, § 16).

1 \$5.25 per Dth from the EIA website for Gulf Coast LNG sold for Mexico delivery for March
2 2017,³⁵⁷ a tanker load would cost around \$17 million apiece plus tanker transportation.

3 SCGC also speculates that the existing holders of ECA storage capacity (IEnova LNG,
4 Shell Mexico, and Gazprom Mexico) would be eager to provide discounted storage costs because
5 they currently must pay for storage under long term contracts whether or not they use ECA.³⁵⁸
6 SCGC notes: “At the previously posted 2011 rate for storage at Energia Costa Azul, a year’s
7 worth of storage for one-half of a tank of LNG would cost \$58 million.”³⁵⁹ SCGC’s witness then
8 asserts, without any explanation: “I would expect that the storage costs for the one-half of a tank
9 of LNG would be on the order of \$6 million per year.”³⁶⁰

10 As an initial matter, there is no basis for this speculation. SCGC did not contact any of
11 the capacity holders.³⁶¹ Contrary to SCGC’s speculation, the capacity holders might consider
12 Commission interest in purchasing firm re-gasified LNG supplies delivered at Otay Mesa an
13 opportunity to make a profit. Moreover, the long-term contracts expire in 2028, so any incentive
14 to discount storage charges would be gone. If ECA otherwise would then shut down operations,
15 an entity bidding to supply the Utilities with this service would have to bear the entire cost of the
16 operation. If the cost disparity between LNG imports and domestic gas has disappeared, then
17 such an entity would face competition for storage. In short, SCGC has not supported its claim
18 that storage charges will be minimal.

19 Given the significant cost of LNG (currently, roughly \$17 million for a tanker load based
20 on March 2017 LNG prices), the MinDDQ that will require cycling LNG through ECA

³⁵⁷ https://www.eia.gov/dnav/ng/NG_MOVE_POE2_A_EPG0_PNG_DPMCF_M.htm

³⁵⁸ SCGC-01 at 36.

³⁵⁹ SCGC-01 at 36.

³⁶⁰ SCGC-01 at 36.

³⁶¹ Attachment H.3 (SCGC Response to Utilities’ DR-04, Q26).

1 frequently to maintain an amount in storage desired to serve SDG&E when needed, shipping
2 costs, and storage charges, SCGC's LNG storage proposal does not appear economically viable.

3 **C. The Regulatory Framework for Development and Cost Recovery of**
4 **the Otay Mesa Alternatives Has Already Been Established by the**
5 **Commission**

6 ORA believes that the Otay Mesa Alternatives require further evaluation through an
7 undefined Request for Proposal (RFP) process. SCGC believes that the costs for these
8 alternatives somehow need to be imposed on core customers. Both are incorrect. The regulatory
9 framework for further development and evaluation of these tools including the use of RFPs was
10 established under Commission Orders D.97-12-088 and D.98-08-035 and is expressed in
11 SoCalGas Rule 41. All that is required to move forward on the Otay Mesa Alternatives is
12 Commission authorization for the Utilities to request offers for a specific quantity of firm
13 capacity or supply at Otay Mesa for a specified term.

14 Rule 41 allows the SoCalGas Operational Hub to use tools authorized by the Commission
15 to support the Southern System minimum flow requirement. The Southern System minimum
16 flow requirement is the amount of gas flow required each day from Southern Zone system
17 receipt points at Ehrenberg, Blythe and Otay Mesa to serve loads on the SoCalGas Southern
18 System and SDG&E. A long-term contract for capacity or supply delivery at Otay Mesa counts
19 as a tool to ensure the reliability of the SDG&E system as well as the SoCalGas Southern System
20 for both core and noncore customers.

21 The currently approved tools for use by the Operational Hub include the purchase and
22 sale of spot gas supply; the issuance of RFO's for proposals to enable SoCalGas to manage the
23 minimum flow requirement; and the ability to move gas supply between the Ehreneberg and
24 Otay Mesa system receipt points.

1 Under Rule 41 SoCalGas has purchased gas supply, mostly at Ehrenberg, and sold that
2 supply back to suppliers and customers at the City Gate; bought and sold base load gas purchases
3 at Ehrenberg during the winter and summer months; and has moved spot gas purchases from the
4 El Paso Natural Gas (EPNG) South Mainline for interruptible transport to Otay Mesa to ensure
5 system reliability.

6 Acquiring the right to be an interruptible shipper on the North Baja/Gasoducto
7 Rosarito/TGN path requires an agreement with two affiliates, Gasoducto Rosarito and TGN.
8 Affiliate Compliance rules require Commission approval of those relationships which last
9 occurred on June 25, 2015.

10 The Utilities believe that these tools, while effective for meeting Southern System
11 requirements under most conditions encountered so far, are inadequate as replacements for Line
12 1600 as an alternative to a new pipeline that transports gas in parallel with Line 3010.

13 On March 30, 2012, the Commission authorized the SoCalGas Operational Hub to
14 transport gas supply from Ehrenberg to Otay Mesa on the North Baja Pipeline, Gasoducto
15 Rosarito, and TGN systems.

16 Rule 41 restricts the Operational Hub's purchase of gas supply from Sempra Energy
17 affiliates to those made through an Independent Party, where the counterparties are not known
18 until after the transaction is completed. During the EPNG South Mainline system emergency in
19 February 2011, the Operational Hub was able to make limited purchases of supply from an
20 independent party who the Utilities believe was selling gas from ECA before it became
21 unavailable. This restriction limits the Utilities' ability to make direct spot purchases with North
22 Baja gas suppliers since then because it now appears that Sempra Energy affiliates are the only
23 major suppliers operating there at this time.

1 Rule 41 RFO authorizes SoCalGas to issue an RFO for proposals to enable the
2 management of minimum flow requirements for system reliability. The RFO does not bind
3 SoCalGas to enter into a contract for any product or service offered in response to the RFO. Any
4 contract entered into with an RFO respondent is conditioned upon Commission approval
5 acceptable to SoCalGas. Current Commission authority limits SoCalGas to issuing RFOs for
6 seasonal Base Load purchase transactions. The Utilities believe that an RFO issued by
7 SoCalGas without Commission authority would not be perceived by the market as a serious
8 proposal.

9 **D. None of the Otay Mesa Alternatives are Operationally Equivalent to**
10 **the Proposed Project**

11 As stated in Mr. Borkovich's Updated Prepared Direct Testimony, a new pipeline in
12 parallel with Line 3010 provides flexibility and regulatory certainty that cannot be provided by
13 either of the Otay Mesa Alternatives.³⁶²

14 Both Otay Mesa Alternatives would require the delivery of gas to the SDG&E system at
15 Otay Mesa from the TGN system which has not been used by SoCalGas and SDG&E BTS
16 shippers on a voluntary basis since 2011. The Otay Mesa Pipeline Alternative would use
17 capacity originally built in the U.S. and Mexico in 2002 to serve load in a growing North Baja,
18 Mexico gas market. The Otay Mesa LNG Alternative would force SoCalGas and SDG&E
19 customers to resuscitate an uneconomic supply option for Southern California somehow into an
20 economic project alternative. These problems are avoided on the SDG&E system by
21 constructing a replacement for Line 1600.

22 Further, as explained in Supplemental Testimony, contracting for long term service on a
23 foreign gas system exposes ratepayers to sovereign risks that are avoided by the construction and

³⁶² See SDGE-6-R.

1 operation of a new pipeline located in the U.S.³⁶³ Taking service from foreign pipelines to avoid
2 the higher development cost for pipeline facilities subject to Commission and California
3 Environmental Quality Act (CEQA) jurisdictional requirements could be undermined by future
4 regulatory changes in Mexico that could negate the benefit of the investment. The Commission
5 would also have to consider the cost and time to have personnel capable of monitoring and
6 possibly intervening in regulatory matters affecting the rates and services charged for these
7 services as is currently done for services paid for by ratepayers under the jurisdiction of FERC.

8 The potential sovereign risk cannot help but lead one to the conclusion that contracting
9 for long term service on a gas system in a foreign country should only be seriously considered
10 when it is done to either serve load located in that country or to procure a source of otherwise
11 inaccessible gas supply that provides essential supply or competitive benefits to the utility's gas
12 market not available from domestic sources. The Otay Mesa alternatives currently meet neither
13 criteria and have mostly not done so since 2011.

³⁶³ SDGE-12 at 43.

EXHIBIT D

Application No: A.15-09-013
Exhibit No.: SDGE-4-R
Witness: S. Ali Yari

In The Matter of the Application of San Diego Gas
& Electric Company (U 902 G) and Southern
California Gas Company (U 904 G) for a Certificate
of Public Convenience and Necessity for the Pipeline
Safety & Reliability Project

Application 15-09-013
(Filed September 30, 2015)

UPDATED

PREPARED DIRECT TESTIMONY OF

S. ALI YARI

ON BEHALF OF

SAN DIEGO GAS & ELECTRIC COMPANY

AND

SOUTHERN CALIFORNIA GAS COMPANY

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

March 21, 2016, updated February 21, 2017

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1 **I. PURPOSE AND OVERVIEW**

2 The purpose of my testimony is to explain why the proposal of San Diego Gas & Electric
3 Company (SDG&E) and Southern California Gas Company (SoCalGas) (collectively, the
4 Utilities) for a new approximately 47-mile, 36-inch diameter natural gas transmission pipeline
5 (Line 3602) and associated facilities between the Rainbow Metering Station (Rainbow Station)
6 and a tie-in point with Line 2010 on Marine Corps Air Station (MCAS) Miramar (the Proposed
7 Project or Pipeline Safety & Reliability Project (PSRP))¹ should be approved. The Proposed
8 Project is needed from an electric reliability standpoint. My testimony supplements the
9 testimony of other witnesses who testify as to why the Proposed Project is needed from a gas
10 safety and reliability standpoint.

11 Although the Application primarily focuses on gas issues, there is significant reliance on
12 gas by electric generation in the region served by SDG&E.

13 A key issue of my testimony is that curtailment of gas supply to electric generation can
14 result in the loss of firm electric customers. This conflict arises because the competitive
15 generation market is not incentivized to ensure that firm electric demand is met during periods of
16 gas curtailment. There is currently no option for electric generators to elect a firm gas supply to
17 provide for a firm electric supply.

18 SDG&E is a regulated public utility that provides electric service to 3.4 million people
19 through 1.4 million electric meters in San Diego County and southern Orange County.² The
20 electric service area spans 4,100 square miles. As a regulated public utility, SDG&E has an
21 obligation to serve its customers safely and reliably. Although the North American Electric

¹ The Utilities use these terms interchangeably throughout the testimony and Application.

² SDG&E provides natural gas service to San Diego County. SoCalGas provides natural gas service to southern Orange County.

1 Reliability Corporation (NERC), pursuant to the Federal Power Act and Federal Energy
2 Regulatory Commission (FERC) regulation, already has an extensive set of reliability standards
3 for the electric transmission system, issues involving the interdependency between the gas
4 systems and electric systems are also being considered to improve reliability.³

5 The interdependency and need for coordination between electric and gas systems is also
6 recognized by the California Energy Commission (CEC). In its 2015 Natural Gas Act Report
7 prepared pursuant to Assembly Bill (AB) 1257, the CEC determined that approximately 40
8 percent of the natural gas in California is used in electric generation (EG) and as such, more
9 discussions and studies are needed for more effective coordination between the gas and electric
10 industries, as described in more detail below.⁴

11 The Utilities raise these issues to the attention of the California Public Utilities
12 Commission (CPUC or Commission), because the Proposed Project is vital not only for the
13 reliability of gas service, but also for the reliability of electric service. My testimony will explain
14 the following key risk issues with respect to the Proposed Project's relationship to electric
15 reliability:

- 16 • SDG&E's firm electric customers are at risk for electric curtailment when gas
17 curtailments occur, due to the vast majority of electric in-basin⁵ generation power

³ See FERC Final Rule 809, issued April 16, 2015. See also NERC Special Reliability Assessment "Accommodating an Increased Dependence on Natural Gas for Electric Power" (NERC Report), at 38 (dated May 2013), available at http://www.nerc.com/pa/RAPA/ra/Reliability%20Assessments%20DL/NERC_PhaseII_FINAL.pdf; and FERC webpage, at <http://www.ferc.gov/industries/electric/indus-act/electric-coord.asp>. However, these efforts involving gas scheduling issues and improving the timing of the "Gas Day" do not alleviate the gas-electric interaction issues involved in this testimony.

⁴ CEC Final Staff Report, AB 1257 Natural Gas Act Report: Strategies to Maximize the Benefits Obtained From Natural Gas as an Energy Source, November 2015 (AB 1257 Report), at 29-30.

⁵ The term "in-basin" generation refers to local generation, meaning generation in the SDG&E service territory.

1 plants relying on gas as a fuel source. Gas curtailments could result in a reduction
2 of electric supply.

- 3 • Conflicting priorities exist between gas and electric operations. As discussed in
4 the Prepared Direct Testimony of Mr. David Bisi, gas curtailments could require
5 electric generating plants to be curtailed to continue to serve core gas customers.
6 However, as discussed in my testimony, such curtailment of gas-fueled⁶
7 generation could require firm electric customer outages to prevent a widespread
8 blackout.⁷
- 9 • With 90 percent of the gas capacity in the SDG&E system supplied by Line 3010,
10 a 30-inch diameter pipeline, any number of potential outage scenarios on this
11 single gas pipeline could place firm electric load at risk due to gas curtailment of
12 EG leading to electric outages. *See* the Prepared Direct Testimonies of Mr. Bisi
13 and Mr. Jani Kikuts.
- 14 • The FERC/NERC, Western Electricity Coordinating Council (WECC), California
15 Independent System Operator Corporation (CAISO) and SDG&E reliability
16 standards require that the electric system must withstand the largest single electric
17 contingency without the need to drop firm electric customer load. However, the
18 situation is such that the loss of a single gas facility, Line 3010, could result in a
19 loss of firm electric customer load. There is clearly a reliability correlation
20 between the gas and electric systems. In the absence of construction of the
21 Proposed Project, these persistent gas-electric interdependency issues could
22 require constructing one or more new transmission lines to increase electric
23 transmission import capabilities, in order to provide adequate electric reliability in
24 accordance with established NERC and other regulatory requirements.⁸

⁶ The terms “gas fueled” and “gas fired” have the same meaning and may be used interchangeably.

⁷ As described in the Amended Application, the Utilities retained PricewaterhouseCoopers (PwC) to perform a cost-effectiveness analysis of the Proposed Project and the alternatives identified in the Ruling. *See* Amended Application, Volume III – Cost-Effectiveness Analysis. The Cost-Effectiveness Analysis and underlying methodology were performed by PwC with input and data from the Utilities. I have provided data input to the analysis as well as other data inputs for the portions of the analysis that pertain to my testimony below.

⁸ In a “no gas” or very limited gas scenario, SDG&E may not be able to serve all of its customers and may need to drop load.

1 **II. A GAS SINGLE CONTINGENCY STANDARD DOES NOT CURRENTLY EXIST**
2 **THAT WOULD SUPPORT THE ELECTRIC TRANSMISSION PLANNING AND**
3 **OPERATION STANDARDS AND THE ELECTRIC GRID’S INCREASING**
4 **RELIANCE ON NATURAL GAS**

5 From an electric reliability perspective, a single point of failure on the SDG&E gas
6 system could also place SDG&E’s electric load at risk due to curtailment of gas supply to EG in
7 San Diego. The Proposed Project is a physical solution that provides a redundant gas supply to
8 San Diego that would address the single point of failure scenario from a gas reliability
9 perspective (*see* the Prepared Direct Testimonies of Gwen Marelli and Mr. Bisi) and an electric
10 reliability perspective (as discussed in my testimony).

11 The electric grid is designed to handle a single contingency (N-1), meaning an outage
12 condition on a single electric transmission facility and/or generation resource pursuant to
13 established electric reliability standards, such as the FERC-approved NERC reliability
14 standards.⁹ However, the electric grid in San Diego relies upon in-basin natural gas-fired EG
15 under many operating scenarios, and that in-basin generation is currently connected to a gas
16 supply system without gas contingency planning for a similar “N-1” single line outage of
17 Line 3010. The CAISO, FERC and the CEC all recognize the need for gas-electric integration
18 because of power plants’ reliance on gas as a fuel supply.¹⁰ Indeed, the NERC released a 2013
19 report recognizing the need for risk mitigation of potential EG outages due to natural gas

⁹ *See generally* NERC Report, at 38.

¹⁰ In 2011, the CAISO applied for and obtained a tariff amendment providing that the CAISO may share information regarding outages of natural gas-fired generation resources and other electric grid outages with natural gas transmission and distribution utilities. CAISO Tariff Section 20.4(c)(iv). *See also* February 3, 2012 Request for Comments of Commissioner Moeller on Coordination between the Natural Gas and Electricity Markets, *available at* <https://www.ferc.gov/industries/electric/indus-act/electric-coord/moellergaselectricletter.pdf>; November 15, 2012: FERC Staff Report on Gas-Electric Coordination Technical Conferences (Docket No. AD12-12-000). *See also* AB 1257 Report, at 31-32 (“Certain natural-gas fired power plants are used to meet local reliability needs, to provide emergency system support, and to provide the range of ancillary services that are needed by [CAISO] to keep the integrated electric system running reliably.”).

1 interruptions and curtailments, even if the probability of a pipeline failure occurring during
2 electric peak periods is very low: “[W]ithin a relatively short time, a major failure [on a gas
3 pipeline] could result in a loss of electric generating capacity that could exceed the electric
4 reserves available to compensate for these losses.”¹¹

5 At this time, however, there is no similar gas “N-1” contingency standard for gas system
6 operators that would support the electric transmission planning and operation standards and the
7 electric grid’s increasing reliance on natural gas.¹² According to the NERC, “[w]hile it is not
8 possible to fully protect any system against acts of nature, contingency plans can and should be
9 prepared. . . .”¹³ As explained in the Sections below, the Proposed Project would allow the
10 Utilities to handle a “contingency event involving the loss of delivered gas supply to gas-fired
11 units within a region and mitigate the potential resulting domino effect.”¹⁴

12 The existing in-basin gas-fired generation in SDG&E’s service territory consists of
13 approximately 3,140 megawatts (MW) of generators that rely on natural gas supplies from the
14 two existing transmission pipelines within San Diego County. If an outage on Line 3010 occurs,
15 as Ms. Marelli and Mr. Bisi testify, these EG plants could be curtailed to continue providing gas
16 to serve core gas customers. That curtailment of gas supply to EG plants could require shedding
17 *electric* load (*i.e.*, firm electric customers) to prevent complete electric system loss, resulting in a
18 widespread blackout.¹⁵ As described below, SDG&E’s electric power import capability alone is
19 not sufficient to serve all electric load for many hours during many days of the year.

¹¹ NERC Report, at 4.

¹² See D.02-11-073 and D.06-09-039.

¹³ NERC Report, at 29.

¹⁴ See *id.* at 38.

¹⁵ See *id.* at 25:

While relatively few in number and limited to specific regions, there have been interruptions to the delivery of gas supply to gas-fired units, as well as to consumers within the other demand

1 **III. NATURAL GAS-FIRED GENERATION IS CRITICAL TO SDG&E AND**
2 **CALIFORNIA**

3 **A. Growth in Need for Fast Ramping Natural Gas-Fired EG**

4 Unlike base load units that are operated at a relatively constant level of power output, or
5 renewables that have outputs that cannot be dispatched up or down, fast-ramping natural gas-
6 fired units are needed due to their ability to be dispatched to increase or decrease power output
7 relatively quickly to meet changing electric load demand conditions.

8 SDG&E's electric system is operated as part of the larger CAISO integrated system.
9 Traditionally, the customer load demand of the CAISO system (including the SDG&E system)
10 would change slowly throughout the day in a cycle that would peak between 3 and 5 PM and
11 reach a minimum around 2 or 3 AM. However, that traditional load curve has been changing,
12 and will continue to change. Senate Bill (SB) 350 requires electric service providers in
13 California to increase their purchase of eligible renewable energy resources from 33 percent to
14 50 percent under the Renewables Portfolio Standard (RPS) by December 31, 2030. Thus, by
15 law, the amount of renewable generation coming on-line will continue to increase.

16 Energy generated from renewable sources, such as wind and solar, varies depending on
17 conditions (*e.g.*, wind not blowing, sun not shining). The intermittency of renewable generation
18 can fluctuate hour to hour, which presents challenges for planning and operating the electric grid.
19 For example, with the installation of significant amounts of solar power, we now see a new
20 emerging pattern of natural gas-fired EG dispatch throughout the day. There is a need for natural
21 gas-fired EG on a daily basis in the morning before the solar output has peaked. As solar power

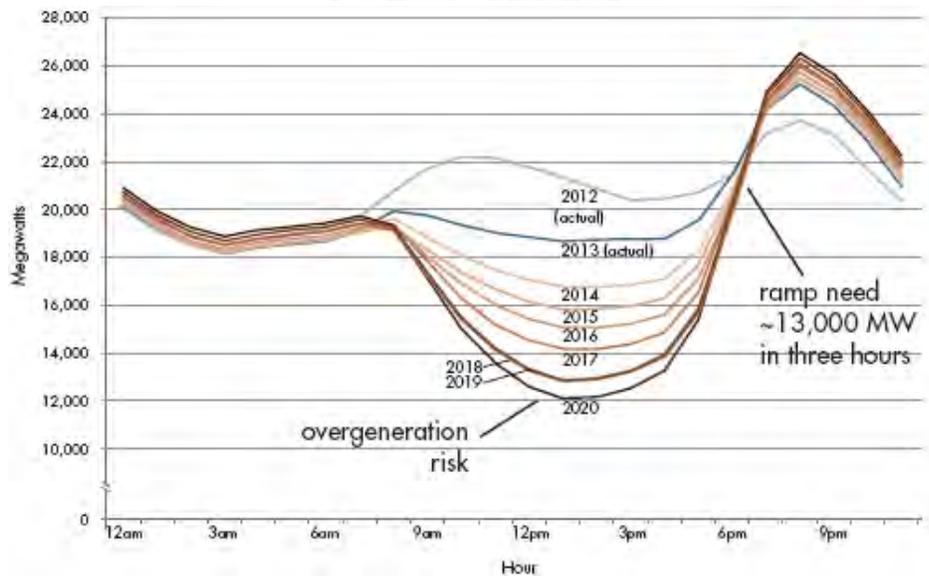
sectors. As illustrated by the review of selected historical service interruption incidents in Chapter 3, none of the incidents directly affected overall system reliability. In some cases, the gas industry was able to either respond quickly or resort to alternatives. However, some historical incidents have contributed to the degradation of system reliability, and similar incidents that could easily threaten regional system reliability are possible.

1 increases during mid-day and through the early afternoon, the net load¹⁶ that the CAISO must
2 “follow” by dispatching natural gas-fired EG decreases since the solar output is increasing faster
3 than electric demand. After peaking in the afternoon, solar output starts to decline while electric
4 demand continues to rise, resulting in a very fast “ramp” requirement during which natural gas-
5 fired EG must be quickly and dramatically increased.¹⁷

6 The CAISO’s “duck curve” below illustrates this phenomenon.¹⁸ This curve has come to
7 be known as the duck curve based on the shape of the curve. The magnitude of the duck curve
8 phenomenon is increasing year by year, increasing challenges and reliance on natural gas for
9 fast-ramping EG capability, as solar and other renewables continue being added to the system.

10

TABLE 1
Net Load – March 31



¹⁶ “Net Load” is load (customer power demand) minus renewable generation (solar and wind participating in the CAISO market).

¹⁷ See AB 1257 Report, at 32 (“Studies performed by the [CAISO] show that the predicted variation in renewables production mean that large numbers of remaining resources, namely those fired by natural gas, will need to ramp up production quickly, as the renewables generation falls off, and be turned down quickly as the renewables production increases.”).

¹⁸ CAISO, *Fast Facts*, “What the duck curve tells us about managing a green grid,” available at https://www.caiso.com/Documents/FlexibleResourcesHelpRenewables_FastFacts.pdf.

1 Accordingly, while renewable resources provide an additional source of energy, the need
2 for fast-ramping, natural gas-fired generation to meet peak electric power demand is increasing
3 to “fill the gap” as renewable generation fluctuates during the day or with the weather.
4 Integration of increasing amounts of renewable generation (especially solar and wind) has
5 significantly increased reliance on the availability and flexibility of natural gas-fired units to
6 ensure safe and reliable operation of the electric system, especially during morning and late
7 afternoon load and renewable generation ramps.

8 In addition to observed, daily ramping patterns of solar generation illustrated by the duck
9 curve, renewable generation has intermittency issues that are not always predictable (*e.g.*, rain or
10 cloud cover reducing solar output). Quick-start, natural gas-fired units known as peaking units
11 alleviate these intermittency issues as well. As more generation from solar and wind comes on-
12 line, the call for dispatch of natural gas-fired generation becomes larger and less predictable than
13 in the past, and peaking units can be quickly dispatched under scenarios that require back-up
14 generation for renewable fluctuations throughout the day. Natural gas-fired units are also needed
15 to provide frequency regulation (matching load and generation) and provide more dependable
16 voltage support than renewables.

17 To support fast ramping natural-gas fired EG, the gas must be available when called
18 upon, even if it was not scheduled in advance. The CEC and CAISO recognize that the
19 intermittency of renewables may cause natural-gas fired EG to ramp up quickly, and as such,
20 may cause a “greater variation in gas load, as well as large draws on the gas system, sometimes
21 very quickly.”¹⁹ As discussed in the testimony of Mr. Bisi, the capacity increase from the
22 Proposed Project provides useful “operational flexibility” under stress conditions or intra-daily

¹⁹ AB 1257 Report, at 32.

1 system fluctuations, such as when peakers are dispatched to respond to a loss of renewable
2 generation (*i.e.* no sun or wind). The incremental capacity would allow more gas to be readily
3 available in-basin, where the natural-gas fired EG is located, and it would support the fast
4 ramping and associated quick draw from the gas system without impacting service to core and
5 noncore customers.

6 For all of these reasons, natural gas supply reliability and operational flexibility are key
7 to maintaining electric system reliability and serving firm electric demand in San Diego.

8 **B. Existing and New EG No Longer Have Back-Up Fuel Sources**

9 In the past, the large generating units at the South Bay and Encina Power Plants serving
10 the SDG&E area were required to maintain a dual-fuel capability to avoid electric load
11 curtailment in the event of a loss of natural gas supply. Although these traditional fossil fuel
12 generating units in SDG&E's area were able to switch back-and-forth between natural gas and
13 oil, air quality rules have dictated that only natural gas is now used. As new units come on-line,
14 they are designed to only operate on natural gas, not oil. Thus, oil is no longer available as a
15 back-up fuel source. This issue makes SDG&E's electric customers more dependent on a
16 reliable and assured natural gas supply, and likewise makes electric customers more vulnerable
17 to blackout in the event of a loss of natural gas supply.

18 **C. Alternative Energy Storage Options Would Not be Superior to the Proposed** 19 **Project**

20 The Utilities considered whether grid-scale battery/energy storage and associated
21 equipment would be sufficient to supply customers with energy equivalent to that of the

1 Proposed Project from an electric perspective.²⁰ This evaluation is based on a scenario under
2 which: the gas supply is lost to all local natural gas-fired EG during a peak electric load period;
3 gas supply is unavailable for a four-hour period; and that no customer outages would occur. The
4 Utilities are unaware of a battery storage project of this magnitude being undertaken and, as a
5 result, battery production on this scale would be very difficult, very expensive, very large
6 (requiring approximately 100 acres of land) and would take a very long time to produce.

7 A system of grid-scale batteries might provide four hours of electric supply under the
8 circumstances that EG was unavailable due to the loss of the natural gas supply; however, grid-
9 scale batteries would not provide any energy replacement for the residential and business needs
10 that are currently supplied by natural gas. For example, during the four-hour period, customers
11 might still receive electricity service from the grid-scale batteries, but would not have any natural
12 gas service to operate their gas water heaters, gas heating units, gas appliances or any other gas
13 supplied equipment.

14 In order for the four hours of grid-scale battery storage to be ready and available if a
15 system wide natural gas outage occurred, the system of batteries would need to be fully charged
16 at all times. It is likely that grid-scale batteries would be charged and discharged on a regular
17 basis and operated by the CAISO as an ongoing resource it could count on for grid reliability
18 purposes. Therefore, depending on the timing of a natural gas outage, there is no certainty that
19 the system of batteries would be fully charged when needed. Even if the batteries were kept
20 fully charged, at most they would cover a four-hour period, which is not equivalent to the benefit
21 of the Proposed Project.

²⁰ This evaluation was undertaken to comply with the Joint Assigned Commissioner and Administrative Law Judge's Ruling Requiring an Amended Application and Seeking Protests, Responses, and Replies issued January 22, 2016 (Ruling), at 12-13.

1 The Utilities also evaluated a smaller-scale, alternative energy battery storage that
2 involves the installation of smaller-scale batteries and associated equipment to supplement the
3 gas supply system at times when additional capacity is needed (e.g. unplanned outages,
4 maintenance, peak demand). Similar to the grid-scale battery storage project, this assumes that
5 smaller-scale battery storage would supply four hours of electric supply, including approximately
6 11,200 MWh of energy storage capacity.

7 Similar to the issue with the grid-scale battery storage, smaller-scale battery storage
8 would not provide any energy replacement for the residential and business needs that are
9 currently supplied by natural gas. Customers might still receive electricity service from the
10 batteries, but would not have any natural gas service. Likewise, the same issues exist in that the
11 system of batteries would need to be fully charged at all times, but would be charged and
12 discharged on a regular basis and operated by the CAISO as an ongoing resource it could count
13 on for grid reliability purposes. Therefore, depending on the timing of a natural gas outage, there
14 is no certainty that the system of batteries would be fully charged when needed. As previously
15 discussed, even if the batteries were kept fully charged, at most they would cover a four-hour
16 period, which is not equivalent to the benefit of the Proposed Project.

17 The Utilities could not identify any other reliable alternative energy options that would
18 not require the installation of a new gas transmission pipeline.

19 **D. Retirement of San Onofre Nuclear Generating Station (SONGS) Requires**
20 **Additional Base Load Natural Gas-Fired EG**

21 Compounding the renewables intermittency issues, the permanent shutdown of SONGS
22 Units 2 and 3, both base load units,²¹ has resulted in eliminating approximately 2,250 MW of

²¹ A “base load” unit is one that is expected to run at full load continuously, except for outages for maintenance or other reasons.

1 generation that was used to serve the base load in the region.²² SONGS had been SDG&E's
2 primary generation not sourced by gas supplies. The retirement of SONGS has significantly
3 increased reliance on existing natural gas-fired generating units and triggered the need to add
4 natural gas-fired units to replace the SONGS generator capacity to serve the base load of electric
5 demand. This is also a significant driving force for the need to reinforce SDG&E's gas system
6 for reliable service to SDG&E's firm electric customers.

7 **IV. CURRENT AND EXPECTED NATURAL GAS-FIRED ELECTRIC** 8 **GENERATION IN SDG&E'S SERVICE TERRITORY**

9 **A. Existing In-Basin Natural Gas-Fired Generation**

10 Excluding a small water pumped storage facility in the Lake Hodges area of San Diego,
11 battery energy storage projects in the area of Escondido and El Cajon, and 30 MW of "Net
12 Qualifying Capacity" (NQC) associated with wind and solar renewables within the SDG&E in-
13 basin area, existing gas-fired generation in the SDG&E system is a total of approximately 3,140
14 MW and is comprised of combustion turbines (CTs), steam turbines at Encina Power Plant
15 (located in Carlsbad), the combined cycle plants at Palomar Energy Center (located in
16 Escondido), the Otay Mesa Energy Center (located in Otay Mesa), and the Pio Pico Energy
17 Center (located in Otay Mesa).

18 1. Encina (operated by Cabrillo I):

19 This gas fired power plant has a maximum capacity of 850 MW (after
20 Encina Unit 1 retirement).

21 2. Palomar Energy Center (operated by SDG&E):

22 This combined cycle power plant has a maximum capacity of 565 MW.

²² In this context, "base load" refers to the minimum customer load demand, which is a "base" amount of power required around-the-clock.

1 3. Otay Mesa Energy Center (operated by Calpine):

2 This combined cycle power plant has a maximum capacity of
3 approximately 600 MW.

4 4. Pio Pico Generation (operated by NAES Corporation):

5 Gas Turbine generators with an installed capacity of approximately 300
6 MW.

7 5. Combustion Turbines (CTs):

8 The total maximum capacity of these generators, including Gas Turbines,
9 Qualifying Facilities and other Peakers is approximately 800 MW.

10 **B. Imperial Valley Natural Gas-Fired Generation:**

11 Existing gas-fired generation in the Imperial Valley area is comprised of combined cycle
12 plants located south of the USA-Mexico border. These plants play an important role in
13 regulating the voltages in this very important hub of 500 kV lines and renewables. The lack of
14 this generation would limit SDG&E import capability and cause issues in neighboring systems
15 such as the Imperial Irrigation District (IID) and Comisión Federal de Electricidad (CFE).

16 1. Termoeléctrica de Mexicali

17 This combined cycle power plant has a maximum capacity of 600 MW.

18 2. Central La Rosita II

19 This combined cycle power plant has a maximum capacity of 450 MW.

20 **C. Predicted Retirements and Additions**

21 **Planned (Future) Generation:**

22 Additionally, approximately 500 MW of future natural gas fired generation has been
23 approved for construction in SDG&E's service territory.

1 1. Encina Generation (Carlsbad Energy Center):

2 Gas Turbine generators with an installed capacity of approximately
3 500 MW are planned to be in service in 2017. These will replace the
4 existing units totaling 950 MW described earlier in my testimony.
5 Although the installed capacity at Encina will be reduced from 950 MW to
6 approximately 500 MW, the increased efficiency of the new units will
7 likely mean that they will be dispatched more often than the existing units.

8 **V. WITHOUT SAN DIEGO NATURAL GAS-FIRED ELECTRIC GENERATION,**
9 **SDG&E DOES NOT HAVE SUFFICIENT LOAD SERVING CAPABILITY TO**
10 **PROVIDE RELIABLE ELECTRIC SERVICE**

11 The San Diego and southern Orange County areas are served by SDG&E. The peak
12 electrical demand is projected to reach up to 4,693 MW²³ in 2017 climbing at an annual growth
13 rate that varies, and averages about 0.2 percent per year through 2027. The electric load serving
14 ability for this area relies heavily on local natural gas generation, especially during high electric
15 load²⁴ levels, with the area containing approximately 3,140 MW of natural gas-fired generation,
16 a very small amount, 70 MW, of non-gas-fired generation and in addition there are
17 approximately 37 MW of battery storage for up to 4-hours.

18 SDG&E's customer load is served by a combination of internal generation and power
19 import. SDG&E's maximum power import capability is 3,500 MW. However, this maximum
20 level is established under operating conditions with in-basin natural gas-fired generation
21 available. As discussed in the testimony of Mr. Bisi and Mr. Kikuts, any number of
22 circumstances could result in an outage on the gas transmission system. A gas curtailment or gas
23 supply interruption would result in significantly reducing SDG&E's power import capability.

²³ California Energy Commission, 2016 California Energy Demand Electricity Forecast Update – *Final CEDU2016 SDGE Mid Demand Case*, January 23, 2017:

http://www.energy.ca.gov/2016_energypolicy/documents/2016-12-08_workshop/mid_demand_case.php
specifically tab "SDGE Form 1.5-Mid" at:

http://docketpublic.energy.ca.gov/PublicDocuments/16-IEPR-05/TN215508_20170123T111111_FINAL_CEDU2016_SDGE_Mid_Demand_Case.xls

²⁴ The terms "load" and "demand" may be used interchangeably.

1 Even if there were an abundance of generation available in the CAISO system, SDG&E's limited
2 power import capability would prevent those resources from serving SDG&E's customer load
3 demand.

4 A solution to eliminating the reliance on natural gas supply and capacity, although with
5 potentially high cost and environmental impact, would require building additional transmission
6 infrastructure that would allow for greater import capacity from the north (California) or east
7 (Arizona).

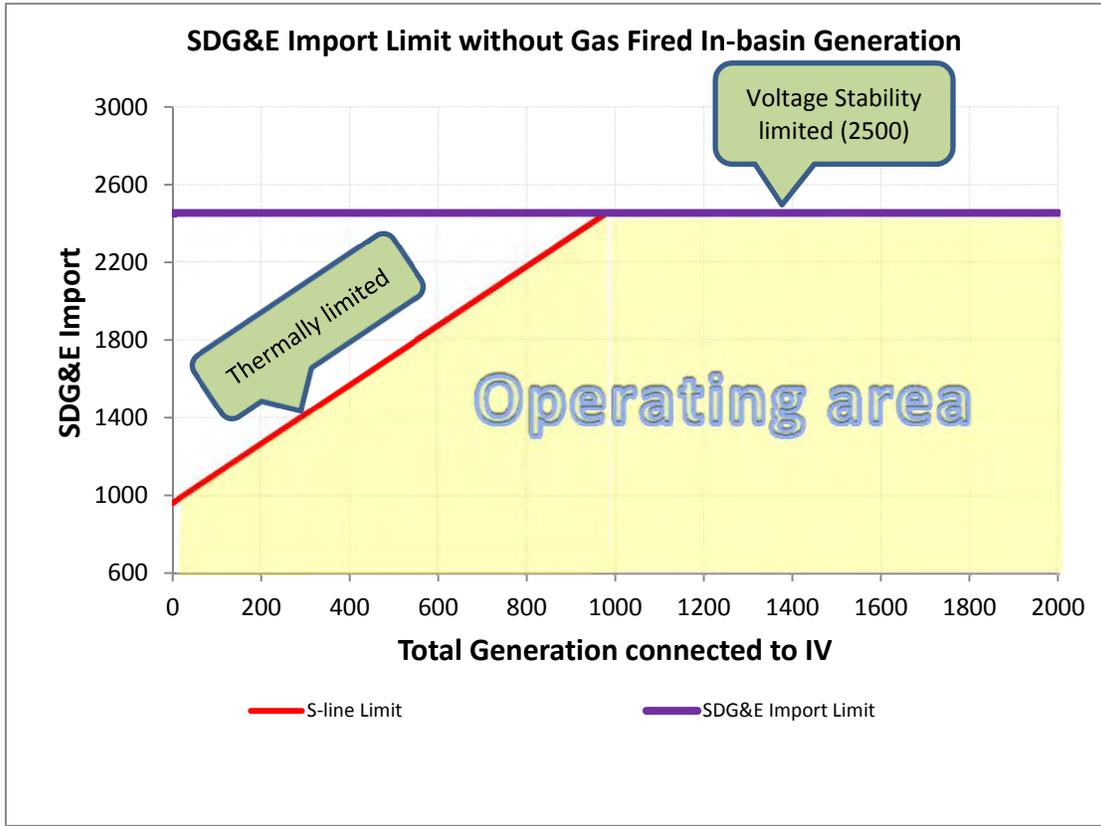
8 A simple comparison of SDG&E's maximum electric power import capability (up to
9 3,500 MW) to SDG&E's peak load (4,693 MW for 2017) shows that even under maximum
10 import conditions, up to 1,086 MW of local generation is needed and must have a reliable gas
11 supply to serve SDG&E's customer peak electric demand. That number will trend upward due
12 to the projection of increasing electric customer demand through 2027.²⁵

13 Absent internal natural gas-fired electric generation due to a gas interruption, SDG&E's
14 power import capability would be reduced to approximately 2,500 MW or lower, as shown in the
15 Table below.

²⁵ At the time my prepared direct testimony was prepared in March 2016, I relied on the CEC's California Energy Demand 2015 – 2025 Final Forecast, adopted January 15, 2015, which was the then-current forecast. I have updated my testimony to reflect the current forecast (as of February 21, 2017), which is the CEC's California Energy Demand 2017 – 2027 Updated Forecast, adopted January 25, 2017.

1

TABLE 2



2

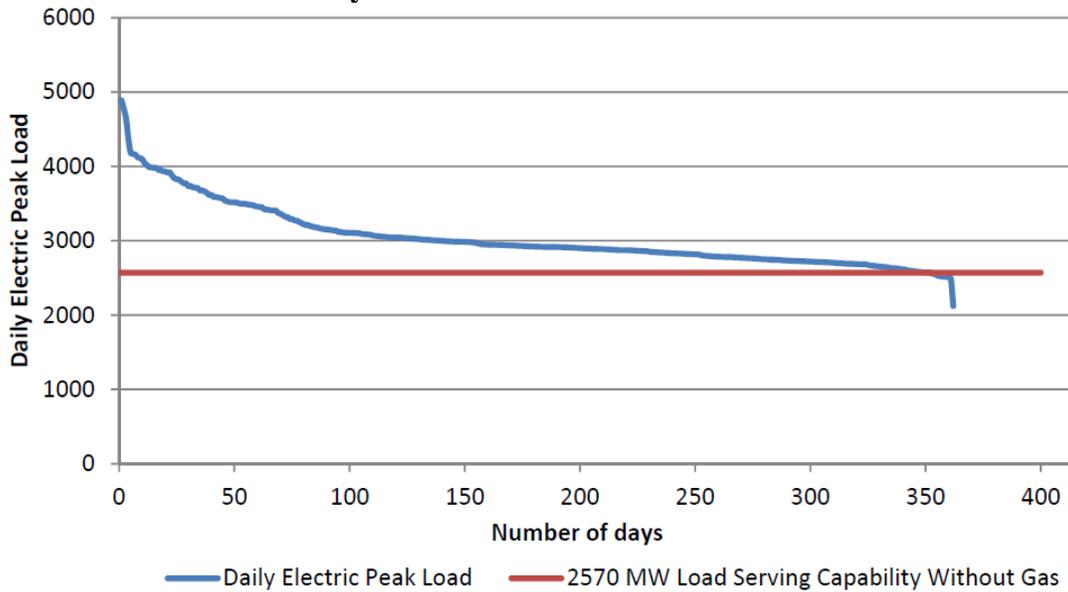
3 If the gas supply were interrupted, about 107 MW of in-basin resources²⁶ would remain.
 4 Under this scenario, SDG&E could serve up to about 2,607 MW of customer load. At peak load,
 5 up to about 2,086 MW of customer load would be unserved or need to be shed.²⁷ This
 6 unacceptable outcome is not only an annual peak load condition problem, but would be a daily
 7 issue. Further exacerbating the problem is growing customer demand. SDG&E’s daily peak
 8 demand typically ranges from 2,500 MW to 3,500 MW. The ability to serve only about 2,607
 9 MW of customer load under gas outage conditions means that load would need to be shed almost

²⁶ The 107 MW of resources refers to 40 MW of Lake Hodges pumped storage hydro generation along with 30 MW of “Net Qualifying Capacity” (NQC) associated with Kumeyaay wind generation, a small amount of solar generation at Borrego, and 37 MW of battery storage (available for up to 4-hours).

²⁷ The figure of 2,086 reflects the annual peak load of 4,693 MW minus the 2,607 MW load-serving capability without gas.

1 all days of a gas interruption. This points out a critical need for the Proposed Project to avoid
2 such a scenario occurring. Table 3 below illustrates the severity of this issue.

3 **TABLE 3**
2014 Daily Electric Peak Load Duration Curve



4 The need for a reliable gas supply to electric natural gas-fired generation is further
5 illustrated by the events during SDG&E's peak-load period of 2014 and 2015, when the high
6 humidity of the monsoonal conditions was causing high electric demand while at the same time
7 the associated cloudiness severely limited solar output.

8 Although SDG&E does have Demand Response (DR) programs, the amount of DR is
9 very limited and would not have any significant impact in resolving the problems of potential
10 blackouts. The number of DR programs available depends upon the season. Some DR programs
11 are available year round and others are available only May through October. SDG&E's DR
12 forecast filed April 2016 shows that SDG&E has 14 MW available in April and 80 MW
13 available in September. These amounts are far too insignificant to mitigate the potential for
14 blackouts in the event of a gas curtailment.

1 As discussed above, there is a need to ensure coordination between the gas and electric
2 industries. With an increasing amount of renewables coming on-line, and even more so with the
3 passage of SB 350, there is a greater need for energy system flexibility. Natural gas-fired EG
4 provides the increased dispatchability and operational flexibility to integrate increasing amounts
5 of renewable energy onto the electric system. Indeed, the CEC recognizes that as California
6 moves from utilizing carbon-intensive resources, how natural gas is used will change.²⁸ Such
7 changes will affect the quantity of natural gas used for EG and how and when natural gas-fired
8 resources need to operate, requiring a higher degree of coordination between gas and electric
9 industries.²⁹

10 The interdependency of the gas and electric systems in the San Diego region is evident in
11 the following examples, which can be expected to grow as the use of solar and wind increases.

- 12 • January 15, 2013 Gas Curtailment Watch
- 13 • December 9, 2013 Gas Curtailment Watch
- 14 • February 6, 2014 Gas Emergency Localized Curtailment Notice:
 - 15 ○ This curtailment impacted local generation, with only
 - 16 one plant (Otay Mesa) operational for the majority of
 - 17 the day.
 - 18 ○ CAISO issued Restricted Maintenance Order –
 - 19 Cancelled all scheduled work
 - 20 ○ CAISO issued Flex Alert for customers statewide to
 - 21 conserve
 - 22 ○ These impacts lingered for 2 days due to extreme
 - 23 weather conditions to the east.

24 The gas curtailment on February 6, 2014 and corresponding electrical curtailment
25 occurred under winter and not peak summer conditions for electric service. If such a curtailment
26 were to take place under a heavier electric demand period, there is no assurance that all

²⁸ AB 1257 Report, at 30.

²⁹ *Id.*

1 customers' loads would be served, and electric outages could occur. This issue will only
2 continue to intensify in future years as electric demand continues to rise and gas demand on a
3 daily and hourly basis continues to fluctuate. In addition, the potential for an extended gas
4 outage as described by Mr. Bisi and Mr. Kikuts is of particular concern due to the high
5 consequences for both gas and electric reliability in the San Diego region.

6 It is for the reasons outlined above that it is vitally important from an electric standpoint
7 that the SDG&E natural gas system be reinforced as proposed.

8 **VI. ELECTRIC GENERATION IN SAN DIEGO ALSO PROVIDES ENERGY TO**
9 **CAISO SYSTEM**

10 When the SONGS generating units were operational, power would normally flow from
11 San Onofre into SDG&E's system through SDG&E's five-line 230 kV interconnection at San
12 Onofre. Since the shutdown of SONGS, power now routinely flows from SDG&E's system into
13 the Southern California Edison (SCE) system through that interconnection. This flow from
14 SDG&E's system supports the CAISO system.

15 The CAISO oversees the dispatch of generators through its market mechanisms. To the
16 extent that generators in the San Diego area would have otherwise been winning bidders, but
17 cannot run due to a gas curtailment, then clearly higher-bidding units would be dispatched in
18 their place, resulting in higher costs to electric customers throughout California.

19 Although there are specific power import constraints into SDG&E's system as described
20 earlier in this testimony, the CAISO's market dispatch of generation covers the entire CAISO
21 area, including SDG&E. A loss of gas supply resulting in a loss of EG in the San Diego area
22 would not only affect electric system reliability locally, but would affect the CAISO operations.
23 At best, there may be higher prices to customers if the generators in the San Diego would have
24 otherwise been winning bidders. At worst, should there be an overall shortfall of generation

1 within the CAISO as a whole, then loss of EG in the San Diego area would exacerbate such a
2 shortfall and could result in loss of customer load in San Diego and elsewhere in the CAISO
3 system.

4 As described in the testimony of Mr. Bisi, the addition of a 36-inch pipeline will provide
5 complete redundancy for the existing 30-inch Line 3010 or Moreno Compressor Station, reduce
6 reliance on Moreno Compressor Station, and increase the capacity on the SDG&E gas system to
7 support operational flexibility during the swings in natural gas-fired generation needed to
8 respond to the intermittency issues associated with solar and wind generation. With the new
9 pipeline, a single pipeline contingency would still leave enough gas capacity to avoid the risk of
10 electric generation curtailment for the foreseeable future.

1 **VII. QUALIFICATIONS**

2 I graduated with a Bachelor of Science degree in Electrical Engineering from the
3 University of Texas in El Paso in 1979. I worked as a plant electrical engineer for Lone Star
4 Industries from 1979 to 1980 and was responsible for electrical projects in System Protection and
5 Control. I obtained a Master of Science degree in Electrical Engineering with emphasis in Power
6 Systems from the University of Texas at El Paso in 1983.

7 I joined the Transmission Planning Section of SDG&E in 1982. I had lead responsibility
8 for development of SDG&E's electric transmission capital budget projects to expand the
9 transmission system within the SDG&E service territory, evaluation of transmission
10 interconnection capabilities to accommodate off system resources, and the conducting of system
11 analysis. From 1999 to 2004, I served as SDG&E's Manager of Grid Operations Services, where
12 I was responsible for technical evaluation to identify day-to-day and seasonal transfer capability
13 limits and mitigating measures for the safe and reliable operation of SDG&E's transmission
14 system. I managed development and coordination of operating procedures to minimize
15 congestion. I also managed SDG&E's existing transmission contract administration
16 responsibilities and was responsible for overseeing all Reliability Must Run contract,
17 settlements, technical studies and FERC filings. From 2004 to 2012, I served as the Director of
18 SDG&E's Electric Transmission and Distribution Engineering Department, responsible for
19 design and engineering of distribution, substation, and transmission projects, including the
20 engineering, equipment, and structural design involved in the development of Transmission and
21 Substation Engineering projects.

22 From 2012 to the present, I have been serving as the Director of SDG&E's Electric Grid
23 Operations Department. In that capacity, I am responsible for the reliable operation of SDG&E's

1 electric transmission grid, which supplies electricity to the distribution system that ultimately
2 provides electricity to SDG&E's customers.

3 From 1986 to 1998, on a part-time basis, I taught at the senior level at San Diego State
4 University in the Electrical and Computer Engineering department in system network modeling
5 and power flow analysis, system stability, and system protection. Since 2000, I have been
6 teaching a Professional Engineering preparation class at SDG&E in the Electrical Engineering
7 discipline.

8 I have served as the Chairman of the Western Electricity Coordinating Committee
9 (WECC) Pacific and Southwest Transfer work group, and I have represented SDG&E on the
10 WECC Planning and Operations Committees.

11 I am a registered Professional Engineer in the State of California.

12 I have previously testified before the California Public Utilities Commission.

13 This concludes my prepared direct testimony.

A.15-09-013 Pipeline Safety & Reliability Project
SDG&E and SoCalGas Prepared Direct Testimony Change Log – February 2017
(Page and line references are to the original version of the prepared direct testimony served on March 21, 2016)

Witness	Page	Line(s)	Revision Detail
S. Ali Yari	Cover	N/A	Added “SDGE-4-R”
S. Ali Yari	Cover	N/A	Added “Updated”
S. Ali Yari	Cover	N/A	Added “updated February 21, 2017”
S. Ali Yari	1	16	Replaced “requirement” with “option”
S. Ali Yari	3	1	Deleted “on an interruptible basis. As a result,”
S. Ali Yari	3	2	Replaced “can” with “could”
S. Ali Yari	3	5	Deleted “the interruptible”
S. Ali Yari	3	19	Replace “interaction” with “correlation”
S. Ali Yari	5	13	Replace “3,000 megawatts (MW)” with “3,140 megawatts (MW)”
S. Ali Yari	8	17	Replace “there” with “available”
S. Ali Yari	8	22	Replace “provide” with “provides”
S. Ali Yari	9	14	Replace “those” with “they”
S. Ali Yari	12	10-15	Modified the paragraph as follows: “Excluding a small water pumped storage facility in the Lake Hodges area of San Diego, <u>battery energy storage projects in the area of Escondido and El Cajon</u> , and 30 MW of “Net Qualifying Capacity” (NQC) associated with wind and solar renewables within the SDG&E in-basin area, existing gas-fired generation in the SDG&E system is a total of approximately 3,000 <u>3,140</u> MW and is comprised of combustion turbines (CTs), steam turbines at Encina Power Plant (located in Carlsbad), the combined cycle plants at Palomar Energy Center (located in Escondido), and the Otay Mesa Energy Center (located in Otay Mesa), <u>and the Pio Pico Energy Center (located in Otay Mesa).</u> ”
S. Ali Yari	12	17-18	Modified sentence as follows: “ <u>This gas fired power plant has a maximum capacity of 950 850 MW (including a small Gas Turbine, GT, included below after Encina Unit 1 retirement).</u> ”

Witness	Page	Line(s)	Revision Detail
S. Ali Yari	13	4	After “This combined cycle power plant has a maximum capacity of approximately 600 MW” inserted the following: “4. <u>Pio Pico Generation (operated by NAES Corporation):</u> Gas Turbine generators with an installed capacity of approximately 300 MW.”
S. Ali Yari	13	4-6	The list number for “Combustion Turbines (CTs)” was changed from “4” to “5” Replaced “900 MW” with “800 MW”
S. Ali Yari	13	19	Replaced “800 MW” with “500 MW”
S. Ali Yari	13	21-23	Deleted the sentences, which read: “1. Pio Pico Generation: Gas Turbine generators with an installed capacity of approximately 300 MW are planned for an in-service date in early 2016.”
S. Ali Yari	14	7	Replaced “run” with “dispatched”
S. Ali Yari	14	11-16	Modified the paragraph as follows: “The San Diego and southern Orange County areas are served by SDG&E. The peak electrical demand is projected to reach up to 5,372 <u>4,693</u> MW ^[fn] in 2016 <u>2017</u> climbing at an annual growth rate that varies, but typically is around 1 percent per year through 2025 <u>and averages about 0.2 percent per year through 2027</u> . The electric load serving ability for this area relies heavily on local natural gas generation, especially during high electric load ^[fn] levels, with the area containing approximately 3,000 <u>3,140</u> MW of natural gas-fired generation and , a very small amount, 70 MW, of non-gas-fired generation <u>and in addition there are approximately 37 MW of battery storage for up to 4-hours.</u> ”
S. Ali Yari	14	Footnote 23	Replaced footnote with the following: “California Energy Commission, 2016 California Energy Demand Electricity Forecast Update - <i>Final CEDU2016 SDGE Mid Demand Case</i> , January 23, 2017: http://www.energy.ca.gov/2016_energypolicy/documents/2016-12-08_workshop/mid_demand_case.php specifically tab “SDGE Form 1.5-Mid” at: http://docketpublic.energy.ca.gov/PublicDocuments/16-IEPR-05/TN215508_20170123T111111_FINAL_CEDU2016_SDGE_Mid_Demand_Case.xls ”

Witness	Page	Line(s)	Revision Detail
S. Ali Yari	15	7-12	<p>Modified paragraph as follows:</p> <p>“A simple comparison of SDG&E’s maximum electric power import capability (up to 3,500 MW) to SDG&E’s peak load (5,372 <u>4,693</u> MW for 2016<u>2017</u>) shows that <u>even under maximum import conditions</u>, up to 1,872 <u>1,086</u> MW of local generation (which is more than 50 percent of the local generation) is needed and must have a reliable gas supply to serve SDG&E’s customer peak electric demand. That number will climb <u>trend upward every year</u> due to the projection of year-by-year <u>increasing</u> electric customer demand (projected through 2025<u>2027</u>).^[fn]”</p> <p>Note: The phrase “even under maximum import conditions” is not an addition; it was underlined in the original.</p>
S. Ali Yari	15	Footnote 25	<p>Modified footnote as follows:</p> <p>“At the time my <u>prepared direct</u> testimony was prepared <u>in March 2016</u>, I relied on the CEC’s California Energy Demand 2015 – 2025 Final Forecast, adopted January 15, 2015, which was the then-current forecast. I am aware a new forecast was recently issued by the CEC on January 27, 2016. I have updated my testimony to reflect the current forecast (as of February 21, 2017), which is the CEC’s California Energy Demand 2017-2027 Updated Forecast, adopted January 25, 2017.”</p>
S. Ali Yari	16	3-10	<p>Modified paragraph as follows:</p> <p>“If the gas supply were interrupted, about 70 <u>107</u> MW of in-basin non-gas generation resources^[fn] would remain. Under this scenario, SDG&E could serve up to about 2,570 <u>2,607</u> MW of customer load. At peak load, up to about 2,802 <u>2,086</u> MW of customer load (over half of the customer load) would be unserved or need to be dropped shed^[fn]. This is an unacceptable outcome. This is not only an annual peak load condition problem, but would be a daily problem issue. This issue will only be <u>Further exacerbated; the problem is growing</u> as customer demand continues to grow. SDG&E’s daily peak demand typically ranges from 2,500 MW to 3,500 MW. The ability to serve only about 2,570 <u>2,607</u> MW of customer load under gas outage conditions means that load would need to be dropped shed almost all days of a gas interruption.”</p>

Witness	Page	Line(s)	Revision Detail
S. Ali Yari	16	Footnote 26	Modified sentence as follows: “The 70 <u>107</u> MW of non-gas electric generation resources refers to 40 MW of Lake Hodges pumped storage hydro generation along with 30 MW of “Net Qualifying Capacity” (NQC) associated with Kumeyaay wind generation and , a small amount of solar generation at Borrego, <u>and 37 MW of battery storage (available for up to 4-hours).</u> ”
S. Ali Yari	16	Footnote 27	Replace “2,802” with “2,086” and Replace “5,372” with “4,693” and Replace “2,570” with “2,607”
S. Ali Yari	17	5	Replaced “2015” with “2014 and 2015”
S. Ali Yari	17	12	Replace “April 1, 2015” with “April 2016”
S. Ali Yari	17	14	Replace “small” with “insignificant”

EXHIBIT E

Please see separate file

EXHIBIT F

**SAN DIEGO GAS & ELECTRIC
AND
SOUTHERN CALIFORNIA GAS COMPANY**

LINE 1600 HYDROTEST STUDY AND COST ESTIMATE

March 21, 2016



TABLE OF CONTENTS

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 - Temporary Gas Supply for Small Customer Taps
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 - Environmental Impacts & Costs
 - Hydrotest Cost Estimate
 - Hydrotest Schedule

LIST OF ATTACHMENTS¹

Attachment I:	Test Break Summary Table
Attachment II:	Tap List & CNG Supply Summary Table
Attachment III:	Project Cost Estimate
Attachment IV:	Test Break Schematic
Attachment V:	Test Break Work Area Exhibits
Attachment VI:	Hydrotest Schedule
Attachment VII:	Typical Test Break Detail
Attachment VIII:	Pressure Calculations Summary Table
Attachment IX:	Typical Hydrotest Water Treatment Diagram

¹ Attachments III and VI are attached hereto, the remaining attachments are workpapers and are available upon request.

1.0 INTRODUCTION AND SCOPE

Line 1600 is a 50.2-mile, 16 inch high pressure natural gas transmission pipeline owned and operated by San Diego Gas & Electric Company. Line 1600 is a main gas delivery pipeline for San Diego County that currently supplies approximately 10% of that market's demand. The line starts at the Rainbow Metering Station south of Temecula, CA and travels southbound along Freeway I-15 to Mission Station in San Diego, CA. Line 1600 is one of two sources of natural gas serving the San Diego area, the other being the 30 inch Line 3010. SPEC Services, Inc. (SPEC) performed a preliminary engineering study. SDG&E and SCG developed cost estimates and alternative schedules to hydrotest Line 1600, from Rainbow Metering Station to Kearny Villa Pressure Limiting Station, for consideration as one of the project alternatives in the SDG&E and SCG Pipeline Safety and Reliability Project (PSRP).

Data Gathering and Data Assumptions:

This study evaluates the costs and schedule impacts to hydrotest Line 1600 under the following scenarios:

- 1.) Testing from April 1st through June 15th and October 1st through December 15th to avoid peak gas usage during winter and summer months.
- 2.) Testing from April 1st through October 15th to avoid peak gas usage during winter months.
- 3.) Testing continuously during all months to leverage synergies between adjacent tests and reduce costs and schedule time.

Testing during the shoulder months (Option 1) is preferred since it minimizes customer impact during the summer months and winter months for fairly similar costs.

Several sources of information were supplied by SDG&E and SCG including drawings, Geographic Information System (GIS) shapefile of the pipeline, preliminary feature study, and list of connections. Any components with unknown properties within the preliminary feature study assume verification digs would be performed prior to the hydrotest.

The stationing used in the exhibits measure horizontal distance of the pipeline route from Rainbow to Kearny Villa Pressure Limiting Station and does not employ the equations used in the data supplied by SCG. Therefore, the stationing for features or lengths of pipeline segments may not agree with SDG&E drawings and maps.

2.0 EXECUTIVE SUMMARY

This study evaluates the requirements to maintain line 1600 at Transmission level service¹ at a Maximum Allowable Operating Pressure (MAOP) of 640 psi. Strength-testing by hydrotest would need to be conducted to validate the MAOP of 640 psi. A minimum test pressure of 960 psi would be held continuously for at least 8 hours to verify the 640 psi MAOP. A spike test would also be included with each test raising the pressure approximately 5% for one-half hour. The maximum test pressure may be higher in some cases to accommodate elevation differences but is based on a premise to not exceed 90% Specified Minimum Yield Strength (SMYS) or 1,462 psi.

The study describes the technical aspects of how Line 1600 could be hydrotested. The study also addresses gas supply to local distribution customers during testing of individual pipeline segments of Line 1600, which consists of Compressed Natural Gas (CNG) trailers/pods and alternative gas sources backfeeding L1600 from Otay Mesa and Line 3010.

Private land ownership and land use complicates the siting of test breaks. Further, there are 50 significant connections on the line that currently provide service to customers via regulator stations. Ten connections would require a 160MSCF tube trailer to maintain service, and those trailers would have to be re-filled approximately every three days. Three connections could be served by a smaller 12 MSCF tube trailer. Two connections could be served by a 7MSCF pod. Eight taps are either currently inactive or can be back-fed from another distribution source.

A total of 27 taps would require pipeline bypasses with lengths ranging from 20 feet to 3,800 feet to maintain service to high flow customers. Fourteen of these bypasses are designated as temporary or permanent pipe that are typically installed underground and used to eliminate additional test breaks at major service taps. The other 13 bypasses are shorter (typically 100 feet in length) and situated aboveground within the main work area to feed service taps at a test break. The majority of the large diameter and high flow taps are located within the southern portion of the line.

Test segments were selected according to elevation restrictions, valve sites, large taps, and accessibility/workspace. The tests range from 2,000 feet to 7.5 miles in length with the average being approximately 2 miles. The pipeline would be cut at each large tap or valve using either stopples or the main line block valve and installing temporary bypass lines to serve the large customers.

Since there must always be a flow path from either the north or the south, only one test can be conducted at a time. It is assumed all test water would be filtered and properly disposed of at the end of each test.

Each test segment would take approximately four to six weeks to conduct and assumes a separate construction crew would install bypasses concurrently with the hydrotest effort. Total direct costs and schedules for each scenario evaluated are summarized in the Table 1.

¹ Per 49 CFR Part 192.3 – Transmission line is defined as pipeline operating greater than 20% SMYS

Option 1 is the preferred option to minimize customer impacts. Curtailment due to winter and summer maximum loads would be avoided as well as over reliance on a single pipeline (e.g. Line 3010) to feed the system.

Table 1
Direct Cost estimates for hydrotest scenarios
2015 dollars

Testing Scenario	Total Direct Cost (\$M)	Project Schedule
Option 1: Testing 4/1 - 6/15 & 10/1 - 12/15	\$ 112.9	Q4 2017 – Q2 2022
Option 2: Testing 4/1-10/15	\$ 112.7	Q4 2017 –Q4 2021
Option 3: Testing All Months	\$ 111.5	Q4 2017 – Q1 2021

Assumes PSRP application (A.15-09-013) decision in Q3 2017. See Appendix VI for hydrotest schedules with major tasks.

3.0 HYDROTEST OF LINE 1600

Hydrotesting Line 1600 has been identified as a project alternative in Chapter 5 of the Proponents Environmental Assessment (PEA) that is part of SDG&E and SCG's application (A.15-09-013). Line 1600 would be tested from Rainbow Metering Station to Kearny Villa Pressure Limiting Station.

The pipeline supplies 152,000 distribution customers, including core/non-core and electric generation supplied via 50 connections/regulator/meter stations. Provisions would need to occur during testing to maintain service and reliability to all current distribution customers for each test segment. However, there are generally no transmission lines within the vicinity of Line 1600, so alternate service would be provided by the following four methods:

- A) Gas bottles;
- B) CNG trucks;
- C) Backfeeding from another distribution source;
- D) Bypass connections at test breaks and back feeding from the north or south

The target MAOP of Line 1600 is 640 psi post-test. The pipe is generally 16 inch Outside Diameter (OD), 0.250-in wall thickness made to American Petroleum Institute (API) 5LX-52 specifications. The minimum test pressure of the 8-hour test to comply with 49 Code of Federal Regulations (CFR) Part 192.505 and 192.619 would be 960 psi (1.5 X MAOP). Before the 8-hour test, a short-duration spike test at a pressure that is approximately 5% greater than the target maximum low point pressure. The maximum allowable test pressure, as specified by SCG, is 90% of yield, or 1462 psi. The pressure calculations performed for this study (Attachment VIII) applies a range of 30 psi to the minimum 8-hour test pressure plus an additional 20 psi to the minimum spike test pressure. Applying this pressure range is a conservative approach to account for pressure fluctuations and helps ensure a successful test.

There are numerous regulator station taps (50) along the pipeline and the plan requires that service be maintained to each station and customer. The regulator stations vary in demand ranging from 14 Standard Cubic Feet per Hour (SCFH) to over 1.2MM SCFH with an average demand of 98M SCFH². Most of the large demand is located in the southerly segments near San Diego.

A CNG trailer can carry up to 160,000 SCFH and can deliver approximately 80% of that volume at 60 psi. There is generally little workspace near the regulator stations and there are not many large compressed gas trailers, so it is assumed that a CNG trailer would have to last at least three days to allow time to re-fill another trailer, send to the site, and connect it.

With that limit, 15 regulator stations could be served by compressed gas bottles or compressed gas trailers. The remaining taps would have to be served by a separate bypass pipeline or piped to an adequately sized distribution line that would not be impacted by the test.

² Based on 24 HDD (heating-degree day)

Hydrotest Breaks:

Test breaks have been determined based on the following criteria:

- Elevation (pressure) limitation
- Main line valve location
- Large tap site
- Workspace accessibility
- Environmental impact

A typical test break would occur at a valve or regulator station. All customer taps would be identified and arrangements made for natural gas supplement. A bypass line would be built from a new connection at the block valve to serve the large taps. One segment would be blown down between valves, the pipe cut and test heads welded on. The line would be filled with water using a temporary pig launcher, tested, and then de-pressured. The test water would either be treated and disposed on-site or re-used for the proceeding test segment. Water disposed on-site would be pumped through a filtration bank into new Baker tanks and the water would be sampled, tested and released to a sanitary sewer if it meets water quality specifications. The pipeline would be re-connected using pre-tested pipe and the process repeated on the other side of the valve. In this case, gas would have to be back-fed from Line 3010 or Otay Mesa to maintain the large customers' service. Note that only one test can be performed at a time since a flow path must be maintained either from the south or the north.

Some test breaks occur at large taps rather than at valves, and in that case a stopple (Pressure Control Fitting) would be used. The stopple takes the place of the block valve in the above scenario. The hydrotest plan is intended to minimize the use of stopples wherever possible. Refer to Attachment VII for a typical test break detail using stopples.

Potential leaks resulting in sudden pressure loss are relatively easy to find. Once found, the repair can be made and the test repeated. This may add a few days to 2 weeks to the test depending on where the release occurred and whether other leaks were found. It is reasonable to assume that such a scenario would require a 13 man crew and an additional 10 working days to make repairs.

A more difficult scenario occurs if the pipe had a very small leak, losing a few psi per hour, also known as a pinhole leak. There are several techniques to locate a small leak in underground pipelines. One way is to empty the water out of the line, segment it, and test each half to: a) get a successful test on at least half of the segment, and, b) reduce the length of the segment that contains the leak. This process is repeated until the location of the leak becomes evident and can then be found via excavation and repaired. This method is often tedious and time consuming since each cut and re-test can take two to three long workdays each. Cumulative delays can amount to weeks if not months of work. It is reasonable to assume that such a scenario would require an 18 man crew and 2-3 weeks of work to segment the line four times before being able to locate and repair the leak. One pinhole leak repair was included in the estimate as previously described.

The worst case scenario occurs if a repair is required in an area where the pipeline is inaccessible, for instance, underneath a freeway. In this case, new replacement pipe would either be installed by conventional boring methods or re-routed around the freeway. The crew size and schedule impact for this type of scenario could range drastically depending on the circumstances.

Repair costs were estimated to range from \$300,000 for simple repairs to \$18 million for pipeline relocations. The project cost estimate does include an allowance for locating leaks and making repairs as outlined by the three scenarios discussed above.

Hydrotest Scope and Cost Basis:

By-pass Lines vs. Stopples for Large Customer Tap Gas Supply:

The decision on test breaks was driven largely by the need to maintain gas supply to large customers. Where practical, test breaks were located at existing mainline valves where customer supply could be achieved with temporary bypass lines. Where bypass lines were not feasible due to length or cost, perceived permitting issues, or construction difficulties, test breaks were located directly at large customer taps. Isolation and gas supply would be accomplished using stopples. Costly permanent bypass lines were proposed in some instances when there was an opportunity to improve the connectivity of the existing distribution network. This decision was made at the recommendation of SDG&E Distribution Region Engineering.

A summary table of all bypass lines and stopple requirements for each test segment has been included in Attachment I.

Temporary Gas Supply for Small Customer Taps:

Attachment II: Tap List & CNG Supply Summary Table summarizes the 50 taps identified by SDG&E Distribution Region Engineering that would require isolation and an alternate gas supply during the hydrotest. The type of alternate gas supply would vary depending on volume requirements. The project estimate includes costs for a generic hook-up at each site and a temporary alternative gas supply based on the type required.

Hydrotest Water Supply and Disposal:

Although the cost for water is not typically significant, identifying a water source and disposal location and assessing how it would get transported can increase the cost dramatically. Each work site was evaluated by desktop study or field reconnaissance to assess water supply and disposal options. In most cases it appears that water can be supplied by nearby fire hydrants. Water disposal after on-site treatment would be discharged directly into nearby sewer manhole, sprayed onto adjacent vacant land via sprinklers, or discharged to a storm drain. Refer to Attachment V: Test Break Work Area Exhibits for details on water sources and disposal locations at the beginning or end of each test segment.

It is assumed for each test segment a single Baker tank would be used at the inlet side to act as a breakout tank for pump suction to fill the pipeline section with water. At the end of the testing, water

would be discharged through an on-site filtration system and into a battery of Baker tanks where it can be sampled prior to discharge into an adjacent sewer or storm drain (see Attachment IX: Typical Hydrotest Water Treatment Diagram).

The estimates assume that hydrotest testing would be limited to one segment at a time and the water would be discharged on site after each tested section. Cost estimates for Baker tanks, pumps, and an on-site water filtration system have been included.

It is recognized that the use of reclaimed water has been required in past SDG&E projects. Significant jurisdictional details need to be assessed and resolved in order to use reclaimed water to test the entirety of Line 1600. Detailed examination of reclaimed water use will be performed in future studies.

Contingency:

The estimate has been prepared with a contingency of 25% applied to the base estimate. The level of contingency was determined using expert engineering judgement, and to account for addressing various unforeseen events, that may occur with the hydrotest of a vintage pipeline in high consequence areas (HCAs) with limited rights of way.

The recommended 25% contingency reflects that additional information can only be obtained through further planning, engineering and design, performing site visits, project outreach, and engaging with permitting agencies. The likelihood of unforeseen events increase with the length of time until the work will commence. Unanticipated issues associated with land acquisition, permitting, and environmental constraints may affect major cost components such as the number of test segments.

There are other factors that may affect costs. For purposes of this analysis those factors are outside of the defined project scope and excluded from the cost estimate and contingency costs. Examples of these unknown factors that may impact costs include:

- Labor, materials, or other commodities increasing significantly over the project duration, beyond the escalation included in the revenue requirement.
- Significant changes to the project scope as a result of environmental and/or regulatory review process.
- Significant delays in the project schedule as a result of the environmental and/or regulatory review process, local community intervention, natural disaster, or labor strike.
- Changes to laws or regulations that would significantly affect project cost and/or schedule.
- Earthquakes, fires, natural disasters, strikes or other force majeure type events.

Environmental Impacts & Costs:

Environmental costs for mitigation, permitting, and construction support during the construction seasons has been included. Off-season, the time in between hydrotest seasons based on the option, environmental costs for Storm Water Pollution Prevention Plan (SWPPP) maintenance for disturbed

work areas has been included in the estimate. The example pinhole leak described above in the Hydrotest Breaks section was included in the estimate and assumed to occur in an area that is not environmentally sensitive with minimal environmental impact.

Hydrotest Cost Estimate:

A standard template has been developed for hydrotest cost estimating through SPEC's involvement with PSEP. The estimates include assumptions and costs relative to mobilization, crew sizes, materials, inspection, support personnel, etc. Additional cost input specific to this project were obtained from construction contractors, ROW consultants, environmental consultants, and SPEC Services engineering and design staff to ensure the cost estimate is reflective of the specific conditions associated with the preliminary design of Line 1600 project. Refer to Attachment III for additional information on inclusion/exclusions in the estimate.

Hydrotest Schedules:

A Gantt project schedule is included in Attachment VI to show the individual steps involved in a typical hydrotest and the time required for each option. The schedule assumes that each hydrotest segment would require approximately 4-6 weeks to complete. If testing only from April 1st to October 15th the construction duration would be approximately 28 months. If testing the pipeline occurs only during shoulder months from April 1st through June 15th and October 1st through December 15th, the construction duration would be approximately 33 months. If testing each segment consecutively during all months, the construction duration would be approximately 18 months. The schedules assume major bypasses would be installed by a separate crew, concurrent with the hydrotest effort of segments that require only short, aboveground bypasses within the hydrotest work area.



Attachment I

Test Break Summary Table

Workpaper – Available Upon Request



Attachment II

Tap List & CNG Supply Summary Table

Workpaper – Available Upon Request



Attachment III

Project Cost Estimate

HYDROTEST & REPLACEMENT COST ESTIMATE SUMMARY

INPUTS (ORANGE CELLS)

LINE NUMBER:	L1600	HYDROTEST LENGTH (FT):	236720
LOCATION (CITY):		REPLACEMENT LENGTH (FT):	24008
SCG PROJECT #:		EX. PIPE DIAMETER (IN):	16
SCG REGION:		PREPARED DATE:	3/2/2016
PSEP PHASE:		PREPARED BY:	

PROJECT SCOPE & COMMENTS

SCOPE: Project estimate to hydrotest L1600 from Rainbow to Kearny Villa PLS (19 segments).

Option 1: Testing 4/1 - 5/15 & 10/1 - 12/15

COMMENTS:

	Subtotal	Contingency	Total
Materials	\$ 2,299,142	25%	\$ 2,873,928
Construction	\$ 43,685,747	25%	\$ 54,607,184
Engineering & Design	\$ 3,558,050	25%	\$ 4,447,562
Environmental	\$ 5,175,003	25%	\$ 6,468,753
SCG Labor	\$ 2,359,517	25%	\$ 2,949,396
Bypasses	\$ 8,932,379	25%	\$ 11,165,474
Gas Transportation to Otay Mesa	\$ 16,200,000	25%	\$ 20,250,000
Other Project Execution Activities	\$ 8,098,257	25%	\$ 10,122,821
TOTAL	\$ 90,308,095	25%	\$ 112,885,118

Notes/Overall Assumptions: \$ 22,577,024

The estimates include direct project costs such as Sempra Energy Utilities (SEU) labor, construction, purchased services, paving, purchased materials, and permit fees.

Loaders, OHAP, and AFUDC costs are not incorporated into these comparative estimates.

TVR COST ESTIMATE TOOL REVISION 4.0

Note: Additional cost details are included in workpapers and available upon request.

HYDROTEST & REPLACEMENT COST ESTIMATE SUMMARY

INPUTS (ORANGE CELLS)

LINE NUMBER:	L1600	HYDROTEST LENGTH (FT):	236720
LOCATION (CITY):		REPLACEMENT LENGTH (FT):	24008
SCG PROJECT #:		EX. PIPE DIAMETER (IN):	16
SCG REGION:		PREPARED DATE:	3/2/2016
PSEP PHASE:		PREPARED BY:	

PROJECT SCOPE & COMMENTS

SCOPE: Project estimate to hydrotest L1600 from Rainbow to Kearny Villa PLS (19 segments).

Option 2: Testing 4/1 - 10/15

COMMENTS:

	Subtotal	Contingency	Total
Materials	\$ 2,299,142	25%	\$ 2,873,928
Construction	\$ 43,685,747	25%	\$ 54,607,184
Engineering & Design	\$ 3,558,050	25%	\$ 4,447,562
Environmental	\$ 5,122,004	25%	\$ 6,402,504
SCG Labor	\$ 2,359,517	25%	\$ 2,949,396
Bypasses	\$ 8,932,379	25%	\$ 11,165,474
Gas Transportation to Otay Mesa	\$ 16,200,000	25%	\$ 20,250,000
Other Project Execution Activities	\$ 8,038,257	25%	\$ 10,047,821
TOTAL	\$ 90,195,096	25%	\$ 112,743,870

Notes/Overall Assumptions: \$ 22,548,774

Stage 2, Test Vs Replace estimates are intended to be a comparative cost estimate for a given pipeline. The estimates include direct project costs such as Sempra Energy Utilities (SEU) labor, construction, purchased services, paving, purchased materials, and permit fees.

Loaders, OHAP, and AFUDC costs are not incorporated into these comparative estimates.

TVR COST ESTIMATE TOOL REVISION 4.0

Note: Additional cost details are included in workpapers and available upon request.

HYDROTEST & REPLACEMENT COST ESTIMATE SUMMARY

INPUTS (ORANGE CELLS)

LINE NUMBER	L1600	HYDROTEST LENGTH (FT):	236720
LOCATION (CITY):		REPLACEMENT LENGTH (FT):	24008
SCG PROJECT #:		EX. PIPE DIAMETER (IN):	16
SCG REGION:		PREPARED DATE:	3/2/2016
PSEP PHASE:		PREPARED BY:	

PROJECT SCOPE & COMMENTS

SCOPE: Project estimate to hydrotest L1600 from Rainbow to Kearny Villa PLS (19 segments).

Option 3: Testing all months

COMMENTS:

	Subtotal	Contingency	Total
Materials	\$ 2,299,142	25%	\$ 2,873,928
Construction	\$ 43,685,747	25%	\$ 54,607,184
Engineering	\$ 3,558,050	25%	\$ 4,447,562
Environment	\$ 5,054,975	25%	\$ 6,318,718
SCG Labor	\$ 2,359,516	25%	\$ 2,949,395
Bypasses	\$ 8,932,379	25%	\$ 11,165,474
Gas Transpo	\$ 16,200,000	25%	\$ 20,250,000
Other Project	\$ 7,118,744	25%	\$ 8,898,431
TOTAL	\$ 89,208,554	25%	\$ 111,510,692

Notes/Overall Assumptions: \$ 22,302,138

Stage 2, Test Vs Replace estimates are intended to be a comparative cost estimate for a given pipeline. The estimates include direct project costs such as Sempra Energy Utilities (SEU) labor, construction, purchased services, paving, purchased materials, and permit fees.

Loaders, OHAP, and AFUDC costs are not incorporated into these comparative estimates.

TVR COST ESTIMATE TOOL REVISION 4.0

Note: Additional cost details are included in workpapers and available upon request.



Attachment IV

Test Break Schematic

Workpaper – Available Upon Request



Attachment V

Test Break Work Area Exhibits

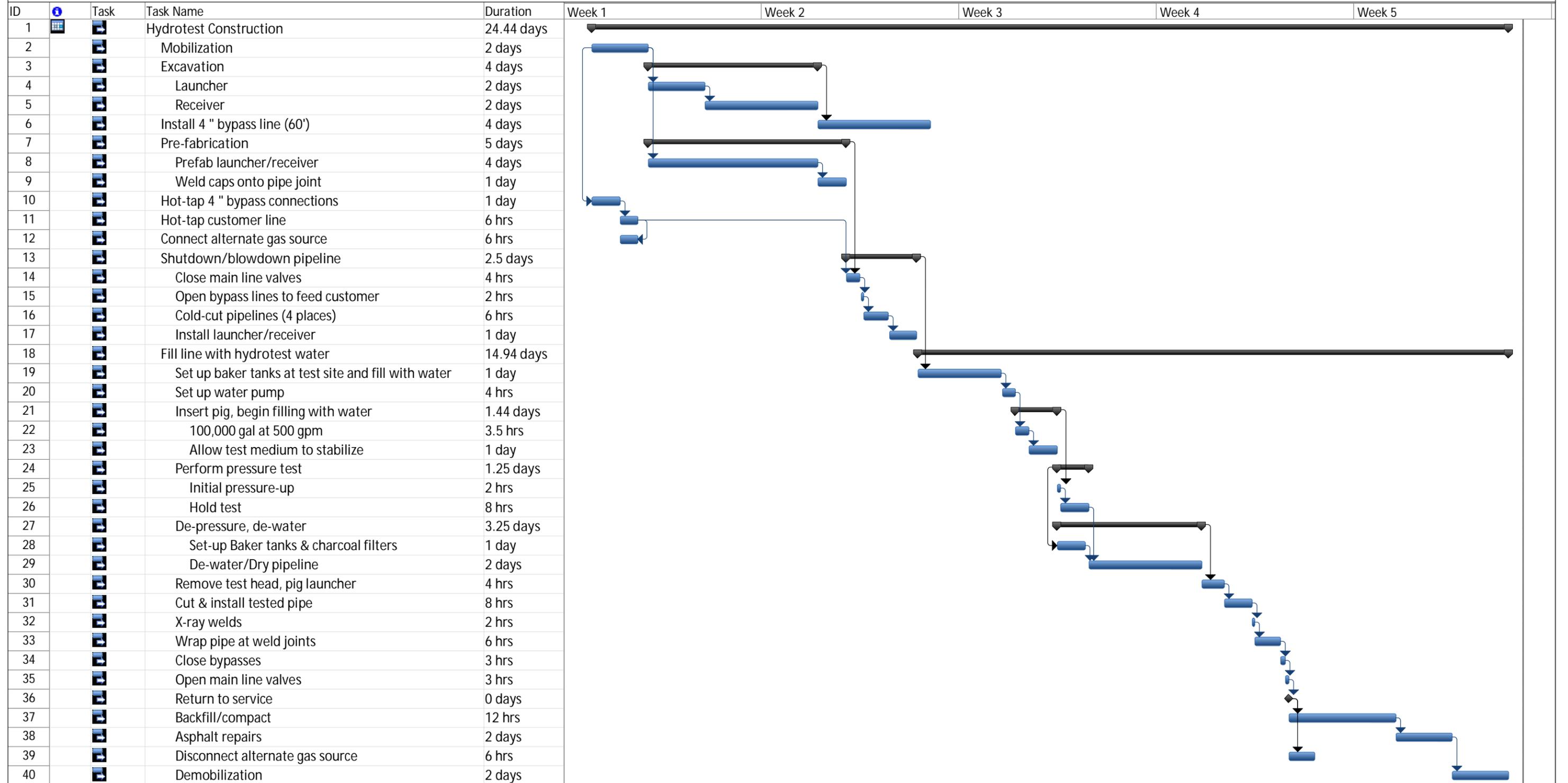
Workpaper – Available Upon Request



Attachment VI

Hydrotest Schedule

Typical Hydrotest Schedule For One Test Segment



Date: Mon 3/21/16

Task	[Blue bar]	Project Summary	[Grey bar]	Inactive Milestone	[White bar]	Manual Summary Rollup	[Blue bar]	Deadline	[Green arrow]
Split	[Dotted bar]	External Tasks	[Grey bar]	Inactive Summary	[White bar]	Manual Summary	[Black bar]	Progress	[Black bar]
Milestone	[Diamond]	External Milestone	[Diamond]	Manual Task	[White bar]	Start-only	[C-shape]		
Summary	[Black bar]	Inactive Task	[White bar]	Duration-only	[White bar]	Finish-only	[C-shape]		

Line 1600 Pipeline Hydrotest Schedule

OPTION 1: Testing 4/1-6/15 10/1-12/15

Hydrotest Schedule

Project Tasks	2015				2016				2017				2018				2019				2020				2021				2022							
	Q1	Q2	Q3	Q4																																
Feasibility Study/Preliminary Engineering	█																																			
Regulatory Proceeding (CPUC)				█																																
Engineering and Design											█																									
Permitting													█																							
Material Procurement														█																						
Construction (Hydrotesting 19 Segments)																		█				█				█				█				█		
Closeout																																	█			

Line 1600 Pipeline Hydrotest Schedule

OPTION 2: Testing 4/1-10/15

Hydrotest Schedule

Project Tasks	2015				2016				2017				2018				2019				2020				2021						
	Q1	Q2	Q3	Q4																											
Feasibility Study/Preliminary Engineering	█																														
Regulatory Proceeding (CPUC)				█																											
Engineering and Design												█																			
Permitting														█																	
Material Procurement														█																	
Construction (Hydrotesting 19 Segments)																	█					█									
Closeout																										█					

Line 1600 Pipeline Hydrotest Schedule

OPTION 3: Testing All Months

Hydrotest Schedule

Project Tasks	2015				2016				2017				2018				2019				2020				2021					
	Q1	Q2	Q3	Q4																										
Feasibility Study/Preliminary Engineering	█																													
Regulatory Proceeding (CPUC)				█																										
Engineering and Design											█																			
Permitting													█																	
Material Procurement													█																	
Construction (Hydrotesting 19 Segments)																	█													
Closeout																							█							



Attachment VII

Typical Test Break Detail

Workpaper – Available Upon Request



Attachment VIII

Pressure Calculations Summary Table

Workpaper – Available Upon Request



Attachment IX

Typical Hydrotest Water Treatment Diagram

Workpaper – Available Upon Request

From: [REDACTED]
Sent: Sunday, June 11, 2017 8:36 PM
To: Rainbow Natural Gas Pipeline. CPUC
Cc: [REDACTED]
Subject: Mira Mesa opposes options R and S!!!!

This line (SDG&E Pipeline Safety & Reliability project) simply must not come through Mira Mesa, unless you want to cement your public attitude of don't give a damn about the people who live and work here. You have already shoved one line, the 230 kVline undergrounding) through Mira Mesa by sneaking it in. You are not doing that again! We already have two major construction projects going on in that general area that aforementioned undergrounding line and the Pure Water project. Three in the same general area is just too much!

Then you wonder why people are so enthusiastic about the concept of Community Choice Energy!

[REDACTED]

From: [REDACTED]
Sent: Monday, June 5, 2017 10:26 AM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: NO on the Fracked Gas Pipeline

To Whom It May Concern,

SDG&E's fracked gas pipeline project should be abandoned. The pipeline expansion is not needed. Natural Gas use is declining in the region. The potential conversion of *ratepayer-financed* infrastructure to export LNG would be unfair to California citizens and contrary to climate goals to the public interest. Our are not intended to finance utility profits.

[REDACTED]

[REDACTED]

From: [REDACTED]
Sent: Monday, June 12, 2017 12:21 PM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: Natural Gas Line 3602 (Application No. A.15-09-013)

Dear CPUC:

I oppose gas lines in Mission Trails Regional Park. Gas lines would damage our park in order to increase utility profits.

Isn't natural gas use declining in the region? What about California's climate goals?

Sincerely,

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

From: Clarissa Falcon <crf@falconstrategies.net>
Sent: Monday, June 12, 2017 6:30 PM
To: Rainbow Natural Gas Pipeline. CPUC
Cc: cindy@southcountyedc.com
Subject: Support Letter from South County EDC: SDG&E Proposed Pipeline
Attachments: SDG&E Proposed pipeline safety.pdf

Good afternoon,

Please see attached letter for submission.

All the best,

Clarissa Falcon

Clarissa Reyes Falcon
Falcon Strategies LLC
crf@falconstrategies.net
619-518-2798



SCEDC

South County Economic
Development Council

Board of Directors

AKA American Open

AT&T

Aquatica

Bank of America

Border Fusion Group

BWE

Cook & Schmid

Comprehensive Training Systems

Colliers International

DEITAC/CDT

Higgs Fletcher & Mack

HomeFed

Falcon Strategies

MAAC

McMillin, LLC

Mission Federal Credit Union

O.A.P. Packaging, Inc.

Pacific Southwest Assoc. of Realtors

Point Loma Nararene University

Public Consulting Group

Rancho Vista Properties

Republic Services

San Diego Business Journal

San Diego Chamber of Commerce

San Diego Regional EDC

San Ysidro Health Center

SANDAG

Schawartz, Semerdjian, Cauley & Moot, LLP

Scripps Health

San Diego Workforce Partnership

SDG&E

Seacoast Commerce Bank

South Bay Family YMCA

Southwestern College

Southwest Strategies

Trilogy PR Group

Turner Construction

US Bank

Dignitary Council

City of Chula Vista

City of Coronado

City of Imperial Beach

City of National City

City of San Diego

County of San Diego

Port of San Diego

June 8, 2017

Robert Peterson
California Public Utilities Commission
505 Sansome Sts, Suite 300
San Francisco, CA 9411

Dear Mr. Peterson,

RE: SDG&E's proposed pipeline safety and reliability project

The South County Economic Development Council's (SCEDC) Board of Directors voted to support SDG&E's proposed natural gas transmission pipeline at the November 2, 2016 Board meeting. California faces a number of challenges, with safety and aging infrastructure among the most important. Having a safe and reliable natural gas infrastructure is critical to support the current and future energy needs of our growing region.

Under state law, an existing pipeline constructed in 1949 needs to be pressure-tested or replaced. Pressure -testing requires taking the line out of service, which could mean interruptions in service for many South County businesses leading to disruption in product development and delivery. Replacing this line with a new, larger pipeline would benefit the region's business community as it would provide additional reliability.

The proposed new pipeline would reduce the region's overdependence on one primary pipeline that brings more than 90% of the natural gas into San Diego. In South County we have a large presence of manufacturing facilities, electric generators and government offices that depend on natural gas for operations. The new, proposed pipeline would strengthen the natural gas system which feeds South County.

South County contains over 3,000 acres of undeveloped industrial land, a site for a future university and an anticipated population increase of over 200,000 residents. Having gas available to companies exploring new business locations, ensuring future residents have gas for space heating and cooking and creating certainty in an infrastructure system that is essential to South County's growth is critical to our future.

It is for these reasons SCEDC strongly supports SDG&E's proposal and we appreciate SDG&E putting safety and reliability at the top of the priority list with the company's proposal to replace an aging natural gas line with a new, safer pipeline which will strengthen the natural gas system.

Sincerely,

A handwritten signature in black ink, appearing to read 'Clarissa Falcon', with a long horizontal flourish extending to the right.

Clarissa Falcon, Chair

From: [REDACTED]
Sent: Wednesday, June 7, 2017 1:56 AM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: No thank you!

I do not want this gas pipeline through Santee and/or Mission Trails Park.
It wasn't safe for the power plant proposal and it isn't safe now.

[REDACTED]

From: Jacqueline Reynoso <Reynoso@nationalcitychamber.org>
Sent: Thursday, June 8, 2017 8:53 PM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: National City Chamber Support Letter
Attachments: NCCC Support Letter # 2.pdf

Hello,

Enclosed is our support letter for the Pipeline Safety and Reliability Project. It was mailed out on June 5, 2017.

Thank you!

Jacqueline L. Reynoso

President & CEO

National City Chamber of Commerce

901 National City Blvd.

National City, CA 91950

Office (619) 477-9339

Cell (619) 890-6614

Fax (619) 477-5018

www.NationalCityChamber.org

reynoso@nationalcitychamber.org

This communication (including any attachments) may contain privileged or confidential information intended for a specific individual and purpose, and is protected by law. If you are not the intended recipient, you should delete this communication and/or shred the materials and any attachments and are hereby notified that any disclosure, copying, or distribution of this communication, or the taking of any action based on it, is strictly prohibited. It is recommended that you run a virus check on all email sent to you from all sources. National City Chamber of Commerce will not accept any responsibility for any loss, disruption or damage to your data or your computer system as a result of opening this email. Thank you.



901 National City Boulevard
National City, CA 91950-3203
Business: 619 477-9339
Fax: 619 477-5018
Web site: www.nationalcitychamber.org

June 5, 2017

**Robert Peterson
California Public Utilities Commission
Re: Pipeline Safety and Reliability Project
c/c Ecology and Environment, Inc.
505 Sansome Sts. Suite 300
San Francisco, CA 94111**

To Whom It May Concern:

The National City Chamber of Commerce board of directors supports SDG&E's Pipeline Safety and Reliability Project as part of their proactive pipeline safety plan. The National City Chamber of Commerce is a local business association representing nearly 600 business members from throughout the San Diego region. Our mission is to represent members in matters related to business, government, and community relations.

We support SDG&E's goal of enhancing and maintaining the safety of our region's natural gas infrastructure, and making it a top priority for San Diego. Constructing the Pipeline Safety & Reliability Project will build upon SDG&E's long history of safely delivering natural gas to its customers throughout San Diego County.

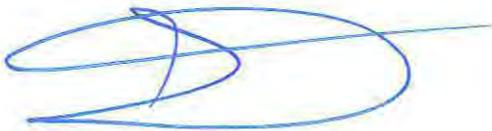
The Pipeline Safety & Reliability Project is a proposed new, state-of-the-art pipeline that would replace the existing Line 1600, which runs along the Interstate 15 corridor in northern San Diego County. We commend SDG&E for taking proactive steps to protect the safety of families that live and work in the area.

The Pipeline Safety & Reliability Project is the long-term solution to complying with state regulations by permanently lowering the pressure of Line 1600 to distribution service. The new pipeline will be constructed with the latest materials and technologies to make our region's energy system even safer.

We understand that SDG&E will make every effort to minimize the impact of construction and project execution on the businesses in the vicinity, and will work closely with impacted businesses to minimize down-time. Once completed, this project will ensure that safety continues to be a top priority for SDG&E and its customers.

Please accept our letter of support for this important and necessary project. We are available to answer any questions you may have. I can be reached at (619) 890-6614 or via email at Reynoso@nationalcitychamber.org.

Sincerely,

A handwritten signature in blue ink, appearing to be 'JR', with a long horizontal line extending to the right.

Jacqueline L. Reynoso
President/ CEO

From: ROBINSON, KERI E@DOT <Keri.ROBINSON@dot.ca.gov>
Sent: Monday, June 12, 2017 6:26 PM
To: Rainbow Natural Gas Pipeline. CPUC
Cc: Fox, Ann M@DOT; Emery, Brooke V@DOT; Eaton, Maurice A@DOT; Kent, Barbara@DOT
Subject: Pipeline Safety and Reliability Project - Caltrans Comments
Attachments: SD_15_VAR SDGE Rainbow-MCAS Miramar Natural Gas Line 6.12.17.pdf

Good afternoon,

I hope you are doing well. Attached is our comment letter for the SDG&E Pipeline Safety and Reliability Project Notice of Preparation (NOP). A hard copy of this letter has also been sent in the mail.

Please let me know if you have any questions.

Thank you,

Keri Robinson
Associate Transportation Planner
Caltrans District 11 Planning
4050 Taylor Street, MS-240
San Diego, CA 92110
Phone: (619) 688-3193
Email: keri.robinson@dot.ca.gov

DEPARTMENT OF TRANSPORTATION

DISTRICT 11

4050 TAYLOR STREET, M.S. 240

SAN DIEGO, CA 92110

PHONE (619) 688-6960

FAX (619) 688-4299

TTY 711

www.dot.ca.gov

*Making Conservation
a California Way of Life.*

June 12, 2017

11-SD-15

PM VAR

SDG&E Natural Gas Line and De-rating Line

SCH#2017051031

Mr. Robert Peterson
California Public Utilities Commission
RE: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

Dear Mr. Peterson:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the Pipeline Safety and Reliability Project – New Natural Gas Line and De-rating Line. The mission of Caltrans is to provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability. The Local Development-Intergovernmental Review (LD-IGR) Program reviews land use projects and plans to ensure consistency with our mission and state planning priorities.

Caltrans is aware of the project and has been coordinating with SDG&E on the pipeline locations crossing within Caltrans Right of Way (R/W). Caltrans appreciates the early engagement by SDG&E to address our needs when developing the scope for this project.

Caltrans would like to submit the following comments for the Notice of Preparation (NOP) for the proposed Pipeline Safety and Reliability Project – New Natural Gas Line and De-rating Line draft Environmental Impact Report (EIR) located near Interstate 15 (I-15):

Any work performed within Caltrans R/W will require discretionary review and approval by Caltrans and an encroachment permit will be required for any work within the Caltrans R/W prior to construction. No work shall begin in Caltrans R/W until an encroachment permit is approved. As part of the encroachment permit process, the applicant must provide an approved final environmental document including the California Environmental Quality Act (CEQA) determination addressing any environmental impacts with the Caltrans R/W, and any corresponding technical studies. Identification of avoidance, minimization, and mitigation measures will be a condition of the encroachment permit approval.

Mr. Robert Peterson
June 12, 2017
Page 2

SDG&E shall prepare and submit to Caltrans a traffic management plan as part of the encroachment permit application. The traffic management plan shall require that closure or partial closure of I-15 be limited to times as to create the least possible inconvenience to the traveling public and that signage be posted prior to the closure to alert drivers of the closure in accordance with Caltrans requirements. Traffic shall not be unreasonably delayed. The plan shall also outline suggested detours to use during the closures, including routes, signage, and public outreach.

Please see Section 600 of the Encroachment Permits Manual for requirements regarding utilities and state R/W: <http://www.dot.ca.gov/trafficops/ep/manual.html>.

The following is a list of environmental issues and resources that are typically analyzed for projects on Caltrans facilities, and impacts to these resources should be addressed in the Draft and Final EIR:

- Air Quality
- Noise
- Biological Resources
- Water Quality and Stormwater
- Paleontological Resources
- Cultural Resources
- Community Character and Cohesion including Environmental Justice
- Land Use including Farmlands
- Visual/Aesthetics
- Hazardous Waste/Materials
- Traffic and Transportation
- Pedestrian and Bicycle Facilities

Caltrans appreciates continued involvement in the EIR process and looks forward to continuing cooperation with the California Public Utilities Commission in coordinating land use and transportation issues associated with this project. If you have any questions, please contact Keri Robinson of the Caltrans Development Review Branch at (619) 688-3193 or by e-mail at keri.robinson@dot.ca.gov.

Sincerely,



ANN M. FOX
Deputy District Director
Planning and Local Assistance

From: [REDACTED]
Sent: Thursday, June 8, 2017 11:36 AM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: Gas Pipeline

I own property in rainbow off of rainbow heights road. Do you have a more detailed map of the proposed route in this area? Thanks! [REDACTED]

From: [REDACTED]
Sent: Tuesday, June 13, 2017 10:45 AM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: We say no to options R and S

Hello,

Residents of Mira Mesa like myself oppose options R and S.

Thanks for taking our thoughts into consideration!

[REDACTED]

From: Dan Silver <dsilverla@me.com>
Sent: Monday, June 12, 2017 7:04 PM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: Pipeline Safety and Reliability Project - Lines 3602 and 1600

VIA ELECTRONIC MAIL

June 12, 2017

Robert Peterson
CPUC
300 Capitol Mall
Sacramento CA 95814

RE: NOP for Pipeline Safety and Reliability Project - Lines 3602 and 1600

Dear Mr Peterson:

Endangered Habitats League (EHL) is concerned over the biological and recreational impacts of this proposed project. For your reference, EHL is Southern California's only regional conservation group.

The proposed project and/or alternatives would impact important biological resources, particularly as embodied in lands protected or slated for protection under the Multiple Species Conservation Program (MSCP). The MSCP (North and South County) is a joint local-state-federal endeavor to protect a vanishing ecosystem and to provide permit streamline for development and infrastructure. Endangered species are a prime focus. The Sycamore Canyon Goodman Ranch is one example of preserve lands where impacts may not be mitigable. Similar concerns and recommendations apply to recreational trails on such properties.

In addition to careful analysis of impacts and achievement of all feasible avoidance and mitigation in the DEIR, the project sponsors should meet *proactively* with the County of San Diego, the Californian Dept of Fish and Wildlife, and the U.S. Fish and Wildlife Service. Only through a proactive and collaborative process can issues be successfully identified and resolved. Pursuit of an insular CEQA process is not likely to yield good results and may be cost and time ineffective.

Please retain EHL on all distribution and notification lists.

Thank you

Sincerely,
Dan Silver

Dan Silver, Executive Director
Endangered Habitats League
8424 Santa Monica Blvd., Suite A 592
Los Angeles, CA 90069-4267

213-804-2750
dsilverla@me.com
www.ehleague.org

From: [REDACTED]
Sent: Tuesday, June 6, 2017 7:36 PM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: RE: Natural Gas Line 3602 (Application No. A.15-09-013)

Dear CPUC,

SDG&E's fracked gas pipeline project should be abandoned. The pipeline expansion is not needed. Natural Gas use is declining in the region. The likely conversion of ratepayer-financed infrastructure to export LNG would be contrary to California's climate goals and contrary to the public interest. Our parks are not intended to be sacrificed for utility profits. It is not okay and should be stopped.

Sincerely,

[REDACTED]

Sent from [Mail](#) for Windows 10

From: Justin Sperrazza <JSperrazza@jpowerusa.com>
Sent: Friday, June 9, 2017 5:04 PM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: Support for PSRP - Orange Grove Energy
Attachments: CPUC Letter (6-9-2017).pdf

Good Afternoon,

Please see attached letter from Orange Grove Energy expressing support for the Pipeline Safety & Reliability Project proposed by SDG&E.

Have a great weekend.

Thank you,

Justin Sperrazza	
Director of Asset Management	
	Office: 847-908-2806
	Cell: 847-418-7065
	E-mail: JSperrazza@jpowerusa.com



ORANGE GROVE ENERGY, L.P.

Robert Peterson
California Public Utilities Commission
RE: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome St., Suite 300
San Francisco, CA 94111

Dear Mr. Peterson,

I am writing today on behalf of the Orange Grove Energy Facility to express support for the Pipeline Safety & Reliability Project proposed by SDG&E.

Orange Grove Energy (OGE) is a 96 Megawatt electric generation facility located in Pala, CA. The facility consists of 2 natural gas-fired, simple cycle General Electric LM6000 combustion turbine-generators. OGE is a "peaking" plant and is called upon daily to support grid stability in balancing the SDG&E electric control area. OGE is a Black Start facility and thus plays a critical role in helping to facilitate a safe and timely grid recovery in the event of a blackout or shut down condition. To ensure reliable operations and properly support the grid, OGE requires dependable delivery of high-pressure transmission level natural gas service. There is no other source of fuel at OGE such as diesel fuel or liquified natural gas. OGE was developed and is owned by J-Power USA Development CO., LTD. NAES is contracted to operate the facility on behalf of the owners.

As you are aware, SDG&E submitted an application with the California Public Utilities Commission (CPUC) in August 2015 for a proposed 47-mile natural gas transmission pipeline that would enhance the safety and reliability of the natural gas system to better meet the needs of the residents, businesses and institutions in the entire San Diego region. The Pipeline Safety & Reliability Project (PSRP) would start at the Rainbow Metering Station near the Riverside County line and connect with SDG&E's natural gas system on Marine Corps Air Station (MCAS) Miramar.

OGE understands the purpose of the project is to comply with the State of California and CPUC's safety requirements following the fatal 2010 pipeline explosion in San Bruno. The new pipeline will replace an existing transmission line constructed in 1949, which no longer complies with state law, CPUC requirements or modern standards of safety. The new pipeline will replace this 70-year old line with a new, state-of-the-art line.

In addition to enhancing safety, the new pipeline will improve energy reliability throughout the San Diego region. SDG&E's existing natural gas transmission system primarily relies on one pipeline for 90 percent of the natural gas delivered to San Diego every day and the older pipeline constructed in 1949 for the rest. The new pipeline would replace the smaller, aging line with a larger pipeline constructed with state-of-the-art materials and technology. The proposed pipeline would reduce the region's overdependence on one primary pipeline, making the natural gas system more reliable and better able to handle the changing energy needs of homes and businesses in San Diego.

OGE agrees with SDG&E's recommendation that Line 1600 be removed from transmission service, and replaced with Line 3602. We believe this is a viable solution to help ensure both public safety and continued reliable fuel supply to one of the regions electrical grid's pieces of "critical infrastructure."

As part of the construction of the L3602, we believe the project should provide for the reconnection of OGE to high-pressure transmission level natural gas service by SDG&E. To be clear, we request that SDG&E be required to connect the OGE gas pipeline lateral to Line 3602 prior to converting Line 1600 to "distribution service".

In conclusion, I would like to reiterate our support for this project. OGE urges the CPUC to act expeditiously in working with SDG&E to help ensure that these pipelines provide a safe and reliable system to support the future energy needs of the San Diego region.

Sincerely,



Mark S. Condon, President & CEO
J-Power USA Development Co., LTD

From: Jerre Stallcup <jastallcup@consbio.org>
Sent: Tuesday, June 6, 2017 6:17 PM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: natural gas line 3602

Dear CPUC

Please abandon the SDG&E fracked gas pipeline that goes through Mission Trails Park and other natural parks in the area conserved by the citizens of San Diego.

thank you



Jerre Ann Stallcup | Chief Resources Officer
Senior Conservation Ecologist
Conservation Biology Institute
cell: (760) 846-2141
www.consbio.org

From: [REDACTED]
Sent: Tuesday, June 6, 2017 12:20 PM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: Pipeline Safety and Reliability Project (Application No. A.15-09-013)

Hello,

I oppose both alternative routes of the proposed gas pipeline (Line 3602). Routes through Mission Trails Regional Park and surrounding park expansion areas are not acceptable alternatives to the primary proposed route.

The first proposed alternative would disrupt the use of and degrade Mission Trails Regional Park's West Sycamore Area including parts of the new Stowe Trail, as well as the Goodan Ranch, and Fanita Ranch. These preserved areas and parklands are used by hundreds of visitors daily. Maintaining the integrity of the preservation of these natural lands is imperative for existing wildlife, flora, and habitat.

The second proposed alternative is equally unacceptable and would degrade Mission Trails's Spring Canyon and East Fortuna Staging Area, and also East Elliott, part of MTRP's larger ecosystem. The park and its surrounding expansion area must be protected. A new gas pipeline does not belong in these natural habitats which are used recreationally by park visitors.

Please drop or oppose these alternative routes. Thank you.

[REDACTED]

From: [REDACTED]
Sent: Monday, June 12, 2017 12:16 AM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: No to options R and S

As a Mira Mesa resident, I'm writing to voice my dissent of installing a pipeline in Mira Mesa. Thank you.

[REDACTED]

From: [REDACTED]
Sent: Monday, June 12, 2017 2:32 AM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: Natural Gas Line 3602

Hello,

I am a member of the community that has been informed of this new pipeline that you are planning to install through my street. I personally believe it is not a good decision for several reasons.

There are many schools along the currently project route that would be impacted. Traffic is already at a standstill when these schools let out in the afternoon as well as in the morning when everyone is trying to get to work.

1. San Pasqual High School
2. Bear valley Middle School
3. L. R. Green Elementary School
4. Juniper Elementary School
5. The Classical Academy

There are also a few houses of worship along the projected route as well.

1. Emmanuel Faith Church
2. Kingdom hall of Jehovah Witness
3. The Church of Jesus Christ of Latter-day Saints

Felicita Avenue and Encino Drive are narrow streets. There will not be enough room for construction and for people to pass to get to their homes. Bear Valley is generally busy because of the schools along its route and people getting on the I-15. There are safety concerns to take into account as well. What will happen is there is a leak in the pipe? It will be running through narrow residential streets, schools, and a habitat protected by Fish and Wildlife. The area across the street from Marlynn Ct is a riparian habitat, meaning that there is a stream running through it that local wildlife utilize. Residents would have to be evacuated from their homes if the pipe is compromised. Substantial damage could occur to homes and could potentially impact people's health if something happens to the pipes over time that causes leaks.

I propose that the pipeline continue down S Center City Parkway and follow the 15S freeway until Highland Valley Road, instead of veering off on Felicita Avenue. Once at Highland Valley Road, the pipeline can connect to part "31" that is shown on your map. This alternative route should also take up less resources since its a shorter route.

Please consider an alternative route for the gas pipeline 3602. The impact from its construction and its presence is too great to ignore.

Thank you.

From: [REDACTED]
Sent: Tuesday, June 6, 2017 12:03 AM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: Natural Gas Line 3602 (Application No. A.15-09-013)

SDG&E's fracked gas pipeline project should be abandoned. The pipeline expansion is not needed, Natural Gas use is declining in the region. The likely conversion of ratepayer financed infrastructure to export LNG would be contrary to California's climate goals and contrary to the public interest. Our parks are not intended to be sacrificed for utility profits.

Sincerely,

[REDACTED]

From: [REDACTED]
Sent: Tuesday, June 6, 2017 5:12 PM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: EIR comment.
Attachments: EIR 3602 line.docx

This may be a duplicate comment for Application No. A.1509013, New Natural Gas Line 3602, but am sending it nonetheless for the record.
Name and relevant info is included on attachment.

[REDACTED]
[REDACTED]
[REDACTED]

COMMENTS IN OPPOSITION OF “NEW NATURAL GAS LINE 3602”

Alternative proposed is No Project Line 3602. Instead test and repair line 1600 to extend it's life to obsolescence since all energy signs, from state laws, to rooftop solar growth, to SDGE fast growing renewable energy production point to that fact.

The reasons are:

A) Line 3602 is proposed to be installed through an area that is located in a very high risk fire zone, as evidenced by the 3 major fire disasters in the last 12 years.

B) Line 3602 is proposed to run through heavily populated areas where more than 300,000 live, a full third within a few hundred yards, specially in zip codes 92128, 92064 and 92131, that were virtually uninhabited when the original pipes were laid in 1949. The area surrounding the proposed passing of line 3602 through zip code 92128 is home to one of the largest senior communities in California.

C) The approval and installation of such a project will negatively affect air quality by affecting traffic in an area already overburdened due to lack of size as a result of overbuilding and high density of people, cars and businesses, during the building time period and thereafter.

D) The route proposed is located nearby many parks in the area and could potentially affect their use and safety.

F) A number of Schools, public and private are also located within close (around 1,000 feet) proximity to the proposed pipeline.

G) This line serves no benefit to the local community and to the San Diego County communities at large as a result of the decline in Natural Gas use in the county from 2010 to 2015, from 560.8 millions of Therms to 464.5 an approximate 20% decline though the county population increased during the same period by 6.6%, from 3.095 million to 3.299 million.

H) At the same time of population increases and natural gas use decreases, private solar, mostly rooftop, renewable energy reached 200.2 MWh, as of 5-24-17, accounting for approximately 10% of energy use and rapidly increasing.

J) Sempra CEO, in her 2016 annual report statement, she PROUDLY announced that Sempra supplied energy is 40% from renewable sources and growing. Natural Gas is not a renewable energy source. The CEO also extolled that Sempra Energy, the parent company for SDG&E is far ahead of schedule in renewable energy utilization, which helps explain the decrease in natural gas demand and use.

K) The original project cost, in 2015, had been roughly pegged at \$525 million. It now stands at \$669 and based on pricing and product inflation trends will certainly will reach 1 Billion by 2020 which will have to be borne by county rate payers, taxpayers and citizen that will negatively affect the local economy and specially the large amount of seniors on fixed income, to pay for a project that will be obsolete by 2045 if not much sooner, since,

L) Patrick Lee, a Sempra Energy VP in a renewable sources subsidiary of the company, claimed, on May 25th, 2017, at a speech at UCSD, that Sempra has the capability to presently provide 100% of its energy from renewable sources.

M) Finally other reasons to not approve this project are that it will lead to and negatively affect local area landscape aesthetics, will increase noise, traffic, pollution, potential release of hazardous materials in the local air, as well as create economic hardship for all businesses affected by construction.

For the record, SDGE has a history of outright LYING in its past requests for rate adjustments and need determination as they did in 2014 in stating to the CPUC that going from 4 to tiers of pricing would benefit all since the rate between the 2 rate tiers would not be larger than 20%. At present the rates for SDGE are 19c and 39c where tier 2 is more than double. They also (May 2017) just raised natural gas rates for San Diego residents, again. I also want to bring to your attention the fact that the Porter Ranch pipeline is leaking again (KNX News, 6/2/17)) despite SoCal Gas (a Sempra Company, like SDGE) assured residents all was well.

ARE YOU WILLING TO TAKE ALL THESE RISKS WITH PEOPLES LIVES AND WALLETS.

From: [REDACTED]
Sent: Monday, June 12, 2017 11:31 AM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: SDG&E gas pipeline

RE: Natural Gas Line 3602 (Application No. A.15-09-013)

Dear CPUC,

SDG&E's fracked gas pipeline project should be abandoned. The pipeline expansion is not needed. Natural Gas use is declining in the region. The likely conversion of ratepayer-financed infrastructure to export LNG would be contrary to California's climate goals and contrary to the public interest. Our parks are not intended to be sacrificed for utility profits.

Sincerely,

[REDACTED]

From: Bari Vaz <barivaz@sbcglobal.net>
Sent: Monday, June 12, 2017 8:09 PM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: SDG&E Pipeline Safety & Reliability Project - Comment from Mira Mesa Chamber

I am writing to express my opposition to Options R and S of the SDG&E Pipeline Safety & Reliability Project, both of which will travel through the Mira Mesa community along Black Mountain Rd or between Black Mountain Rd and I-15.

This area of Mira Mesa/Miramar is already being included in the SDG&E 230kV project, as well as the City of San Diego Pure Water Project. Another project in this limited area will create chaos in a part of our community that is heavily traveled.

As President of the Mira Mesa Chamber of Commerce, I also speak for our organization and its members. We are adamantly opposed to both Option R and Option S.

Thank you,
Bari Vaz
President
Mira Mesa Chamber of Commerce
info@MiraMesaChamber.com

From: Vertino, Timothy <Timothy.Vertino@sdcounty.ca.gov>
Sent: Monday, June 12, 2017 6:02 PM
To: Rainbow Natural Gas Pipeline. CPUC
Cc: Avina, Victor; Wilson, Adam; Paguio, Jason; Granda, Adrian; Wilson, Melanie; Bell, Alex; Kattoula, Vincent; Pasumarthi, Murali; Chin, Richard Y; Kashak, Jeff; Benham, Crystal; Mosley, Deborah
Subject: COSD comment letter - NOP Pipeline Safety and Reliability Project
Attachments: 2017-06-12 - COSD Comment Letter - NOP SDG&E Pipeline.pdf

Mr. Peterson,

Attached is the County of San Diego's comment letter regarding the Notice of Preparation for the Pipeline Safety and Reliability Project – New Natural Gas Line 3602 and De-rating Line 1600.

Please review the attached letter, and let me know if there are any questions.

Confirmation of this letter would be greatly appreciated.

Thank you,

Timothy Vertino
Land Use/Environmental Planner
County of San Diego
Planning & Development Services, Advance Planning
5510 Overland Avenue Suite 310
San Diego, CA 92123
858-495-5468



County of San Diego

MARK WARDLAW
DIRECTOR

PLANNING & DEVELOPMENT SERVICES
5510 OVERLAND AVENUE, SUITE 310, SAN DIEGO, CA 92123
(858) 694-2962 • Fax (858) 694-2555
www.sdcounty.ca.gov/pds

June 12, 2017

Robert Peterson
California Public Utilities Commission
300 Capitol Mall
Sacramento, CA 95814

Via email to: SDgaspipeline@ene.com

REQUEST FOR COMMENTS ON NOTICE OF PREPARATION (NOP) OF AN ENVIRONMENTAL IMPACT REPORT (EIR) FOR THE PIPELINE SAFETY AND RELIABILITY PROJECT – NEW NATURAL GAS LINE 3602 AND DE-RATING LINE 1600 (PROJECT).

Mr. Peterson,

The County of San Diego (County) reviewed the California Public Utility Commission's (CPUC) Notice of Preparation (NOP) of an Environmental Impact Report (EIR) for the Pipeline Safety And Reliability Project – New Natural Gas Line 3602 And De-Rating Line 1600 (Project). The County remains committed to working closely with the CPUC and San Diego Gas and Electric (SDG&E) on this project and future projects.

The County appreciates the opportunity to review the proposed project and alternative segment routes, and offers the following comments for your consideration. Please note that all comments submitted are reflective of both the proposed and alternative projects, pre-, mid-, and post-construction.

GENERAL

1. The County has discretionary approval authority over the project because the County will be required to process discretionary permits (e.g., Traffic Control Plan, Encroachment Permits). The County acting as a Responsible Agency under the California Environmental Quality Act (CEQA) Guidelines Section 15096 will consider the project EIR prepared by the CPUC and reach conclusions on whether and how to approve permits for the project. Please work with the County to ensure that the project EIR is adequate to issue County discretionary permits.

2. When preparing the CEQA analysis for portions of the project within County jurisdiction, the County recommends utilizing the County's Guidelines for Determining Significance (<http://www.sandiegocounty.gov/content/sdc/pds/procguid.html>). Resources of particular concern include but are not limited to direct and cumulative impacts to air quality, biological resources, cultural resources, noise, traffic, and tribal cultural resources.
3. The County has a number of proposed, in-process, and approved private projects within the general vicinity of the proposed pipeline and alternative segment routes. To prevent any potential conflicts with these projects, please coordinate with the County's Planning & Development Services (PDS) and with each private property owner.
4. In a public scoping meeting held on May 24, 2017, it was noted that the project is needed because there is potential that the existing pipeline, built in 1949, does not have an appropriate pressure rating. At this meeting it was stated that the pipeline has not been comprehensively tested to identify the existing pipe for pressure concerns. The need for a new pipeline is not yet clear and this comprehensive testing should be done prior to commencing the environmental analysis, design, and other features for a new pipeline. The environmental analysis should address the following items:
 - a. What is the condition of the existing pipeline?
 - b. What safety concerns/risks are there to the public at this time?
 - c. Where would the existing pipeline need to be repaired for potential pressure upgrades as an alternative project?
 - d. What would the impact be to the community in those areas needing repairs?

Without knowing the pressure concerns and potential location of pressure issues, it does not seem possible to comprehensively evaluate the No Project Alternative under CEQA.

5. Various maps found in the NOP use redundant terminology such as "alternatives" and "options" at various scales and render the exhibits difficult to differentiate. The environmental analysis' exhibits should provide a clear and consistent terminology for any and all routes that is consistent across all scales of maps.
6. The County requests that the noise section of the environmental analysis describes in detail the impacts and mitigation measures upon sensitive receptors, existing and proposed uses, types of equipment / noise specifications, hours of operation, noise volumes at adjacent property lines, etc.
 - a. The CPUC and SDG&E shall coordinate with the County to determine if a noise variance (for construction, staging areas, and delivery hours/days, etc.) is required for construction of the pipeline.
 - b. Additional County noise and abatement control information, including Chapter 4 - Table 36.404 Sound Level Limits in Decibels (dBA) can be found at: http://library.amlegal.com/nxt/gateway.dll?f=templates&fn=default.htm&vid=amlegal:sandiegoco_ca_mc

7. The CPUC and SDG&E shall coordinate with the County for approval of the necessary local permits required for the project, including a Traffic Control Plan, and Encroachment Permits.
8. Given that the existing pipeline currently crosses Marine Corps Air Station (MCAS) Miramar, and the proposed project and many alternative segment routes cross through MCAS Miramar, it should be identified if the project will comply with the National Environmental Policy Act (NEPA). The public should be made aware of this effort, and should be informed of resource areas which will not be evaluated under CEQA, such as environmental justice, and economic considerations.
9. The County requests that the provisions for considering and identifying tribal cultural resources be included in the environmental analysis and defined for the construction process.
10. Agricultural resources are critical to the County's economy and quality of life. Several of the alternative segment routes could impact agricultural resources during both construction and operation. Although construction impacts would potentially be temporary in nature from a temporal point of view, they have the potential to disturb agricultural resources on a long-term basis. For example, if construction of the pipeline were to impact avocado trees that can take several years to reach maturity, it could potentially have a long-term impact on an agricultural operation. The environmental analysis should consider the types agricultural resources that would be impacted so that the specific impacts can be fully articulated and analyzed.
11. The proposed project traverses through multiple municipal jurisdictions. The environmental analysis' project maps and exhibits should clearly identify all municipal jurisdictions as well as unincorporated County communities.

PUBLIC NOTICING

12. The proposed project and alternative segment routes traverses multiple communities within the unincorporated county including Bonsall, Fallbrook, Hidden Meadows, Lakeside Pala Pauma, Rainbow, San Dieguito, Sweetwater, Twin Oaks Valley, and Valley Center. Please consider the Community Planning Groups and Community Sponsor Groups during all future public noticing. Additional information on the County's Community Planning Groups can be found at:
<http://www.sandiegocounty.gov/content/sdc/pds/CommunityGroups>.
13. During future public review processes associated with the proposed project, the CPUC should exercise all notification procedures outlined in CEQA Guidelines §15087, including sending direct mailers to all stakeholders adjacent to the proposed project and or alternative segment routes.
14. Public notices should be placed in any public facilities affected by construction at least 30 days prior to the start of construction activity. The CPUC and SDG&E should place notifications at wilderness and recreation facilities, trail crossings, rest stops, desert centers, resource management offices, and public facilities (e.g., schools, parks, and nature preserves).

15. As a potential mitigation measure to reduce traffic, noise, air quality, and other direct impacts from the proposed project, the CPUC and SDG&E should send direct mailers to all stakeholders within 1,000 feet of construction at least two (2) weeks prior to the start of construction activity. These mailers should include detailed information about the type of construction activities, location and duration of construction activities, including the anticipated construction schedule, planned lane closures, a blasting schedule, helicopter activities, and contact information so that residents can contact the project liaison if they are experiencing any nuisances created from construction-related impacts.
16. The CPUC and SDG&E should notify all affected stakeholders in the area by posting doorknob-type notices, furnished by the contractor including its business telephone number on the notices. The contractors' business telephone number should be toll free or local to the County.
17. The CPUC and SDG&E should place print advertisements in local newspapers throughout the region at least two (2) weeks prior to construction. The advertisement type of construction activities, location and duration of construction activities, including the anticipated construction schedule, planned lane closures, and project contact information. If construction is delayed for more than seven (7) days, the CPUC and SDG&E should place another round of advertisements, including information about the status and schedule of construction.
18. Whenever construction activity will disrupt or impede access to any residential properties, retail and commercial businesses, the CPUC and SDG&E should inform each affected stakeholder, by written notice, the nature and expected duration of the disruptive construction activity. Written notice shall be delivered to each affected residence/business a minimum of two (2) weeks prior to the start of the disruptive construction activity.
19. The CPUC and SDG&E should notify the public of the potential for parking spaces to be temporarily eliminated and where parking spaces will be relocated through media such as local newspapers and on-site postings. The elimination and relocation of parking spaces is requested to be in conformance with the requirements of agencies responsible for parking management.
20. Prior to construction in which a utility service interruption is known to be unavoidable, the CPUC and SDG&E should notify members of the public affected by the planned outage by mail of the impending interruption. Flyers should be posted informing the public of the service interruption in neighborhoods affected by the planned outage.
21. The CPUC and SDG&E should provide the County documentation of mailings, address lists, newspaper clippings, posting information or other demonstration of compliance.
22. All posted notices should be removed within the required timeframe per the local jurisdiction requirements.

BIOLOGICAL RESOURCES

23. The County is currently preparing the North County Plan of its Multiple Species Conservation Program (MSCP), and has an adopted South County Plan. The County's MSCP Program involves the development of Plans that are joint Habitat Conservation Plan/Natural Community Conservation Plans that include landscape-level habitat and conservation planning provisions to protect species and vegetation communities in line with the Endangered Species Act. The CPUC should consider the existing South County Plan and preliminary draft North County Plan (expected for release at the end of 2017) as part of the environmental analysis. Additional information regarding the North County Plan is available on the County's website at:
<http://www.sandiegocounty.gov/pds/mscp/nc.html>.
24. In addition to the MSCP, the County also has an adopted Resource Protection Ordinance and a Biological Mitigation Ordinance (specific to the South County) that must be taken into consideration as part of the analysis.
25. The Preliminary Draft North County Plan has a draft list of 29 covered species; a preliminary overview of the covered species is available at:
<http://www.sandiegocounty.gov/content/dam/sdc/pds/mscp/docs/NCMSCP/05-PreliminaryOverview-of-CoveredSpecies.pdf>
26. Specific portions of the proposed pipeline route that are of concern to the North County MSCP are listed below. Please note that while some of these areas are not within the County's jurisdiction, impacts within these areas could affect habitat or species within adjacent open space lands that contribute to overall cohesion, effectiveness of the County's MSCP.
 - a. Mainline Valve 1: potential to impact agricultural or undisturbed lands with habitat value.
 - b. Crossing of Old Highway 395 in Rainbow: potential to impact wildlife crossing and to impact agricultural and undisturbed lands with habitat value.
 - c. Laydown Area adjacent to Rainbow Hills Road appears to be located in undisturbed lands with potential habitat value.
 - d. Pipeline south of the Laydown Area to E. Mission Road crosses potentially important agricultural lands and undisturbed lands with habitat value.
 - e. Mainline Valve 2: potential to impact agricultural or undisturbed lands with habitat value.
 - f. Laydown Area south of Pala Mesa Drive appears to be located in undisturbed lands with potential habitat value.
 - g. Workspace north and south of Keys Creek, as well as trenchless construction under Keys Creek could have significant impacts on important habitat areas supporting critical species, including critical wildlife corridors within this riparian area.

- h. Mainline Valve 3 and workspaces adjacent to this valve appear to be located in undisturbed lands with potential habitat value.
 - i. Workspace north and south, as well as trenchless construction under Interstate 15 (I-15) could have significant impacts on important habitat areas supporting critical species.
 - j. Laydown Area south of Indian Hill Road appears to be located in undisturbed lands with potential habitat value.
 - k. Mainline Valve 4: potential to impact agricultural or undisturbed lands with habitat value.
 - l. Mainline Valve 5: potential to impact agricultural or undisturbed lands with habitat value.
 - m. Laydown Area south of N. Nutmeg Street appears to be located in undisturbed lands with potential habitat value.
 - n. Mainline Valve 7: potential to impact agricultural or undisturbed lands with habitat value.
 - o. Workspace as well as trenchless construction under Hodges Reservoir could have significant impacts on important habitat areas supporting critical species, including critical wildlife corridors within this riparian area.
 - p. Mainline Valve 10: potential to impact undisturbed lands with habitat value.
 - q. Pipeline segment south of Pomerado Road that runs through Mission Trails Regional Park could impact important habitat areas supporting critical species, including critical wildlife corridors.
27. Where avoidance is not possible, the CPUC and SDG&E should work with the County to identify appropriate mitigation sites, and ensure that they are properly preserved, managed, and monitored per standards set forth in the MSCP.
28. If the proposed project and or alternative segment routes impact wildlife corridors, or critical habitat for species anticipated to be covered under the South County Plan or the preliminary draft North County Plan, the CPUC and SDG&E should work with the County, wildlife agencies, and local jurisdictions to determine appropriate avoidance techniques. Habitat linkages and corridors are critical to the success of the North County Plan. The environmental analysis should evaluate impacts to the preserved lands and to be preserved as a comprehensively planned and interconnected regional network; not based only on the impacts limited to the jurisdictional boundaries of agencies.
29. The proposed pipeline would be largely located in the public roadway right-of-way (ROW); however, approximately six (6) miles would be within undisturbed ground. The NOP does not include specific information about the amount of undisturbed ground that could be impacted by the proposed project or alternative segment routes. The areas that

would be disturbed have not been clearly articulated. The environmental analysis should identify potential to impact species, vegetation communities, agricultural lands, corridors, and other features important to the County's MSCP.

30. The NOP indicates that proposed construction could occur over approximately two (2) years, which would be enough time to cause significant disturbances to sensitive bird, mammal, and other species critical to the success of the MSCP. For example, the California gnatcatcher (*Poliioptila californica*) is known to occur within scrub vegetation communities, a large patch of which exists within the northern portion of the proposed pipeline between State Route 76 (SR-76) and the County of Riverside. Significant disturbance in this area could jeopardize the County's ability to protect core populations of this important species under the MSCP.
31. The proposed project must take into consideration breeding seasons and breeding habitat for applicable species. The environmental analysis shall disclose all potentially impacted bird species, and provide details on the breeding seasons for each species. Per CEQA regulations, the proposed project must avoid potential impacts from construction during the breeding season where feasible. If avoidance of impacts during applicable breeding seasons is not possible, mitigation must be implemented to ensure impacts remain less than significant.
32. Implementation of mitigation measures may be needed to reduce and avoid potential impacts from construction times which could impact wildlife including mountain lions, nesting birds and nesting bird season.
33. There is an important corridor connecting the proposed preserve in the County to preserved lands within Riverside County's MSCP. The public should be made aware of the design and location of this facility to ensure it would not impact that important linkage area.
34. The proposed pipeline could create potential impacts to known wildlife corridors along I-15, particularly a segment near the intersection of I-15 and SR-76 within proximity to the San Luis Rey River.
35. It appears the proposed Rainbow Pressure-Limiting Station & Pipeline Inspection Launching Facility would be located above-ground and within or adjacent to Pre-Approved Mitigation Area (PAMA) lands that are at the jurisdictional border of northern San Diego County and southern Riverside County.
36. The environmental analysis should analyze any potential impacts to vernal pool/fairy shrimp along the portion of the proposed pipeline that crosses MCAS Miramar.
37. The environmental analysis should clearly articulate which segments will be built with horizontal directional drilling (HDD) techniques, which could create potential impacts to waterways and riparian species/habitats if not done properly.

HYDROLOGIC RESOURCES

38. The proposed project and alternative segment routes would cross under the San Luis Rey River, a major waterway that also infiltrates to local groundwater basins. As noted above, HDD methods should be well-documented in the analysis, including the potential for frac-out. Further, the environmental analysis should incorporate an analysis of potential impacts that could occur to local groundwater basins after construction. Specifically, the analysis should consider potential for the gas pipeline to leak and contaminate local waterways. Any potential impacts should be mitigated to the extent feasible as to not cause public safety or health impacts.
39. The proposed project and alternative segment routes would cross Hodges Reservoir, a drinking water reservoir that is part of the regional drinking water system. Similar to concerns addressed above pertaining to the San Luis Rey River, both construction (potential for frac-out) and operation (potential for gas leaks) of the pipeline in this area must be mitigated to the extent feasible as to not cause public safety or health impacts.
40. The proposed pipeline and alternative segment routes should be consistent with Municipal Separate Storm Sewer System (MS4) Permit as to not significantly impact local water quality, specifically staging areas and other places where soils are stored must have appropriate Best Management Practices (BMPs) in place to reduce impacts.
41. The environmental analysis should identify impacts of any staging areas, fly yards, permanent helipads, and graded access roads. The source of water for construction needs to be clearly identified in the environmental analysis, and whether SDG&E proposes to use groundwater from wells on private property in the project area, which should be analyzed.

WATERSHED PROTECTION

42. The project has potential to generate stormwater impacts from project staging and construction activities on County roadways, MS4, and adjacent private parcels located in the unincorporated county. Therefore, the County suggests the project should consider the following items:
 - a. California Regional Water Quality Control Board will require compliance with the San Diego Municipal Storm Water Permit Order No. R9-2013-0001, (as amended by Order Nos. R9-2015-0001 and R9-2015-0100).
 - b. In an effort to avoid water quality or storm water impacts, the County recommends that the project implement permanent Source Control, Site Design, Pollutant Control and Hydromodification Management in accordance with the County's BMP Design Manual.
 - c. The project is required to maintain appropriate setbacks in the County ROW as specified in the County's BMP Design Manual.

- d. The County recommends construction BMPs and associated plans follow the guidance of the County's Grading Ordinance, County's Watershed Protection Ordinance, and State of California's Construction General Permit.
43. The proposed pipeline alignment and associated construction activities should avoid the area north of Felicita County Park due to active groundwater contamination. More information about the contamination can found at the following website link provided by the California Department of Toxic Substances Control:
[https://www.dtsc.ca.gov/SiteCleanup/upload/Chatham Brothers Barrel Yard CN Update.pdf](https://www.dtsc.ca.gov/SiteCleanup/upload/Chatham_Brothers_Barrel_Yard_CN_Update.pdf)
44. Any prohibited discharges to the County's municipal separate storm sewer system, as defined by the County's Watershed Protection Ordinance, shall be communicated immediately to the Department of Public Works (DPW) by calling (888) 846-0800 or by email at watersheds@sdcounty.ca.gov.

FLOOD CONTROL

45. The proposed pipeline may traverse through several FEMA and County-mapped floodways/floodplains (San Luis Rey River, San Dieguito/Lake Hodges, Reidy Canyon Creek, Escondido Creek, etc.) depending on the selected project or alternative; including mainline valves, pressure limiting stations, and cross-tie facilities. This would require a No-Rise analysis, and a Letter of Map Revision (LOMR) or County LOMR in accordance with FEMA regulations and County Flood Damage Prevention Ordinance Section 811.503(b).
46. Close coordination with DPW Flood Control is recommended for all proposed work within County/FEMA mapped areas and/or flood control easements in the unincorporated County.
47. Incorporated cities will serve as the lead jurisdiction for flood control issues located outside of the County's jurisdictional boundaries.

SANITATION DISTRICT (WASTEWATER)

48. Based on the figures provided in the NOP, it appears there is potential for the pipeline alternatives to traverse through several wastewater service areas of the County Sanitation District, specifically the unincorporated communities of Alpine, Lakeside, Pine Valley, Spring Valley, and Winter Gardens. These areas contain a network of underground wastewater infrastructure, which could potentially be impacted by the project, depending on the selected alternative. Because there is insufficient detail provided in the NOP, at this time the County is unable to determine whether any of the alternatives would directly impact these wastewater facilities. The County requests close coordination with the Sanitation District to ensure wastewater facilities are not impacted.

TRANSPORTATION/TRAFFIC

49. The proposed pipeline and alternative segment routes as shown in the NOP traverses significant portions of County-maintained roads / ROW. County-maintained roadways that may be impacted by the proposed project include:

- N. Old Highway 395;
- Rainbow Hills Road;
- E. Mission Road;
- S. Old Highway 395;
- Champagne Boulevard;
- Deer Springs Road;
- N. Centre City Parkway; and
- Bear Valley Parkway.

Additional County roadways that could be impacted by the alternative segment routes include, but are not limited to:

- Rainbow Glen Road;
- West Lilac Road;
- Camino del Rey;
- Del Dios Hwy;
- Bernardo Center Drive;
- Camel Valley Road;
- Sycamore Canyon Road;
- Pomerado Road;
- Jamacha Boulevard;
- Old Highway 80; and
- Alpine Boulevard.

50. The project's proposed activities (including undergrounding of utilities) within or along any County roadway may require significant reconstruction of the existing roadway, intersection, drainage feature, or other associated County-maintained facilities. All areas damaged, disturbed, or removed by the project shall be repaired to the satisfaction of the County Director of DPW.

- a. State Legislature passed the Road Repair & Accountability Act of 2017 (also referred to as Senate Bill 1). As a result of this legislation, the California State Association of Counties projects that the County will receive approximately \$538 million of additional road maintenance revenues over the next 10 years, in addition to existing DPW funding. Based on the projected new transportation funding, in May, 2017 the County Board of Supervisors approved an option to achieve an average Pavement Condition Index of 70 for the entire County road network in five (5) years. As such,

the CPUC and SDG&E should work closely with the County to ensure the project does not conflict with DPW's upcoming effort to conduct maintenance of the County road network.

- b. The County strongly recommends for the CPUC and SDG&E to coordinate and conduct outreach directly with the potentially affected communities and their respective Community Planning Groups, including any impacts to local roadways.
 - c. The County requests that the CPUC and SDG&E provide recorded video of existing (pre-project) conditions of all roadways and other County-maintained facilities prior to project implementation. Recorded video of post-construction conditions is also requested to demonstrate that all facilities have been restored to pre-project conditions. Roadways to be recorded shall include all roads anticipated to be located along detour and construction haul routes.
 - d. As required by industry standards, the project shall comply with trench restoration details pursuant to County Design Standard DS-22, Regional Standard Drawing G-24-Type A for asphalt, G-25-Type C for Concrete, and G-25-Type D for mixed asphalt and concrete sections.
 - e. During construction, the County requests that all County-maintained roadways be maintained in satisfactory condition for public use at all times.
 - f. During construction, all existing driveways and private roadways must remain open for public use and for emergency vehicles.
 - g. Prior to construction, any coordination meetings shall include the County's Private Development Construction Inspection and Transportation divisions to ensure all impacted County facilities are properly restored after work has concluded.
 - h. No equipment or material storage will be allowed within the County-maintained road ROW.
51. The County requests that the CPUC and SDG&E identify and analyze impacts to private roads in the environmental analysis. Any mitigation of impacts to private roads should be disclosed and coordinated with property owners of the private roads impacted by the project. Any restoration to private roads should, at a minimum, meet the County's Standards for Private Roads. Section 3.11 of the Standards for Private Roads addresses requirements for structural sections of paved roads, can be found here: <http://www.sandiegocounty.gov/content/dam/sdc/dplu/docs/PRRDST.pdf>.
52. To ensure roads are not damaged by heavily-loaded trucks on the route identified during the construction phase (or subsequent operations), the County recommends that CPUC and SDG&E prepare a Haul Route Plan (HRP) developed by a Registered Civil Engineer or a Licensed Traffic Control Contractor and submit it to the County for review. The HRP should be approved prior to the County's issuance of any applicable grading, construction, encroachment or excavation permit(s).

The HRP should address, but not limited to, the following:

- a. Location of haul routes, truck types and capacity, number of trips per day, estimated quantity of import and export, destination, duration of the haul, and hours of operation.
 - b. The applicant is responsible for the road maintenance (sweeping as necessary) and repair of any damage caused by project to the on-site and off-site County maintained roads that serve the property during either construction or subsequent operations.
 - c. The applicant shall repave any and all portions of the roads that are damaged by project construction.
 - d. Per the existing Franchise Agreement (Franchise) between SDG&E and the County of San Diego. All gas pipes, traps, manholes, attachments and appliances constructed or maintained under the provisions of the Franchise shall be constructed and maintained in accordance and in conformity with such reasonable ordinances, rules and regulations of the County Board of Supervisors (Board). Pursuant to the Franchise, all portions of the streets or highways which have been excavated or otherwise injured in the construction and laying of said gas pipe lines shall be placed in as good condition as the same were in before the constructing, laying, repairing or removing of any such gas pipes, trap, manhole, attachment, or appliance, and to the satisfaction of the Board.
53. Half-width paving will be required in construction zones that are utilizing half of the road ROW. Full-width repaving will be required for an additional 500 feet beyond any area where the pipeline crosses both sides of the road.
54. The County requests that the project comply with the County Pavement Cut Policy. The County's policy requires full-width repaving of a County road for any trench work if the road was resurfaced within the last three (3) years.
55. The proposed project and alternative segment routes have the potential to impact historically-designated routes, including the State-listed Old Highway 395 and Federal and State listed Old Highway 80. These roads have been designated as historically important in the development of California. Any alternatives that traverse these roadways should be evaluated to ensure the historical significance and historical contributing elements of these roadways (e.g., the cement concrete road surface, original route alignment) are avoided. For further information on the historical contributing elements, the County recommends that the CPUC conduct a cultural records search of Resource # P-37-024023 (11-SD-Old U.S. 80).
- Additional information can be found in the following report: *Hale, Micah, Brad Comeau and Chad Willis, 2010. Class II and Class III Cultural Resources Inventory Report for the Tule Wind Project, McCain Valley, San Diego County, California.*
56. Old Highway 395 and Old Highway 80 consist of concrete slab structural sections (in addition to the asphalt concrete paved surface in some areas). Any trenching that occurs within concrete slab sections shall be repaired in coordination with the County.

57. The underlying roadbed of Old Highway 395 and Old Highway 80 is concrete to an unknown extent. At the time of installation it is likely that no historic or archaeological survey of the area was completed. It is necessary to employ an archaeological and Native American monitor for all ground disturbing work in or around Old Highway 395 and Old Highway 80, as the likelihood of cultural resources is high.
58. Any and all work within the County's ROW typically requires the permits from the County including an encroachment permit, and a Traffic Management Plan (TMP). Any project conditions that affect the construction schedule should be analyzed for potential traffic impacts, to the associated communities. The TMP shall follow the criteria of the standard traffic control notes regarding work hours, trench plating, school zone operations, standard traffic control plans, flagging, and other construction zone safety topics. We recommend that SDG&E coordinate with the County DPW on any modifications to the standard traffic control requirements.
59. The proposed project traverses through multiple municipal jurisdictions. Some jurisdictional boundaries were found missing on various exhibits. Project maps and exhibits should clearly and accurately identify all surrounding municipal jurisdictions and transitions.
60. As part of the impact analysis, the County recommends that the environmental analysis identify the expected construction time period and staging schedule.
61. Significant restoration of the roadway and accompanying facilities will be necessary if the gas pipeline is installed within the roadbed. To minimize the project's roadbed restoration requirements, the proposed pipeline should be located outside the paved roadbed wherever possible.
62. To better understand the proposed pipeline and alternative segment routes proximity to County-maintained facilities, the County recommends the environmental analysis identify:
 - a. All underground pipelines (width and depth);
 - b. Location of the pipelines in relation to the underlying existing pavement;
 - c. Location of the pipelines in relation to the travel-way and edge of pavement; and
 - d. Cross-sections or details of all instances where vaults/valves/regulator stations will be placed in the paved travelled-way. The details should indicate: the width, length and depth of the vault/valve/regulator, and the location of the vault/valve/regulator in relation to the existing underlying concrete pavement.

63. To avoid utility conflicts, the County recommends the proposed pipeline be installed a minimum of two (2) feet below all County-maintained storm drain culverts. This clearance distance between storm drain culverts and the proposed pipeline must be shown on the construction plan profiles, including elevations of the bottom of the proposed pipeline the top of storm drain culverts.
 - a. The depth of existing storm drain culverts must be verified in the field prior to submittal of engineering design plans.
 - b. It is also recommended that the proposed pipeline be installed a minimum ten (10) feet away (horizontally separated) between existing storm drain culverts that are parallel.
64. County policy requires that all clearing and grading shall be carried out with dust control measures adequate to prevent creation of a nuisance to persons or public or private property. Clearing, grading or improvement plans shall require that measures such as the following be undertaken to achieve this result: watering, application of surfactants, shrouding, control of vehicle speeds, paving of access areas, or other operational or technological measures to reduce dispersion of dust.

PUBLIC SAFETY

65. The CPUC and SDG&E shall work with fire-fighting and law enforcement agencies to develop and implement a Fire Safety Program, a Gas Construction Fire Protection Plan, a Wildland Fire Prevention Plan, and or a Fire Prevention Plan (for construction and maintenance of the pipeline). Implemented programs should have a dedicated hotline and website available to the public.
66. The availability of this fire plan should be included in the text of public notifications mailed to all stakeholders within 1,000 feet of the ROW of this project and advance notification to residents, property owners and tenants within 300 feet of construction activities.
67. The Gas Construction Fire Prevention Plan, and Wildland Fire Prevention and Safety Plan should consist of the following elements:
 - a. Implement ongoing fire patrols during fire season;
 - b. Provide the CPUC, BLM and local, state and federal fire agencies with the 24-hour contact information and a list of onsite fire suppression equipment, tools and personnel list;
 - c. Cease maintenance and construction activities when a Red Flag Warning has been issued;
 - d. Provide construction crews and inspectors with radio and cellular telephone access;

- e. Train all crew members in fire prevention, initial attack firefighting and fire reporting. Crewmembers will carry a card listing telephone numbers for reporting fires and immediate steps to take if a fire starts; and
- f. Train and equip each crew member to extinguish small fires in order to prevent them growing into more serious threats. Crewmembers will be within 100 yards of a vehicle containing fire suppression equipment at all times.

PRIVATE DEVELOPMENT CONSTRUCTION INSPECTION

68. Upon construction completion and restoration of all impacted facilities, a final geotechnical compaction report should be submitted to ensure the project meets the requirements for road repair as outlined under the Franchise Agreement between SDG&E and the County. The report shall include testing locations and a reference map.

PARKS AND RECREATION

69. Based on a review of available information, the project appears to include impact areas that are within or immediately adjacent to County owned and managed parklands, including the following:

- Sycamore Canyon Goodan Ranch Preserve;
- Del Dios Preserve;
- Christopher Hill Preserve;
- Los Peñasquitos Canyon Preserve;
- San Luis Rey River Park;
- San Elijo Lagoon Ecological Reserve;
- Mount Olympus Preserve;
- Bottle Peak Preserve;
- Keys Creek Preserve;
- InKoPah Preserve;
- Mountain Springs Park;
- Pine Valley Park;
- Flinn Springs Park;
- Live Oak Park;
- Guajome Park; and
- Rancho Guajome Adobe Community Park.

70. The Department of Parks and Recreation (DPR) is concerned with any project alternative routes (proposed or future) that are within County owned and managed parklands, trails, and trail easements. DPR is opposed to the Rainbow to Santee Non-Miramar Alternative, because of extensive potential impacts to the Sycamore Canyon Goodan Ranch Preserve. DPR also understands that additional County owned and managed parklands, trails or trail easements, not mentioned above, may be affected by

the project if the project impact areas are adjusted based on comments on the NOP. DPR is opposed to any future modifications to the project that would result in project impact areas within County owned and managed parklands, trails, and trail easements.

Based on a review of available information, it appears that the following route alternatives and associated impact areas may adversely affect the aforementioned County owned and managed parklands, trails, and trail easements:

- Valley Center Alternative;
- Rainbow – El Norte Park way – Santee Alternative;
- Rainbow to Santee Non-Miramar Alternative;
- Cactus City to San Diego Alternative;
- South Orange County Coastal Alternative;
- Blythe to Santee Alternative 1;
- Blythe to Santee Alternative 2; and
- Second Pipeline along Line 3010.

Based on a review of available information, it appears that the following segment alternatives along the preferred alignment (and associated impact areas) will adversely affect the aforementioned County owned and managed parklands, trails, and trail easements:

- Lake Hodges Segment Alternative;
- Black Mountain Option Segment Alternative; and
- Rainbow to Santee Non-Miramar Alternative.

71. If alternative alignments and/or associated impact areas within County owned and managed parklands are selected for analysis in the environmental analysis, DPR requests the following measures be implemented:

- a. Any alternatives and associated impact areas crossing through County owned and managed parklands will require close coordination with DPR staff. Specific maps illustrating pipeline locations, temporary construction easements, staging areas, and any other project impact areas shall be clearly defined;
- b. CPUC and SDG&E representatives are requested to coordinate with DPR staff prior to, during and post construction activities at and adjacent to County owned and managed parklands;
- c. Pipeline alignments, associated impact areas and construction easements would need to follow existing access roads with the exception of any recorded historic roads and trails, to limit impacts to biological resources, cultural resources trails, and structures/facilities. Impacted access road(s) and trails will need to be replaced to the current standards and to the satisfaction of the Director of DPR;
- d. Cross-county alignments are not preferred;

- e. Staging areas should be located within disturbed areas, to the maximum extent feasible;
 - f. Any closure of County owned and managed parklands for any on-site construction, in full or in part (e.g. trail closures) should be coordinated and approved by DPR;
 - g. Should any trail be closed and temporary trails/trail detours be proposed, trail detour signage should be coordinated with DPR staff;
 - h. Temporary construction impacts to trails from any construction areas and staging areas should be restored to the current standards and to the satisfaction of the Director of DPR;
 - i. Temporary construction impacts to habitat from any construction areas and staging areas should be restored through vegetation planning and propagation or reseeding; and
 - j. Planting should occur with locally collected seed and/or plant stock and provided from a qualified nursery/supplier. Plants and seeds should originate from within 25 miles of the project areas to the extent feasible.
72. The environmental analysis will need to address impacts to the County owned and managed parklands including, but not limited to:
- a. Construction impacts to daily operations of the County owned and managed parklands, including recreational use of trails and nature interpretive center within said parklands;
 - b. Impacts to the MSCP lands. For any parks within the MSCP designated as PAMA it is important that no permanent impacts result from the project. Lands acquired within PAMA have been credited toward the County's acquisition credit requirement pursuant to the approved federal Habitat Conservation Plan (HCP/state Natural Community Conservation Planning (NCCP). Any temporary or permanent impacts are requested to be mitigated and/or compensated in compliance with the MSCP;
 - c. Impacts to deed restricted lands. A vast amount of lands acquired by DPR typically have various deed restrictions limiting the developmental rights to these lands, which may apply to lands within the Preserve. Adequate compensation would need to be agreed upon should impacts be deemed unavoidable;
 - d. Impacts to sensitive and listed species and habitat, such as the San Diego thornmint, California gnatcatcher, coast (San Diego) horned lizard, among others are requested to be mitigated and/or compensated in compliance with the MSCP, Resource Protection Ordinance and Biological Mitigation Ordinance; and
 - e. Impacts to cultural resources. Any construction within County owned and managed parklands will require archeological and Native American monitoring. Additionally a historic preservation and treatment plan must be completed before any work can

take place within any archeological site within the Preserve. Appropriate steps including avoidance, testing, capping, recordation and treatment/preservation will be required under CEQA.

73. Currently the environmental document anticipates evaluation of several alternatives located directly through DPR's Sycamore Canyon Goodan Ranch Preserve (Preserve). DPR has the following concerns:

- a. Sycamore Canyon has a long history of prehistoric Native American and historic uses, and contains numerous identified cultural sites. As such there is a high potential for encountering cultural resources during any ground disturbing activity in the Preserve. Any construction within the Preserve will require archeological and Native American monitoring. Additionally a historic preservation and treatment plan must be completed before any work can take place within any archeological site within the Preserve. Appropriate steps including avoidance, testing, capping, recordation and treatment/preservation will be required under CEQA;
 - i. Complete avoidance of the Rock House (CA-SDI-009712) would be required; the current alignments go through this significant cultural resource;
 - ii. Portions of the historic Stowe Road/Stowe Trail (P-37-030197) are a locally significant historic resource and the pipeline alignments should avoid impacts to this resource to the maximum extent feasible. A formal significant evaluation would be required if any potential for impact to this resource is anticipated; and
 - iii. The alignments also cross through the historic San Diego Aqueduct (P-37-030107) which is a historic resource.
- b. The currently proposed alignments and associated impact areas cross through existing trails and facilities including the Preserve's main facility referred to here as the visitor center. The alignments, construction easements, and staging areas should be refined to avoid impacts to the visitor center, historic structures/cultural resources, and trails within the Preserve.
- c. The alignments would impact recreational trails within the Preserve, including the Ridge Trail which is popular with the hiking, biking and equestrian communities. Additionally increased usage of the southern portion of the Preserve is anticipated, with the formalization of the adjacent Stowe Trail. The Stowe Trail connects into the Preserve near the proposed alignments, trail detours would need to be coordinated should an alignment through the Preserve be selected.
- d. 90 percent of the property in the Preserve is deed restricted either through the funding source or requirements from the deeding entity (including U.S. Bureau of Land Management and California Department of Fish and Wildlife). Deed restrictions limit the developmental rights to these lands and adequate compensation would need to be agreed upon should impacts be deemed unavoidable.

- e. The Resource Management Plan (RMP) for Sycamore Goodan Ranch is currently being updated and is anticipated to be available for public review in 2018. The link to the current RMP can be found at the following link:
<http://www.sandiegocounty.gov/parks/openspace/RMP.html#SycamoreGoodan>.
Additional RMPs for other County preserves can be found at the following link:
http://www.sandiegocounty.gov/content/sdc/parks/management_plans.html.
74. Cultural and natural resources similar to those described above for the Sycamore Canyon Goodan Ranch Preserve can be found in other County owned and managed parklands and could potentially be affected by the alternative alignments and associated impact areas. To that end, the same level of analysis included for the Sycamore Canyon Goodan Ranch Preserve should be used when analyzing the impacts associated with the alternative alignments and associated impact areas through other County owned and managed parklands.
75. The South Orange County Coastal Alternative appears to traverse the San Elijo Lagoon Ecological Reserve (SELER) near the rail right of way and/or Highway 101 right of way. The SELER is an ecological reserve created by the California Fish and Game Commission in 1983. Construction of the pipeline may impact a trail that parallels the tracks on the east side of the rail right of way. In addition, there are four major construction projects occurring within SELER between now and 2023. The I-5 North Coast Corridor improvements and the Los Angeles to San Diego Line (LOSSAN) Double tracking project are currently underway. The San Elijo Lagoon Restoration Project (SELRP) is scheduled to begin construction in fall 2017. The SELRP is a large-scale restoration effort that is part of the CEQA/NEPA mitigation requirement for the I-5 North Coast Corridor Project. Any construction activities proposed to take place prior to 2023 would be incompatible with the currently scheduled capital projects. Per Senate Bill 468, construction of the I-5 improvements, LOSSAN rail and SELRP must occur as a single project. Therefore, although the restoration project has not begun construction, it cannot be rescheduled to accommodate any additional capital projects. Furthermore, the San Elijo Joint Powers Authority will likely begin construction of the San Elijo Land Outfall Replacement Project in 2017/2018. The outfall will run perpendicular to the rail and road ROW.
- If this alternative is chosen by the CPUC, construction would have to occur after all other capital projects have been completed. Any portion of the SELRP that is disturbed by the pipeline construction would have to be replaced and the mitigation for I-5 be made whole. In addition, mitigation for project specific impacts would be required. Finally, if the pipeline is located within the SELER, a right of entry permit would be required for non-construction activities within the lagoon (i.e. surveys) and acquisition of permanent and/or temporary easements would be required prior to project construction.
76. The County owns and manages over 350 miles of regional and community trails and trail easements through-out San Diego County. The preferred alignment and all the alternative alignments appear to impact numerous trails within the County. For reference, the County's Community Trails Master Plan (CTMP) illustrates all current and proposed trails throughout the County and can be found at the following link:
<http://www.sandiegocounty.gov/content/sdc/pds/community-trails-master-plan.html>.

77. DPR is opposed to any project impact areas (proposed or future) that adversely affects County owned and managed trails and trail easements. If alternative alignments and/or associated impact areas within County owned and managed trails or trail easements are selected for analysis in the environmental analysis, DPR requests the following measures be implemented:
- a. Trail closures should be coordinated and approved by DPR.
 - b. Should any trail be closed and temporary trails/trail detours be proposed, trail detour signage should be coordinated with DPR staff.
 - c. Temporary construction impacts to trails from any construction areas and staging areas should be restored to the current standards in the CTMP and to the satisfaction of the Director of DPR.
78. The County would like to work cooperatively with the CPUC and SDG&E to provide for public trail use on portions of the pipeline easement for whichever alternative is chosen.

ALTERNATIVE ROAD SEGMENTS

79. The NOP identifies eight (8) alternative segment routes, in addition to the proposed project. The NOP does not provide sufficient details of these alignments. To adequately understand the impacts to County-maintained facilities, the environmental analysis should provide detailed alignment maps for every preferred and alternative segment routes.
80. The County requests the CPUC move forward with construction only on pipeline alignments and alternative segment routes, which have been fully articulated and analyzed within the environmental analysis. If future design of alignments suggests that alternatives beyond those identified and analyzed within the environmental analysis would be preferred, the CPUC should recirculate environmental documents to all interested stakeholders, including the County, to allow for a complete accurate public review of the proposed alignment which will be implemented.
81. The Rainbow to Santee Non-Miramar alternative segment route impacts potentially significant biological resources as this line significantly deviates from the roadway ROW and crosses through preserve areas. Preliminary mapping shows that alignment would go through multiple mapped vernal pools, which could significantly impact sensitive species. The environmental analysis should consider known golden eagle territories/nests in those areas, as construction equipment, noise, etc., could significantly impact those species and other sensitive species in the area. Given that this alignment would not be located on a large ROW such as I-15, it also has potentially significant impact to local residents that could be impacted by noise, street closures, and noxious odors.
82. Kearny Villa Road – potentially significant impacts to sensitive resources on MCAS Miramar such as vernal pools/fairy shrimp and community impacts (traffic, noise, odors) due to location along local arterial road should be analyzed.

83. Spring Canyon Firebreak – potentially significant impacts to sensitive resources on MCAS Miramar such as vernal pools / fairy shrimp.
84. The Valley Center alternative includes a significant portion of Cole Grade Road that is expected to be widened and improved with construction anticipated summer 2020 through 2022. If selected the Valley Center alternative must be thoroughly coordinated with the County's Cole Grade Road widening project. Additionally the proposed Valley Center alternative could impact recently widened and improved Valley Center Road including the Valley Center Recreational Heritage Trail.
85. The Second Pipeline along Line 3010 alternative includes a significant portion of Camino Del Rey that is expected to be improved with construction of a bridge or the road is likely to be elevated in vicinity of Golf Club Drive. If selected the Second Pipeline along Line 3010 alternative may be required to be relocated in order for the County to construct the Camino Del Rey project.
86. All project alternatives (specifically Blythe 1, Blythe 2, and Cactus City) should avoid Alpine Boulevard within the community of Alpine, due to recent PowerLink services having been placed in this corridor.

The County looks forward to receiving future documents and/or notices related to this project and providing additional assistance at your request. If you have any questions regarding these comments, please contact Timothy Vertino at 858-495-5468 or by e-mail at timothy.vertino@sdcountry.ca.gov.

Sincerely,



MARK WARDLAW, Director
Planning & Development Services

E-mail cc:

Victor Avina, Policy Advisor, Board of Supervisors, District 1
Adam Wilson, Policy Advisor, Board of Supervisors, District 2
Jason Paguio, Policy Advisor, Board of Supervisors, District 3
Adrian Granda, Policy Advisor, Board of Supervisors, District 4
Melanie Wilson, Policy Advisor, Board of Supervisors, District 5
Alex Bell, Group Program Manager LUEG
Vincent Kattoula, CAO Staff Officer, LUEG
Murali Pasumarthi, Traffic Engineering Manager, DPW
Richard Chin, Associate Transportation Planner, DPW
Jeff Kashak, Planner, DPW
Crystal Benham, Planner, PDS
Deborah Mosley, Acting Chief, DPR

From: Matt Vespa <matt.vespa@sierraclub.org>
Sent: Monday, June 12, 2017 1:03 PM
To: Rainbow Natural Gas Pipeline. CPUC
Cc: Alison Seel
Subject: A.15-09-013: Sierra Club Scoping Comments on Proposed Line 3602
Attachments: Sierra Club Proposed Line 3602 Scoping Comments Final 06 12 17.pdf

Mr. Peterson:

Attached please find comments from the Sierra Club on the Notice of Preparation for the Pipeline Safety and Reliability Project.

Thank you

Matt Vespa

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June 12, 2017

Via electronic mail

Robert Peterson
California Public Utilities Commission
c/o Ecology and Environment
505 Sansome Street, Suite 300
San Francisco, CA 94111
SDgaspipeline@ene.com

**Re: Sierra Club Scoping Comments on Pipeline Safety and Reliability Project
CPUC Application 15-09-013**

Mr. Peterson:

Sierra Club submits these comments in response to the Notice of Preparation (“NOP”) for the Environmental Impact Report (“EIR”) for the Pipeline Safety and Reliability Project (“Project”) proposed by Southern California Gas Company and San Diego Gas and Electric before the California Public Utilities Commission (“Commission”) in Application No. 15-09-013. At this early juncture in environmental review, Sierra Club identifies the following issues: 1) properly defined project objectives that enable consideration of a reasonable range of alternatives; and 2) the analysis of impacts resulting from the project’s facilitation of natural gas export.

I. The EIR Must Ensure Project Objectives Are Not Overly Narrow and that a Range of Alternatives, Including Alternatives That Avoid New Pipeline Construction, Are Fully Evaluated.

Project objectives are used by the lead agency to develop a reasonable range of alternatives. Narrow objectives can limit this range and thereby inhibit CEQA’s informational purpose. Thus, the California Supreme Court has made clear that “a lead agency may not give a project’s purpose an artificially narrow definition.” *In Re Bay-Delta Coordinated Environmental Impact Report Coordinated Proceedings*, 43 Cal. 4th 1143, 1166 (2008).

The NOP’s identification of project objectives includes the following:

- Improve system reliability and resiliency by *minimizing dependence on a single pipeline*

- Enhance operational flexibility to manage stress conditions *by increasing system capacity*.¹

As an initial matter, given that proposed Line 3602 is *not* needed to meet the 1-in-10 peak cold year demand reliability requirement the Commission has established to determine need for new gas transmission infrastructure, Sierra Club disputes whether the additional reliability objectives proffered by the Applicants are appropriate. However, to the extent the Commission believes these objectives should be considered, the italicized sections referenced above should be stricken because they improperly imply solutions to improving system reliability and operational flexibility that call for new pipeline construction. This is exactly the type of artificially narrow objective CEQA forbids.

An alternatives analysis is the “core of an EIR.” *Citizens of Goleta Valley*, 52 Cal.3d, 554, 564 (1990). The analysis must contain concrete information about each alternative sufficient to allow a fact-based comparison of the alternatives with the project and must be specific enough to allow informed decision-making and public participation. *See* 14 Cal. Code Regs § 15126.6(d); *Laurel Heights Improvement Ass’n v. Regents of Univ of Cal.*, 47 Cal.3d 376, 406 (1988). As set forth in the Opening Direct Testimony of Cathy Yap, submitted in A.15-09-013 on behalf of the Southern California Generation Coalition (“SCGC”), there are a range of alternatives to address asserted reliability needs that do not necessitate new pipeline construction. These alternatives, which need not be mutually exclusive, include contracting for deliveries through the Otay Mesa receipt point, utilization of storage at Costa Azul, the upgrade of the S-Line to increase electric imports into SDG&E service territory, installation of devices such as synchronous condensers to minimize reliance on gas-fired generation for voltage stability, and additional development of in-basin renewable energy.² To fulfill CEQA’s informational purpose, alternatives must not be limited to no action and varying routes for a new pipeline. Non-pipeline alternatives, which can improve resilience and the ability to manage stress conditions without the impacts associated with new pipeline construction, must be fully explored in the EIR.

II. The EIR Must Analyze the Greenhouse Gas and Related Environmental Impacts from Proposed Line 3602’s Facilitation of Natural Gas Export.

A. Increased Gas Export Would be Encouraged by the Proposed Project.

Significant impacts that must be analyzed under CEQA include those that “are caused by the project and are later in time or farther removed in distance, but are still reasonably foreseeable.” CEQA Guidelines § 15358(a)(2). Similarly, an EIR must discuss the “characteristic of some projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively.” CEQA Guidelines § 15126.2(d). Thus, CEQA mandates “that environmental considerations do not become

¹ NOP p. 2.

² A.15-09-013, SCGC, Phase I Direct Testimony of Catherine E. Yap (Apr. 17, 2017) pp. 18, 25-37, 61-67.

submerged by chopping a large project into many little ones—each with a minimal potential impact on the environment—which cumulatively may have disastrous consequences.” *Bozung v. Local Agency Formation Comm.*, 13 Cal. 3d 263, 283-284 (1975).

One issue identified by the Administrative Law Judge in this proceeding is the extent to which proposed Line 3602 will be a catalyst for proposed future infrastructure development in the region and increased gas use. In responding to this question, SCGC expert Cathy Yap stated:

If Line 3602 were approved and placed in service, it would enable future expansion of gas infrastructure both north of the U.S./Mexico international border and south of the border. First, it would enable the expansion of capacity on the SDG&E system to transport gas. The Applicants say that if the proposed Line 3602 were placed in service alongside the existing Line 3010, the combined transmission lines could “support the current SDG&E system capacity of 630 MMcf/d without any compression at Moreno.” With existing Moreno compression, placing Line 3602 in service would by itself increase the capacity of the SDG&E system by 200 MMcf/d to 830 MMcf/d in the winter operating season. Installing Line 3602 would create an opportunity to further increase the capacity of the SDG&E system by adding compressor engines at Moreno.

Second, if Line 3602 were approved and placed in service, it would enable future expansion of the SDG&E transmission system. The proposed Line 3602 would terminate at an interconnection with the 20 inch diameter Line 2010. The interconnection point is only several miles from the interconnection of Line 2010 with Line 3600, a 36-inch line, in Santee. Line 3602 connects, in turn, with Line 3012, a 30 inch, pipeline that extends to an interconnection with TGN at the international border at Otay Mesa. Thus, establishing a 36-inch pipeline route entirely from Rainbow Station to Otay Mesa would only require looping the relatively short stretches of the 20 inch Line 2010 and the 30 inch Line 3012.

Third, the existence of Line 3602 could assist infrastructure development in northern Baja California. If Line 3602 were placed in service and Moreno compression were increased, Lines 2010 and 3012 were looped, or both, additional capacity would become available across the SDG&E system north to south to transport gas to Baja California. Increased volumes of gas could be transported to serve Baja California core and noncore demand including additional EG load. Alternatively, the capacity could be used to transport gas to the Energia Costa Azul LNG terminal for liquefaction and export, assuming liquefaction facilities were installed at Energia Costa Azul. Exports of gas across SDG&E to Baja California for either local use or for export through Energia Costa Azul would create an opportunity for increased gas burn.

There are factors besides Line 3602 development that would determine whether infrastructure is added in northern Baja California. However, completion of Line 3602 at ratepayer expense would certainly dramatically decrease the incremental

cost for Sempra Energy to participate in the further development of infrastructure in Baja California by offering an expanded delivery route through California that could be made available through limited incremental investments.³

The expansion of gas infrastructure to facilitate gas export to Mexico is a foreseeable consequence of proposed Line 3602 and must be analyzed in the EIR. The interconnection point between Line 3602 is only a few miles away from an interconnection that would unite four pipelines: 3602, 2010, 3600 and 3012, which extends to an interconnection at the international border of Otay Mesa. The small gap between these pipelines would foreseeably be put to use as a connection between Line 3602 and Line 2010. In *Laurel Heights*, the Court overturned an incomplete EIR because it failed to discuss the future uses of the remainder of a building that could foreseeably be occupied. *Laurel Heights*, 47 Cal. 3d at 396. Similarly, the EIR here must include an analysis of the environmental implications of Line 3602 whose facilitation of gas exports through Sempra's Costa Azul LNG terminal is a reasonably foreseeable indirect effect.

The environmental impacts of enabling additional gas export to Mexico are far from trivial. Proposed Line 3602, coupled with more minor expansions to the transmission system, dramatically exacerbate the environmental effects of the proposal by facilitating increased volumes of gas transportation to Baja California or the Energia Costa Azul LNG terminal for liquefaction and export. The Energia Costa Azul liquefied natural gas ("LNG") import terminal in Ensenada, Mexico has the capacity to re-gasify up to one billion cubic feet per day of natural gas and currently sits idle due to the lack of demand resulting from dramatic increases in U.S. natural gas production from advances in drilling technologies.⁴ As part of a slide presentation for a March 27, 2014 Analyst Conference, Sempra Energy observed that converting Costa Azul to export would provide a "first mover advantage on West Coast of North America" and a "location/shipping cost advantage for Asia" but require "additional pipeline capacity."⁵

³ A.15-09-013, Phase One Direct Testimony of Cathy Yap on Behalf of SCGC (Apr. 17, 2017), Attach. B p. 4 [citations omitted].

⁴ <https://www.btgpactual.com/Research/OpenPdf.aspx?file=27176.pdf> at 16.

⁵ Sempra Energy, 2014 Analyst Conference, March 24, 2014, Slide 13.

Energía Costa Azul Liquefaction

Benefits

- Brownfield project with first mover advantage on West Coast of North America
- Locational / shipping cost advantage for Asia
- Strong local presence with experience building large infrastructure projects

Considerations

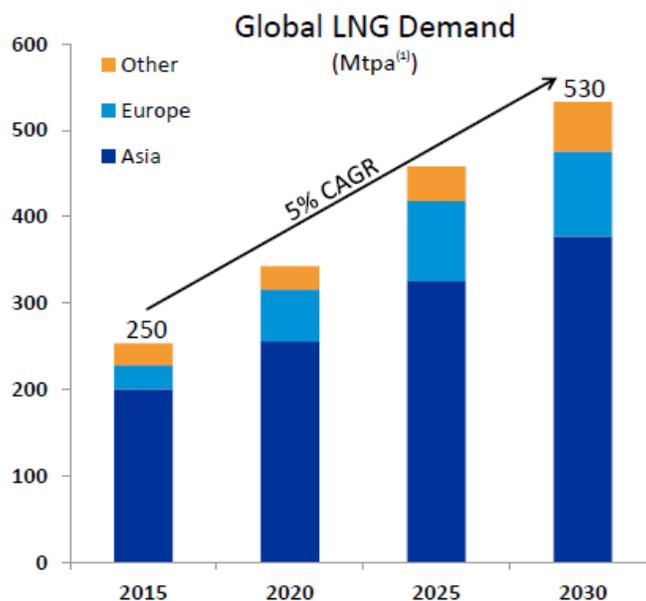
- Fully contracted until 2028
- Land position may limit size of project
- Additional pipeline capacity required



In another slide titled “Long-Term LNG Strategy,” Sempra stated that its goal was to “connect North American natural gas supply to markets without access to domestic resources” and projected significant growth in LNG demand in Asia.

Long-Term LNG Strategy

- Significant growth in global LNG demand will create opportunities that:
 - Support long-term growth targets
 - Fit strategy and risk profile
- Connect North American natural gas supply to markets without access to domestic resources
 - Provides opportunities across Sempra portfolio



In February 2015, Sempra signed a Memorandum of Understanding with Pemex and IEnova covering the cooperation and coordination of the parties in developing LNG export capabilities at the Energia Costa Azul terminal and would provide access to inexpensive U.S. natural gas to Asian markets.⁶ In light of Sempra's stated intent to utilize Costa Azul as an LNG export facility, Line 3602's contribution to achieving this objective is far from speculative and must be analyzed in the EIR.

B. The Environmental Impacts of Gas Export Are Significant and Can Be Feasibly Assessed.

Enabling west coast LNG exports will induce additional natural gas production in the United States, primarily through hydraulic fracturing (fracking) of unconventional gas sources, thus causing the myriad environmental harms associated with such production. The facilitation of gas exports will also increase domestic gas prices, likely causing an increase in coal-fired electricity generation and thus increasing emissions of greenhouse gases, and conventional and toxic air pollutants. Finally, it is likely that LNG exports will also compete against wind, solar, and other clean renewable energy sources abroad that would have lower environmental impacts.

LNG exports like those enabled by the Project would lead to increased gas production in the U.S. LNG exports represent a new source of gas demand, composed of both the volume of gas exported as well as the gas necessary for the operation of export facilities. Multiple studies have repeatedly affirmed that exports will increase gas production, providing quantitative estimates of this impact. In January 2012, the U.S. Energy Information Administration ("EIA") issued a report commissioned by the U.S. Department of Energy titled "Effect of Increased Natural Gas Exports on Domestic Energy Markets"⁷ ("Export Study") to assess the likely impacts of expanded exports.⁸ It concluded, *inter alia*, that: (1) "Increased natural gas exports lead to increased natural gas prices" within the United States; (2) That "[n]atural gas markets in the United States balance in response ... through increased natural gas production"; and (3) "Due to higher prices [of natural gas], the [U.S.] electric power sector primarily shifts to coal-fired generation."⁹ The modeling EIA performed to produce the Export Study provided region-specific forecasts of where additional production would occur.¹⁰ In October 2014, EIA updated the Export Study, affirming its basic conclusions.¹¹ This update concluded that if other federal

⁶ <http://www.prnewswire.com/news-releases/pemex-sempra-lng-and-ienova-sign-memorandum-of-understanding-for-developing-natural-gas-liquefaction-facilities-in-mexico-300038645.html>.

⁷ http://energy.gov/sites/prod/files/2013/04/f0/fe_eia_lng.pdf.

⁸ *Id.* at Appendix A.

⁹ *Id.* at 6.

¹⁰ The tabulated data is available at Energy Information Administration, Lower 48 Natural Gas Production and Wellhead Prices by Supply Region,

<http://www.eia.gov/oiaf/aeo/tablebrowser/#release=FE2011&subject=16-FE2011&table=72-FE2011®ion=0-0&cases=rhexslw-d090911a,rflexrpd-d090911a,rflexslw-d090911a,rhexrpd-d090911a,ref2011fe-d020911a>

¹¹ EIA, "Effect of Increased Levels of Liquefied Natural Gas Exports on U.S. Energy Markets" (Oct. 29, 2014) ("Updated Export Study"), at 12, *available online at* <http://www.eia.gov/analysis/requests/fe/pdf/lng.pdf>.

actions limited growth of coal-fired electricity generation (actions which EPA has since undertaken), the connection between exports and production increases would be even stronger, as fewer electric producers would be able to respond to higher gas prices by switching to coal.¹² Most recently, EIA's 2015 Annual Energy Outlook again affirmed that increasing volumes of exports will cause increases in natural gas production (and, to a lesser extent, increases in coal use).¹³

The Export Study anticipates that production will increase by roughly 63% of the amount of demand created by exports.¹⁴ The Updated Export Study found that LNG exports will cause an increase in domestic gas production equivalent to "about 61% to 84% of the increase in natural gas demand from LNG exports," with "[i]ncreased natural gas production from shale gas resources provides about 72%" of the total supply increase.¹⁵

At least five other forecasts, from three different consultants each using their own distinct models, have agreed with the EIA's conclusion that domestic natural gas markets will respond to exports primarily by increasing natural gas production and, secondarily, by shifting some existing demand from gas to coal. Deloitte Marketpoint, *Made in America: The Economic Impact of LNG Exports from the United States* (2011), at 10; ICF International, *U.S. LNG Exports: State-Level Impacts on Energy Markets and the Economy* (Nov. 2013) at 13, Charles Ebinger et. al., "Liquid Markets: Assessing the case for U.S. Exports of Liquefied Natural Gas," Brookings Institution (May 2012), at 32, (summarizing an earlier study by ICF International and two studies by Navigant).

Additionally, sophisticated tools, such as EIA's National Energy Modeling System and Deloitte Marketpoint's world gas model, can predict where this additional production is most likely to occur. Indeed, EIA has already provided region-specific predictions of increases in gas production both in connection with the 2012 EIA Export Study and the 2014 Updated Export Study.¹⁶ Another report, by ICF, has already published forecasts of state-specific increases in gas production in response to exports.¹⁷ The ICF State Level Impact study uses a detailed model of new production in response to exports. This same tool could likely be used to predict where production would increase in response to Sempra's Project. Alternatively, the general export scenario already conducted by this study provides a basis for evaluating the cumulative impacts of proposed export projects.

¹² *Id.* Table B2 (but note that EIA predicts that even in this scenario, exports will cause an increase in coal use).

¹³ EIA, "Annual Energy Outlook 2015" (Apr. 2015) at 6, 21-22, 24, *available online at* [http://www.eia.gov/forecasts/aeo/pdf/0383\(2015\).pdf](http://www.eia.gov/forecasts/aeo/pdf/0383(2015).pdf).

¹⁴ Export Study at 6, 10.

¹⁵ Updated Export Study at 12, 16.

¹⁶ *See* <http://www.eia.gov/oiaf/aeo/tablebrowser/#release=FE2014&subject=0-FE2014&table=72-FE2014®ion=0-0&cases=refaeo-d062614a,ref12-d080214a,ref16-d080214a,ref20-d080214a,ref20pd100614a>

¹⁷ *See* U.S. LNG Exports: State-Level Impacts on Energy Markets and the Economy (November 13, 2013), *available at* <http://www.api.org/~media/Files/Policy/LNG-Exports/API-State-Level-LNG-Export-Reportby-ICF.pdf>.

1. Environmental Harm Resulting from Induced Gas Production

The additional gas production induced by exports facilitated by the Project would have significant foreseeable environmental impacts that must be considered in the EIR. These environmental effects include emissions of greenhouse gases, contribution to regional ozone formation, water consumption, groundwater contamination, habitat fragmentation, induced seismicity and others. Analysis of the environmental impacts of induced gas production does not require knowledge of the precise sites where additional production will occur. For example, one can evaluate environmental costs, and the economic costs which accompany them, in aggregate. The Commission can quantify the net increases in air pollution associated with the number of wells that the project will induce based on EPA's emissions inventories. The Commission can also derive the net volumes of waste from industry reports and state discharge figures. At a minimum, the Commission and Forest Service can localize these impacts by region. Even for those impacts that are more closely tied to a specific location, such as habitat fragmentation, the Commission can and must acknowledge that the impact will occur, including an estimate of the severity of the impact averaged across potential locations. *See e.g., Scientists' Inst. for Pub. Info. v. Atomic Energy Comm'n*, 481 F.2d 1079, 1096-97 (D.C. Cir. 1973) (where there are reasonable estimates of the deployment of nuclear power plants, the amount of waste produced, and the land needed to store waste, NEPA required analysis of the impacts of such storage even though the agency could not predict where such storage would occur).

The Commission must, for example, quantify the volume of greenhouse gases that will be emitted by the additional natural gas production induced by the Project. The National Energy Technology Laboratory's ("NETL") report titled "Life Cycle Greenhouse Gas Perspective on Exporting Liquefied Natural Gas from the United States," DOE/NETL-2014/1649 (May 29, 2014), illustrates one way in which this analysis can be accomplished.¹⁸ Sierra Club notes that this report understates the emissions associated with natural gas production, and thus that the inputs to this method of analysis should be changed.¹⁹ For instance, the NETL report drastically underestimated the quantity of methane that is emitted with natural gas production and transmission, as well as the impact of each ton of methane emitted. Additionally, generating electricity consumed by the Costa Azul LNG export terminal would also be a major source of indirect greenhouse gas emissions. Generation of this electricity would emit significant amounts of air pollution, including but not limited to greenhouse gases.

There are significant air pollution emissions caused by natural gas production. Numerous peer reviewed studies that have measured natural gas production methane leak rates in the atmosphere indicate a leak rate of approximately 3%.²⁰ A recent paper by researchers at Carnegie Mellon and the National Ocean and Atmospheric Administration concludes that the

¹⁸ <http://energy.gov/sites/prod/files/2014/05/f16/Life%20Cycle%20GHG%20Perspective%20Report.pdf>

¹⁹ Sierra Club et al., Comment on Climate Impacts of LNG Exports (July 21, 2014), available at <https://fossil.energy.gov/app/docketindex/GetAttachment?ID=180>.

²⁰ *Id.* at 7.

most likely methane leak rate is between 2 and 4 percent.²¹ Emissions of methane are generally correlated with emissions of volatile organic compounds (VOCs) and other pollutants, as we explain below.

The Commission must also address the effect of additional gas production on ground-level ozone, or smog. Ozone impacts are particularly pertinent here, because the project will potentially draw natural gas from, and induce increases in natural gas production in regions where oil and gas production is already causing severe increases in ozone levels. The regional-level forecasts of induced gas production that can be provided by available tools provide a basis for assessing impacts on ozone levels, because ozone is generally assessed at the regional level. *See Sierra Club v. E.P.A.*, 774 F.3d 383, 385, 397-99 (7th Cir. 2014) (upholding EPA analysis that assesses ozone precursor reductions across a 22-state region as sufficient to demonstrate impacts on three discrete urban areas). Oil and gas production is a significant source of VOCs and nitrogen oxides (NOx), which lead to ozone formation. Numerous areas of the country with heavy concentrations of drilling are now suffering from serious ozone problems.²² On October 1, 2015, US EPA finalized a rule lowering the ozone standard from 75 to 70 parts per billion.²³

As discussed above, EIA indicates that 84% of the gas demand created by LNG exports could come from new production. Total demand will equal the volume of exports plus gas consumed in the liquefaction process (which EIA predicts to add 10% to total demand). A significant fraction of this gas produced will leak during the gas lifecycle, from a conservative estimate of 1.4%²⁴ to 3.0%²⁵ to even higher.²⁶ For any given leak rate and volume of production, EPA conversion factors allow us to estimate the emissions of individual pollutants included in

²¹ Stefan Scheietzke et al., “Natural gas fugitive emissions rates constrained by global atmospheric methane and ethane” *Environmental Science & Technology*, (June 19, 2014), DOI: 10.1021/es501204c, available at <http://pubs.acs.org/doi/abs/10.1021/es501204c> (see pages 22 to 23 of “Just Accepted” manuscript).

²² *See* Sierra Club’s Comment on US DOE’s Addendum to Environmental Review Documents Concerning Exports (July 21, 2014), at 16 – 19, available at <https://fossil.energy.gov/app/docketindex/GetAttachment?ID=133>.

²³ U.S. EPA, National Ambient Air Quality Standards for Ozone, available at <http://www3.epa.gov/airquality/ozonepollution/pdfs/20151001overviewfs.pdf>.

²⁴ Figure used in the NETL GHG lifecycle study.

²⁵ Miller et al. PNAS study, Sierra Club, et al., Comments on DOE Export Life Cycle Analysis, at 9, available at <https://fossil.energy.gov/app/docketindex/GetAttachment?ID=180>.

²⁶ Schneising, O, et al. (2014) Remote sensing of fugitive methane emissions from oil and gas production in North American tight geologic formations. *Earth’s Future*. [dx.doi.org/10.1002/2014EF000265](https://doi.org/10.1002/2014EF000265). Lavoie et al. (2015). Aircraft-based measurements of point source methane emissions in the Barnett Shale Basin. *ES&T*. [dx.doi.org/10.1021/acs.est.5b00410](https://doi.org/10.1021/acs.est.5b00410). Lyon et al. (2015). Constructing a spatially resolved methane emission inventory for the Barnett Shale region. *ES&T*. [dx.doi.org/10.1021/es506359c](https://doi.org/10.1021/es506359c). Marchese et al. (2015). Methane emissions from United States natural gas gathering and processing. *ES&T*. [dx.doi.org/10.1021/acs.est.5b02275](https://doi.org/10.1021/acs.est.5b02275). McKain et al. (2015). Methane emissions from natural gas infrastructure and use in the urban region of Boston, Massachusetts. *PNAS*. [dx.doi.org/10.1073/pnas.1416261112](https://doi.org/10.1073/pnas.1416261112). Zimmerle et al. (2015). Methane emissions from the natural gas transmission and storage system in the United States. *ES&T*. [dx.doi.org/10.1021/acs.est.5b01669](https://doi.org/10.1021/acs.est.5b01669).

the ‘leaks.’²⁷ Little information on the expected capacity of Sempra’s proposed Costa Azul export facility is available, but it is highly likely that the natural gas production induced to supply it would be responsible for thousands of tons of increased air pollution. For perspective, these emissions are far above the thresholds for “major” source permitting under the Clean Air Act, which are generally just tens of tons of pollution; for greenhouse gases, the threshold is generally 75,000 tons of carbon dioxide equivalent (note that the table above expresses methane as tons of methane, rather than tons of carbon dioxide equivalent). Sempra would thus greatly increase air pollution in the regions from which it draws its gas, imperiling public health and the global climate. NETL provides another method of estimating these impacts, illustrated by NETL’s bottom-up estimate of NOx emissions.²⁸ NETL estimates that the cradle to transmission NOx emissions for natural gas used in combined cycle power plants are roughly 0.6 kilograms of NOx per megawatt hour generated, with roughly 0.5 kilograms specifically from production rather than transport.²⁹ Using NETL’s assumption of a combined cycle power plant efficiency of 46% and EIA’s estimate of a natural gas heat content of 1025 British thermal units per cubic foot,³⁰ NETL indicates that production and transmission of natural gas emits 87 metric tons of NOx per bcf of gas. Thus, using the tools described above to determine the location and amount of additional production, the EIR could estimate the amount of VOC and NOx emissions that would be emitted by this production in these regions. This emissions estimate would provide a basis for meaningful discussion regarding impacts on regional ozone levels.

The EIR must also address impacts to habitats and landscapes from additional gas production. For example, available tools can estimate the amount of gas that is ultimately produced by different types of wells³¹ and the proportion of induced gas production that will result from different types of production³²—and thus, the rough number of individual wells that will be drilled a result of the Project. Available tools further estimate the surface area disturbed

²⁷ EPA, Oil and Natural Gas Sector: Standards of Performance for Crude Oil and Natural Gas Production, Transmission, and Distribution, Background Technical Support Document for the Proposed Rules, at 2-4 (July 2011) (“2011 TSD”), at Table 4.2, *available at* <http://nepis.epa.gov/Exe/ZyPDF.cgi/P100CHTC.PDF?Dockey=P100CHTC.PDF>. EPA calculated average composition factors for gas from well completions. EPA’s conversions are: 0.0208 tons of methane per mcf of gas; 0.1459 lb VOC per lb methane; and 0.0106 lb HAP per lb methane. These estimates, which are based on a range of national data, provide a beginning point for quantitative work, although greater precision could be provided using forecasts of the distribution of production likely to be induced by the Project and emission rates particular to those plays.

²⁸ NETL, Life Cycle Analysis of Natural Gas Extraction and Power Generation, DOE/NETL-2014/1646, at 52- 54 (May 29, 2014), *available at* <http://www.netl.doe.gov/File%20Library/Research/Energy%20Analysis/Life%20Cycle%20Analysis/NETL-NG-Power-LCA-29May2014.pdf>.

²⁹ *Id.* at Figure 4-19, “Life Cycle NOx Emissions for Natural Gas Power Using Domestic Natural Gas Mix.”

³⁰ <http://www.eia.gov/tools/faqs/faq.cfm?id=45&t=8>

³¹ See, e.g., NETL Environmental Impacts of Unconventional Natural Gas Development and Production, DOE/NETL-2014/1651 at Exhibit 2-9 (May 29, 2014), *available at* http://www.netl.doe.gov/File%20Library/Research/Oil-Gas/publications/NG_Literature_Review3_Post.pdf

³² See, e.g., Export Study.

by each well pad, the associated infrastructure and the spacing of well pads.³³ This type of information enables the Commission and Forest Service to discuss the extent and intensity of habitat fragmentation and landscape disruption that will be caused by the production induced by the Project.

In summary, all available evidence indicates that the Project will cause a significant increase in North American natural gas production. This increased production will have significant environmental impacts, including impacts on climate, ozone, and habitat. The Commission and Forest Service have an affirmative obligation to investigate and disclose these impacts in the EIR/EIS.

2. Indirect Effects of Liquefied Natural Gas Use in Importing Markets

The Commission and Forest Service must also consider the environmental effects of transporting liquefied natural gas overseas and combusting it in end-use markets. Given Sempra's proposed LNG export terminal is located on the North American West Coast, exports are likely to be directed to Asia, an assumption supported by basic geography. The National Energy Technology Laboratory has concluded that the emissions associated with exports to Asia can be usefully illustrated by considering exports to Shanghai, China, and subsequent combustion in a combined cycle natural gas power plant.³⁴

In discussing these effects, the Commission cannot assume that exported natural gas will be used to displace coal or other fossil fuels. All available reports and studies indicate that increasing natural gas supply globally, and in Asia in particular, will increase overall energy consumption (*i.e.*, some of the exported gas won't "displace" anything), and that when displacement occurs, some renewables are displaced as well as coal.³⁵ The tools used in these studies can also be used to show how end-use markets will likely respond to U.S. LNG exports.

Finally, the Commission cannot assume that, where the project does cause some end-users to use exported liquefied natural gas instead of coal, this substitution reduces greenhouse gas emissions. As we explain above, NETL underestimates the overall lifecycle emissions of liquefied natural gas exports. Correcting these issues undermines NETL's conclusions that substituting U.S. LNG exports for coal is likely to reduce global greenhouse gas emissions. The need to correct the NETL analysis on this issue, however, is not a basis for the Commission and Forest Service to ignore the NETL report entirely.

³³ NETL, Environmental Impacts of Unconventional Natural Gas Development and Production, DOE/NETL-2014/1651, at 115-120.

³⁴ NETL, Life Cycle Greenhouse Gas Perspective on Exporting Liquefied Natural Gas from the United States, fn18, at 1. Although this NETL report considered exports originating in New Orleans, LA, NETL's methodology could be used to estimate the impacts of exports from the Costa Azul Terminal under consideration here.

³⁵ International Energy Agency, Golden Rules for a Golden Age of Gas, Ch. 2 p.91 (2012)); see also Haewon McJeon et al., Limited impact on decadal-scale climate change from increased use of natural gas, 514 Nature 482-485 (Oct. 23, 2014), <http://www.nature.com/nature/journal/vaop/ncurrent/full/nature13837.html>, doi:10.1038/nature13837

Sierra Club appreciates the PUC's attention to these comments and looks forward to assisting in a robust environmental analysis that captures the full extent of potential impacts resulting from the proposed project.

Respectfully submitted,

/s/

Matthew Vespa
Senior Attorney
Sierra Club
2101 Webster Street, Suite 1300
Oakland, CA 94612
Telephone: (415) 977-5753
Email: matt.vespa@sierraclub.org

From: [REDACTED]
Sent: Saturday, June 10, 2017 9:51 AM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: No on option R and S

Mira Mesa just keeps getting stepped on because we don't speak up. Scripps Ranch gets what they want because they know people and have money. Poor Mira Mesa is populated mostly by Asian people who are quiet, this doesn't mean you can continue to do whatever you want to this community. I say "No rehabilitation" as you have so cleverly labeled it. No on R and S.

Sent from my iPhone

From: Sophie Wolfram <sophie@climateactioncampaign.org>
Sent: Monday, June 12, 2017 12:27 PM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: Pipeline Safety and Reliability Project NOP Comments
Attachments: PSRP NOP CAC Comments.pdf

Hello,

Please find attached Climate Action Campaign's scoping comments in response to the NOP for the Pipeline Safety and Reliability Project.

Thank you,
Sophie Wolfram

Sophie Wolfram
Policy Advocate and Education Coordinator
[Climate Action Campaign](#)
(914) 715-2451

Follow us on Twitter: @sdclimateaction
Our Mission is Simple: Stop Climate Change



June 12, 2017

Mr. Robert Peterson
California Public Utilities Commission
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111
SDgaspipeline@ene.com

Re: “Pipeline Safety and Reliability” Project - New Natural Gas Line 3602 (Application No. A. 15-09-013)

Dear Mr. Peterson,

Climate Action Campaign is a non-profit organization fighting climate change and improving quality of life through policy action at the local level. The organization aims to make climate action the number one goal of local policy makers, and provide them the tools and expertise to enact meaningful and enforceable climate-focused policies. We oppose the unnecessary pipeline expansion proposed by San Diego Gas & Electric (SDG&E) because of the inevitable and significant environmental impacts the project would have.

Natural gas consumption has been flat in San Diego since 1990 and is projected to decline statewide until 2024. A growing number of cities in the region, including San Diego and Del Mar, have committed to 100% clean and renewable electricity by 2035 in legally binding Climate Action Plans, and local leadership on climate change offers the region the opportunity to significantly reduce reliance on natural gas in all sectors.

SDG&E’s proposed project, while masquerading in the guise of ‘safety and reliability,’ is in reality very likely motivated by the profit to be gained by developing new infrastructure, including future connections for liquefied natural gas (LNG) export to Asia.

Given the decline in demand for natural gas, it is reasonable to maintain the existing line until natural gas as a fuel source becomes obsolete. It is *not* reasonable to develop additional natural gas infrastructure, at a cost to ratepayers of over \$600 million, especially considering the significant environmental impacts.

SDG&E should withdraw their application immediately. If they do not withdraw their application and instead proceed with CEQA review, *the following issues should be considered in the Environmental Impact Report for the project:*

- The impact on California’s ability to cut Greenhouse Gas (GHG) emissions to 40% below 1990 levels by 2030, as required by SB 32 and achieve the Renewable Portfolio Standard enacted by SB 350.
- The impact on the abilities of local jurisdictions, including City of San Diego, San Marcos, Del Mar, Carlsbad, National City, Vista and Escondido, to meet their existing Climate Action Plan (CAP) emissions reductions targets. In addition, the impacts on



the ability of jurisdictions including Encinitas, Solana Beach, Oceanside, Lemon Grove, La Mesa, and the County of San Diego, to meet the emissions reductions targets in their CAPs, which are in development, should be addressed.

- The reason that the proposed pipeline (at 36” in diameter) is more than double the capacity of the existing 16” pipeline, when demand for natural gas in California and San Diego County is declining.
- The distance between the southern termination point for the new pipeline to pipelines that are repurposed to export LNG to Mexico for export to Asia.
- The financial cost of the new pipeline and the impact to individual ratepayers.
- The approximate minimum amount of natural gas that has been released into the atmosphere by accidents since 1970 and the climate impacts of those emissions.
- The financial and environmental cost of producing and shipping fracked natural gas since 1990.
- The locations of intersections of fault lines with the proposed pipeline routes and the size of the potential impact zone for the explosion of a pipeline if severed by an earthquake.

Alternatives

- ***The preferred alternative should be “Pressure Test and Replace Line 1600 in Sections As Needed.”***
- Climate Action Campaign opposes the “Rainbow to Santee Alternative” through Sycamore Canyon. That route would impact the habitat of multiple endangered species of butterflies, birds, and vernal pool species including the San Diego fairy shrimp. This alternative would also decimate old growth riparian forest. Pipeline maintenance requirements would prohibit the area from ever fully recovering.
- In addition, CAC recommends examining an alternative that phases out the use of natural gas altogether. Sempra Energy has already stated that a 100% renewable energy grid is technically possible today.¹

Mitigation

Unavoidable habitat impacts for any alternative selected should be mitigated by acquiring Fanita Ranch and any other available parcels in its vicinity and dedicating that habitat to permanent open space park expansion that links Mission Trails Regional Park to Sycamore Canyon Open Space Preserve.

Conclusion

CAC opposes the project because it would have significant adverse environmental impacts in most categories, including biological resources and GHG emissions. Further, the pipeline expansion is simply not needed, as natural gas consumption is declining in the region as cities transition to a renewable energy economy. Finally, the likely conversion of

¹ Lobet, Ingrid. “Sempra VP surprises, says 100 percent renewable grid is possible now,”inewsourc.org. May 26, 2017.



ratepayer-financed infrastructure to export LNG would be contrary to the public interest and to California's climate targets. SDG&E should immediately withdraw their application; barring that, the preferred alternative noted above should be pursued.

Thank you for considering our comments.

Sincerely,

A handwritten signature in black ink that reads "Sophie Wolfram".

Sophie Wolfram
Policy Advocate, Climate Action Campaign

From: whwulfeck@gmail.com on behalf of Wally Wulfeck <whw@san.rr.com>
Sent: Tuesday, June 6, 2017 4:50 PM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: Comments on Pipeline Safety and Reliability Project A1509013
Attachments: Gas-Scoping-Comments.doc

The attached comments are submitted in response to
the NOP and Scoping for the:
San Diego Gas & Electric Company and Southern California Gas Company
Pipeline Safety and Reliability Project – New Natural Gas Line 3602 and De-rating Line 1600 (PSRP)
(Application No. A.15-09-013)

Wallace H. Wulfeck
Chair, Scripps Ranch Planning Group

12517 Fairbrook Rd
San Diego, CA 92131-2234

Comments in Response to CPUC Public Scoping Meeting

**San Diego Gas & Electric Company
Southern California Gas Company**

Pipeline Safety and Reliability Project (A1509013)

Prepared by: Wallace H. Wulfeck, Chair, Scripps Ranch Planning Group
Sandra K. Wetzels-Smith, Vice-Chair, Scripps Ranch Planning Group

Submitted: June 05, 2017

Introduction: The Scripps Ranch Planning Group (SRPG) is one of 42 Community Planning Groups chartered by the City of San Diego. The SRPG provides consultation and recommendations to the City, County, State, and other agencies regarding planning, land use, transportation and traffic, public safety and other issues for the city planning areas of Scripps Miramar Ranch and Rancho Encantada.

We respectfully submit the following comments regarding scoping and other issues that will affect preparation of the Draft Environmental Impact Report (DEIR).

These comments are specifically concerned with the section of the proposed Gas Transmission Pipeline along Pomerado Road within the 92131 zip code. This is the southern-most portion of the proposed pipeline. We will refer to this section of the proposed pipeline as within "Scripps Ranch".

At this time, the SRPG has taken no position on the Gas Transmission Line itself or on any alternative routes.

Issue 1: Public Notice and Coordination with the Community

In the past on other CPUC proposals, there has been no real public involvement in the identification or evaluation of alternatives. We thank the CPUC for soliciting public comment on this proposal. However, we caution that we will strongly oppose any substitution of alternatives without public hearings in advance of release of the DEIR. If all alternatives are not public before release of the DEIR, then the 45-day comment period provided for review of the DEIR is grossly insufficient to allow careful analysis and consideration of new alternatives. In that case we would ask that the scoping process be re-opened to allow sufficient public awareness and input regarding alternatives which were not included in the original scoping process.

We respectfully request that all alternatives under consideration be released to the public and discussed at public meetings so that input can be provided to inform preparation of the DEIR.

Issue 2: Potential Impacts on Biological Resources:

Carroll Creek is a federally designated wetland, which runs close to and immediately downhill from the south side of Pomerado Road in Scripps Ranch. Construction would undoubtedly result in disturbance of this area and contamination with dust and construction debris. The installation of the underground gas line will also change hydrology of the creek over time, and therefore affect its biology.

Coordination with and feedback from all of the Federal agencies with jurisdiction over this area, such as the Army Corps of Engineers, the U.S. Fish and Wildlife Service and/or the Environmental Protection Agency is essential regarding specific conditions along Pomerado Road. This coordination must be described in the DEIR.

Issue 3: Analyses of Aesthetics:

In previous projects (specifically the Sycamore-Penasquitos Electrical Transmission line, CPUC proceeding A-14-04-011), the DEIR omitted any analysis concerning the installation of over 30 manhole covers along Pomerado Road and Stonebridge Parkway. The EIR then improperly concluded that “there is no lasting aesthetic impact from the underground transmission line.” Pomerado Road is a designated historic roadway – old US-395. Manholes and other pavement anomalies are unsightly and over time lead to discontinuities in the roadway which are both visually unappealing and a hazard to traffic. It is essential that the DEIR address both the visual and traffic-safety impacts of roadway anomalies.

Issue 4: Analyses of Geology, Soils, and Mineral Resources:

A geotechnical investigation must be performed. The route is located near surface water resources (Carroll Canyon Creek) where shallow groundwater would be expected; therefore, it is assumed that these areas could be subject to lateral spreading or liquefaction. Natural groundwater saturation due to the position of Pomerado Road near the bottom of Carroll Creek is inevitable. The effect on the longer-term maintenance and safety of the gas line must be analyzed in the DEIR.

Issue 5: Analyses of Hydrology and Water Resources:

Carroll Creek is a 100-year floodplain. One impact of the proposed gas line will be possible scour of the line, which must be analyzed in terms of its effect on life-cycle maintainability. In addition, however, the line’s placement would impact water flow in and around Carroll Creek, a federally designated wetland, especially during heavy storm water periods (which incidentally occur much more frequently -- at least every 10

years). This means that analyses must be conducted concerning the pipeline's effects during installation and over the long term on the wetland.

Second, as discussed below, we believe there is insufficient roadway width safely to construct the line within the existing Pomerado Road alignment because other utilities, including a 230 kV electrical transmission line (CPUC proceeding A-14-04-011) are already installed. If the proposed gas line is located south of the roadway, then installation will not be impervious in the existing alignment, but instead the pipeline will directly affect the Carroll Creek area, a federally designated wetland, and a FEMA flood zone. This must be analyzed in the DEIR.

Issue 6: Analyses of Transportation and Traffic, including Emergencies:

Pomerado Road is a two-lane arterial travel route for residents of Scripps Ranch and Rancho Encantada, as well as residents of Poway, Ramona, and other areas to the east. It is a designated historical route (US-395) and is a designated emergency evacuation route. It is currently at LOS F in both directions at peak. The traffic volume is approximately 36,000 vehicles per day. Substantial congestion occurs during morning and evening rush hours and at school drop-off and pickup hours at Marshall Middle School. The DEIR must include analyses of the traffic impacts of the proposed construction, and of the long-term operation of the proposed pipeline. There must be detailed analysis of the effect of construction on Pomerado Rd at the I-15 interchange and the daily backups that occur, and analysis of the traffic impact on Marshall Middle School. Freeway on-ramp traffic is heavily affected in the morning by MMS, and off-ramp traffic and traffic along Pomerado Road is almost at a standstill during afternoon dismissal and into business rush hours.

Emergency use of Pomerado Road in Scripps Ranch is critical to safety of the community. Scripps Ranch was affected by the 2003 Cedar Fire, to date the largest wildfire in California history, and was also evacuated in 2007 during the second largest California wildfire. Pomerado Road is a critical part of the evacuation plan approved by the San Diego Fire Safe Council, the City of San Diego Fire / Rescue Department and Homeland Security Department, and the San Diego City Council. It is the only exit for many residents on the south side of Scripps Ranch, and a main escape route for residents of Rancho Encantada, Poway, Ramona, and eastern parts of San Diego County. The approved evacuation plan requires three lanes of travel on Pomerado during an emergency. Pomerado Road has only two marked lanes, and the pavement is barely wide enough for three traffic lanes, even including the bicycle lanes, in many areas. The DEIR must extensively analyze the possibility of evacuation. The DEIR must indicate that construction-caused disturbance of the traffic along this route, including the bicycle lanes, for a year or more will have an extremely negative impact on critical and life-saving evacuation. Interference with a major evacuation route is absolutely unacceptable. Therefore, the DEIR must identify mitigation strategies that preserve the ability to evacuate Scripps Ranch and points east if any evacuation occurs during construction or during subsequent operation.

The electrical transmission line (CPUC A-14-04-011) is routed mostly along the south portion of Pomerado Road. There are several issues: First, a main wastewater line also runs along much of Pomerado Road. Impacts on both these lines, including future maintenance and expansion, must be addressed. Second, in many places along the route, there is a significant downslope. Accordingly, some of the electrical splice vaults, because of their size, will apparently be located nearer to the center of the roadbed, leaving insufficient safe width for gas pipeline construction. In some areas, installation of the gas line will require shoring and major road reconstruction, which the DEIR must describe and analyze. Third, the analysis must consider the main San Diego County Water Authority aqueduct/pipeline which crosses Pomerado Road east of Scripps Ranch Blvd, as well as the pending construction of a new water pipeline at the western end of Pomerado Rd as part of the PURE Water project.

Operation of the Gas Pipeline will lead to continuing unacceptable disturbance of traffic on a designated emergency escape route. Pomerado Road will have new access holes for maintenance of the pipeline, in addition to the 12 large splice vaults, and 24 new 36" manholes constructed as part of the electrical transmission line (CPUC A-14-04-011). Even if installed perfectly, new manholes will distract drivers and lead to swerving or slowing. Missing or misplaced manhole covers will cause accidents and disrupt traffic. But typically and especially over time, the holes and trenches from construction will result in uneven pavement, more visual disturbance, and potholes, particularly in light of the City of San Diego's abysmal record on deferred street maintenance. This will result in additional disturbance to traffic, which, because the road is at LOS F already, is a significant and immitigable environmental impact.

Pomerado Road has a class 2 bicycle lane in each direction not separated from traffic. This is the first bicycle route that provides east-west connectivity north of SR-52, and it is a main segment from San Diego to the only north-south bicycle route to Poway, Escondido and other points north along the old US-395 corridor. There is no other continuous north-south bikeway near I-15. Construction of the gas line will close this route for at least a year during construction, because there is not sufficient roadway width for traffic lanes.

Operation of the proposed gas line will lead to continuing disturbance of traffic as described above, and this will lead to unacceptable bicycle safety issues along the Pomerado corridor. This could be mitigated by installation of a Class 1 bicycle lane adjacent to Pomerado Road along with the proposed transmission line. This should be a required mitigation.

Issue 7: Analysis of Fires and Fuels Management.

The environmental analysis must examine in detail the fire danger along Pomerado Rd, which at present is one of the most fire-prone areas in San Diego County. Large amounts of dry or dead, overgrown, unmaintained brush and trees are within 10 to 20

feet of Pomerado Road immediately adjacent to the proposed gas line route. The fire danger is already under study by the Fire Safe Council, the San Diego City Council, our County Supervisor, our State Assembly Member, and our Member of Congress.

The construction Fire Plan must analyze how to accommodate a major fire, or a mandatory evacuation, such as those that have been ordered twice in the last 13 years. Pomerado Road is a designated evacuation route, not only for Scripps Ranch, but for Rancho Encantada, Poway, Ramona and other northeast county residents.

Issue 8: Analysis of Health and Public Safety.

There should be a separate health and public safety analysis for the Pomerado Road evacuation route resulting from anything that would impact the free flow of traffic. This would be especially true at night when there may be construction crews and trucks in place (Construction might be done at night to avoid impact on the day and school traffic). Combine construction crews, changed traffic work-arounds, and darkness in an emergency to aggravate the evacuation issue. The heavy traffic (already observed during previous evacuations) would be made substantially worse by any construction during fire / smoke conditions which would result in high impact effects on breathing / pulmonary / heart conditions as well as asthma, allergies, and any stress related illness. Worse, any construction that would force a re-directed evacuation would add confusion and anxiety and increase possibilities of death or injury.

An analysis should be conducted concerning the proximity of homes along the north side of Pomerado Road. Since these homes are uphill from the proposed route, any leakage which results in fire or explosion will immediately and severely affect the safety of residents. The DEIR must identify the "blast radius" from any potential gas-line problem, and identify mitigations which prevent any health and safety effects.

An additional separate analysis should be conducted with respect to the proximity of the proposed gas line to Marshall Middle School, Chabad Educational Complex, and the Glen at Scripps Ranch senior living facility, all of which are sensitive receptors. Mitigations must be identified which absolutely preclude any impact, especially in the event of emergencies such as wildfires, aircraft mishaps due to the proximity of Miramar MCAS, or earthquake.

Issue 9: Analysis of Greenhouse Gases.

The analysis must include the additional vehicle emissions from waiting during construction due to lane restriction.

Issue 10: Analysis of Utilities and Public Service Systems.

Analysis in the DEIR of the main San Diego County Water Authority aqueduct which crosses under Pomerado Road just east of Scripps Ranch Blvd. is necessary. Avoidance of this pipeline will require much more extensive excavation.

Pomerado Road is a main travel route for emergency service vehicles in Scripps Ranch and Stonebridge estates, as well as for Poway, Ramona, and other areas to the east. The analysis must consider the traffic disturbance due to construction and include the fact that lane restrictions due to the narrow width of Pomerado Road and pavement anomalies would continue to impede emergency vehicles during life cycle operation.

Issue 11: Analysis of Cumulative Impacts.

The following Impacts in the Scripps Ranch area are associated with the proposed route along Pomerado Road.

- Continuing alteration of biology in the Carroll Creek watershed due to alteration of stormwater flow.
- Continuing degradation of visual appearance due to many manhole covers installed in a historic highway, together with pavement anomalies as a result of repeated construction along Pomerado Road for the electrical and gas transmission lines..
- Continuing effects due to alteration of hydrology in the Carroll Creek area.
- Continuing significant and unavoidable impediments to traffic flow due to pavement anomalies from splice vaults and manholes.
- Continuing interference with a critical fire / emergency evacuation route.
- Continuing increased danger to cyclists due to traffic interference with current class 2 bicycle lanes.
- Continuing long term increase in Greenhouse Gases due to traffic restriction.

After multiple major excavations and patching of Pomerado Rd due to installation of a variety of transmission lines, we expect that complete resurfacing of the entire Pomerado Road surface will be required. There will be several trenches more or less in line with the road. Unlike trenches perpendicular to the directions of travel, these will lead to pavement anomalies that tend to cause vehicles to wander or veer when tires are “caught” by the trench edges that become exposed over time. This effect is worse for motorcycles and bicycles and can be extremely unsafe. The only acceptable mitigation is complete resurfacing after construction is complete, and separation of the bicycle lanes from traffic.

A very important cumulative impact is on future Utility and Service systems. This impact must be completely analyzed in the DEIR, and we expect it will be cumulatively considerable. The analysis must include any induced-current effects from existing utilities. Further, the new gas transmission line will preclude or greatly increase the difficulty of construction of new or upgraded sewer, storm water, potable water, recycled and reclaimed water, residential natural gas, residential-electricity, telephone, and data communications facilities along Pomerado Road in the future. Physically, the large

volume of the gas line (and the adjacent electrical transmission line installed under CPUC A-14-04-011) will have to be avoided in any future repair of existing facilities or construction of new facilities. Induced current and magnetic effects may preclude installation of any future systems involving metal piping or conductors. These impacts might be partially mitigated by coordinating with other utilities and installing new systems at the same time as, and as a condition of approval of, the proposed gas transmission line. For example, a reclaimed water line (“purple pipe”) extending from the present terminus on Pomerado Road at Avenue of Nations east on Pomerado Road to Stonebridge Parkway has been proposed for several years, and should be a required mitigation as a condition of approval of the proposed pipeline. If this is not done, future installation will likely be permanently precluded by short-sighted design and installation decisions. Extensive planning and coordination with the City and community will be necessary, to produce a complete and accurate environmental analysis.

Issue 12: Identification and Analysis of Alternatives

An extensive analysis of other project alternatives is critical. In other CPUC projects, many alternatives are taken from outdated prior analyses, and prematurely dismissed. However, if even a little consultation could occur with local community planning groups, other alternatives with much less negative impact might be identified.

OVERALL CONCLUSION:

Given the missed alternatives, omissions, and errors in the CPUC proceeding A-14-04-011 environmental review process, it is clear that insufficient public notice, analysis, and consultation with the community occurred. For this project, the DEIR will need to completely and competently analyze the proposed route as well as viable alternatives. This should be done in consultation with affected communities, not in secret by unaccountable non-local CPUC contractors. Further, public consideration of alternatives should be held during preparation of the DEIR. If this is not done, then the DEIR may be substantively deficient. To avoid this, the DEIR preparation process should publicly identify alternatives, and perhaps be re-scoped with the new alternatives including new public scoping meetings and consultation with Community Planning Groups, rewritten with complete analyses, and issued for substantial public comment before it is approved.

From: [REDACTED]
Sent: Tuesday, June 6, 2017 10:39 AM
To: Rainbow Natural Gas Pipeline. CPUC
Subject: gas line

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CALIFORNIA PUBLIC UTILITIES COMMISSION
PIPELINE SAFETY AND RELIABILITY PROJECT - NEW NATURAL GAS
LINE 3602 AND DE-RATING LINE 1600 (PSRP) EIR
PUBLIC SCOPING MEETING
ALLIANT INTERNATIONAL UNIVERSITY, SAN DIEGO CAMPUS
10455 POMERADO ROAD, SAN DIEGO, CALIFORNIA 92131
6:00 P.M. to 8:00 P.M.

REPORTED BY AMANDA NOEL MARCOS, CSR NO. 13965

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PUBLIC COMMENTS,

commencing at the hour of 6:00 p.m. on Thursday, May 25,
2017, at 10455 Pomerado Road, San Diego, California
92131, before Amanda Noel Marcos, Certified Shorthand
Reporter, No. 13965, in and for the State of California.

1 ██████████: My comment is, I'd like to
2 understand the economic necessity of this pipeline over
3 the next 20 to 30 years, considering that the State of
4 California's goal is to reduce greenhouse emissions by
5 2050 to about 20 percent of what we're producing
6 currently.

7 My second question is to understand if the same
8 funds that are going to be used to build this pipeline
9 were spent on renewable energy, energy storage and other
10 projects that reduce fossil fuel use, even if these
11 exceed the requirements of current state law, can a
12 report describe what the impact of those changes would
13 be on natural gas use? To put it another way, if the
14 same money is invested in renewable technology upgrades,
15 what kind of projected natural gas use would we have in
16 the year 2050? That's it.

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CALIFORNIA PUBLIC UTILITIES COMMISSION
PIPELINE SAFETY AND RELIABILITY PROJECT - NEW NATURAL GAS
LINE 3602 AND DE-RATING LINE 1600 (PSRP) EIR
PUBLIC SCOPING MEETING
PARK AVENUE COMMUNITY CENTER
210 E. PARK AVENUE, ESCONDIDO, CALIFORNIA 92025
2:00 P.M. to 4:00 P.M

REPORTED BY AMANDA NOEL MARCOS, CSR NO. 13965

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PUBLIC COMMENTS,

commencing at the hour of 2:00 p.m. on Wednesday, May
24, 2017, at 210 E. Park Avenue, Escondido, California
92025, before Amanda Noel Marcos, Certified Shorthand
Reporter, No. 13965, in and for the State of California.

1 ██████████: My main concern is the dogleg
2 that they're taking off of Centre City Parkway in
3 Escondido. They're going off -- instead of continuing
4 down on Centre City, they are doing -- they're turning
5 off on Felicita Road and then turning again on Encino
6 Drive, ██████████, and then going
7 down to Bear Valley Parkway. And they'll be on Bear
8 Valley for a while. And then I don't know where they go
9 from there.

10 So my concern with that dogleg is that there
11 are five schools that are on that route, there's a huge
12 church, the largest church North County has, thousands
13 of people attend on Saturday night, Sundays, Wednesdays.
14 There are businesses that will be impacted, not to
15 mention residences. Bear Valley is a very, very, very
16 busy street. People come from Valley Center -- away
17 from Valley Center, the north part of Escondido and
18 actually the east part also, come down Bear Valley to
19 get onto 15 South. So it's a very -- traffic wise, it's
20 a very impacted street. And Felicita is also heavy
21 traffic, not as much as Bear Valley. Bear Valley is a
22 really busy street. Where they're proposing joining
23 into Bear Valley, it's only two lanes.

24 Did I mention there are businesses, lots of
25 businesses on this route and lots of homes and stuff?

1 Also across from us there's a repairing habitat which is
2 under the auspices of the California Fish and Game. So
3 the pipeline won't be built there, but it will go very
4 close to that. And also we had -- there were surveyors
5 that came out and were surveying for SDG&E, and they
6 commented to my husband, "What the heck are they doing
7 coming down this little street?" The surveyors thought
8 it was not a good route.

9 If they went -- so if they went down Centre
10 City to Escondido Boulevard, then they would have to go
11 through an area -- next to a street called El Ku. And
12 that was SDG&E's objections, that they were going to --
13 it would really inconvenience the people who lived on El
14 Ku. I mean, I don't know how many homes are on El Ku,
15 eight, ten, I don't know, but not very many because it's
16 sort of a rural, sort of isolated area.

17 But it just doesn't make sense to me that
18 they're willing to inconvenience dozens of businesses
19 and dozens of homeowners, not to mention schools, the
20 traffic from the schools, the traffic on Bear Valley, so
21 these few people on El Ku would not be inconvenienced.
22 So I would be curious as to more of their rationale for
23 that is.

24 And so for me it's not only an issue during the
25 building, but also a safety issue after it's built, even

1 though SDG&E says, "Oh, it's going to be really, really
2 safe for you." Well, yeah. San Bruno was supposed to
3 be safe too. So between the schools and the businesses
4 and all the homes and everything, it just doesn't seem
5 like a good route to me.

6 I feel like this is intellectually dishonest,
7 this postcard, because nowhere on here does it say why I
8 got this postcard. I mean, it doesn't say this pipeline
9 is going to be going down your street, right? It
10 doesn't. So if my husband hadn't gone to an earlier
11 meeting with SDG&E, we would have looked at this and
12 thought, we don't really care about that, and tossed it.

13 So if you guys are wondering why maybe there
14 are not more citizens here, maybe it's because they
15 don't know they should be here because this doesn't say
16 anything. It doesn't even show on the map -- it doesn't
17 even show that this is where I live. Do you know what
18 I'm saying? I'm like, come on.

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CALIFORNIA PUBLIC UTILITIES COMMISSION
PIPELINE SAFETY AND RELIABILITY PROJECT - NEW NATURAL GAS
LINE 3602 AND DE-RATING LINE 1600 (PSRP) EIR
PUBLIC SCOPING MEETING
ALLIANT INTERNATIONAL UNIVERSITY, SAN DIEGO CAMPUS
10455 POMERADO ROAD, SAN DIEGO, CALIFORNIA 92131
2:00 P.M. to 4:00 P.M.

REPORTED BY AMANDA NOEL MARCOS, CSR NO. 13965

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PUBLIC COMMENTS,

commencing at the hour of 2:00 p.m. on Thursday, May 25,
2017, at 10455 Pomerado Road, San Diego, California
92131, before Amanda Noel Marcos, Certified Shorthand
Reporter, No. 13965, in and for the State of California.

1 ██████████: My comments are about the hazard
2 of the proposed alternative. The proposed alignment is
3 incompatible with the transmission line that SDG&E is
4 currently installing under Pomerado Road. The proposed
5 alignment comes within 275 feet of a public middle
6 school, which I have safety concerns about that. I feel
7 that the alternative alignment called the Spring Canyon
8 Firebreak is a better alternative as it does not impact
9 a residential street or come within any appreciable
10 distance of a public school.

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CALIFORNIA PUBLIC UTILITIES COMMISSION
PIPELINE SAFETY AND RELIABILITY PROJECT - NEW NATURAL GAS
LINE 3602 AND DE-RATING LINE 1600 (PSRP) EIR
PUBLIC SCOPING MEETING
PALA MESA RESORT
2001 OLD HIGHWAY 395, FALLBROOK, CALIFORNIA 92028
6:00 P.M. to 8:00 P.M

REPORTED BY AMANDA NOEL MARCOS, CSR NO. 13965

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PUBLIC COMMENTS,

commencing at the hour of 6:00 p.m. on Tuesday, May 23,
2017, at 2001 Old Highway 395, Fallbrook, California
92028, before Amanda Noel Marcos, Certified Shorthand
Reporter, No. 13965, in and for the State of California.

1 STEPHEN HOULAHAN: My name is Stephen Houlahan.
2 I'm a city councilman for the City of Santee. I'm on
3 the Mission Trails Regional Park Task Force. And I'm on
4 the Goodan Ranch Committee also.

5 And I oppose any project proposal that would go
6 through to Goodan Ranch, Mission Trails Regional Park or
7 the city of Santee. Mission Trails Regional Park should
8 be preserved for the future generations and the people
9 of Santee for recreation and outdoor activity. Mission
10 Trails and the Goodan Ranch are both pristine
11 environments and any type of pipeline or construction
12 activity would disrupt the wildlife and recreation of
13 the users of the park.

14 As far as the traffic impact for the city of
15 Santee, if the proposed pipeline alternative were to
16 travel through Santee, it would cause massive traffic
17 gridlock, particularly on Carlton Oaks Drive. It's very
18 close to two elementary schools and a high school. The
19 traffic situation on State Route 52 is already massively
20 impacted just by current commuter traffic, and so any
21 construction in that area would cause further hardship
22 to the citizens of Santee and the East County.

23 I will leave it at that. Thank you for your
24 time.

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CALIFORNIA PUBLIC UTILITIES COMMISSION
PIPELINE SAFETY AND RELIABILITY PROJECT - NEW NATURAL GAS
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PUBLIC SCOPING MEETING
ALLIANT INTERNATIONAL UNIVERSITY, SAN DIEGO CAMPUS
10455 POMERADO ROAD, SAN DIEGO, CALIFORNIA 92131
2:00 P.M. to 4:00 P.M.

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PUBLIC COMMENTS,

commencing at the hour of 2:00 p.m. on Thursday, May 25,
2017, at 10455 Pomerado Road, San Diego, California
92131, before Amanda Noel Marcos, Certified Shorthand
Reporter, No. 13965, in and for the State of California.

1 ██████████: I was on TV yesterday on
2 Channel 10 talking about this with my eyes closed, but
3 that's another story. I don't want to be a crispy
4 critter. I know that there are ways that they can fix
5 the existing pipelines cheaply from the inside that this
6 isn't necessary. And I truly believe that SDG&E wants
7 to do this to get the gas to Mexico for profit. And I
8 don't think that they inspect the pipelines the way they
9 say they inspect them. I was told that the most
10 dangerous time in the life of a pipeline was during the
11 first three years and that was because that's when
12 Humira shows up. I don't know what they do to test it
13 during the first three years, but I don't think they
14 tested Sam Bruno. So if they didn't test San Bruno,
15 what makes us think they'll test this one?

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CALIFORNIA PUBLIC UTILITIES COMMISSION
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PUBLIC COMMENTS,

commencing at the hour of 2:00 p.m. on Wednesday, May
24, 2017, at 210 E. Park Avenue, Escondido, California
92025, before Amanda Noel Marcos, Certified Shorthand
Reporter, No. 13965, in and for the State of California.

1 ████████████████████: Why will they be removing
2 the existing regulators and not replace them with other
3 facilities? Removal of two existing regulator stations
4 that would be replaced with check valves, where would
5 that be? Removal of one existing regulator station that
6 would be replaced with a new regulator station, where
7 would that be? Construction of three new regulator
8 stations and connection pipelines, where would that be?
9 Does the project take into account the number of people
10 that could be affected if there is a blowout? Will
11 rates increase? Why not run the pipeline along the
12 freeway? Why not run the pipeline along the least
13 populated areas? Those are my questions.

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CALIFORNIA PUBLIC UTILITIES COMMISSION
PIPELINE SAFETY AND RELIABILITY PROJECT - NEW NATURAL GAS
LINE 3602 AND DE-RATING LINE 1600 (PSRP) EIR
PUBLIC SCOPING MEETING
PARK AVENUE COMMUNITY CENTER
210 E. PARK AVENUE, ESCONDIDO, CALIFORNIA 92025
2:00 P.M. to 4:00 P.M

REPORTED BY AMANDA NOEL MARCOS, CSR NO. 13965

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PUBLIC COMMENTS,

commencing at the hour of 2:00 p.m. on Wednesday, May
24, 2017, at 210 E. Park Avenue, Escondido, California
92025, before Amanda Noel Marcos, Certified Shorthand
Reporter, No. 13965, in and for the State of California.

1 [REDACTED] I'm [REDACTED]. I just have
2 two simple questions. Who is going to pay for the
3 project? Okay. And the second question is, after the
4 pipeline is completed, the new pipeline, and it is
5 damaged by digging or some other way, what is going to
6 be the impact of the explosion, what area of impact --
7 [REDACTED]: How much of an area?
8 [REDACTED]: -- how much area of impact and
9 how quick does it shut off?

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CALIFORNIA PUBLIC UTILITIES COMMISSION
PIPELINE SAFETY AND RELIABILITY PROJECT - NEW NATURAL GAS
LINE 3602 AND DE-RATING LINE 1600 (PSRP) EIR
PUBLIC SCOPING MEETING
PARK AVENUE COMMUNITY CENTER
210 E. PARK AVENUE, ESCONDIDO, CALIFORNIA 92025
2:00 P.M. to 4:00 P.M

REPORTED BY AMANDA NOEL MARCOS, CSR NO. 13965

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PUBLIC COMMENTS,

commencing at the hour of 2:00 p.m. on Wednesday, May
24, 2017, at 210 E. Park Avenue, Escondido, California
92025, before Amanda Noel Marcos, Certified Shorthand
Reporter, No. 13965, in and for the State of California.

1 ██████████: Well, I'm an Escondido
2 resident. I actually live adjacent to the proposed
3 pipeline route. I'm also a local realtor. And
4 obviously I'm interested for a lot of different reasons,
5 but chief among them is the idea of replacing aging
6 infrastructure and making sure that we do it in an
7 efficient manner. I attended a presentation that
8 San Diego Gas & Electric did a while ago, so I have an
9 idea at least what the applicant is looking for. And I
10 understand the need for replacing a pipeline that's
11 older than I am, and that's pretty old.

12 The one suggestion that I'd like to make is
13 that, as I understand it, the pipeline is being proposed
14 to go through Escondido down Centre City Parkway which
15 is Highway 395, and I don't think that it has been
16 looked at that Highway 395 has a wide median. And it
17 seems to me that they should look at the idea of running
18 the pipeline down that median because it would be the
19 least disruptive to the homes and businesses on Centre
20 City Parkway. And also, if conceivably they could do
21 the work without having to disrupt traffic or at least
22 not disrupt it as much. And if they aren't looking at
23 that, I would like them to consider looking at that.

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CALIFORNIA PUBLIC UTILITIES COMMISSION
PIPELINE SAFETY AND RELIABILITY PROJECT - NEW NATURAL GAS
LINE 3602 AND DE-RATING LINE 1600 (PSRP) EIR
PUBLIC SCOPING MEETING
PALA MESA RESORT
2001 OLD HIGHWAY 395, FALLBROOK, CALIFORNIA 92028
2:00 P.M. to 4:00 P.M.

REPORTED BY AMANDA NOEL MARCOS, CSR NO. 13965

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PUBLIC COMMENTS,

commencing at the hour of 2:00 p.m. on Tuesday, May 23,
2017, at 2001 Old Highway 395, Fallbrook, California
92028, before Amanda Noel Marcos, Certified Shorthand
Reporter, No. 13965, in and for the State of California.

1 CHRIS DEVERS: I'm the cultural liaison for the
2 Pauma Band of Luiseno Indians. Let me know if you get
3 confused. P-A-U-M-A. L-U-I-S-E-N-O. I'm going to be
4 following up with a written -- hopefully written
5 comments. But my concern is the potential impacts to
6 cultural resources along the proposed alignment and also
7 along the alternative -- alternate alignment.

8 And I think it's important that PUC work more
9 closely with the tribes in the area because I noticed on
10 some of the alternative routes that cultural resources
11 could potentially be impacted as well, so it makes it a
12 lot easier to do that early on than waste a lot of time
13 to do it midway through the project.

14 So those are my concerns right now. I'll
15 submit some written ones here in the future, hopefully
16 by the 12th.

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CALIFORNIA PUBLIC UTILITIES COMMISSION
PIPELINE SAFETY AND RELIABILITY PROJECT - NEW NATURAL GAS
LINE 3602 AND DE-RATING LINE 1600 (PSRP) EIR
PUBLIC SCOPING MEETING
ALLIANT INTERNATIONAL UNIVERSITY, SAN DIEGO CAMPUS
10455 POMERADO ROAD, SAN DIEGO, CALIFORNIA 92131
2:00 P.M. to 4:00 P.M.

REPORTED BY AMANDA NOEL MARCOS, CSR NO. 13965

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PUBLIC COMMENTS,

commencing at the hour of 2:00 p.m. on Thursday, May 25,
2017, at 10455 Pomerado Road, San Diego, California
92131, before Amanda Noel Marcos, Certified Shorthand
Reporter, No. 13965, in and for the State of California.

1 [REDACTED]: Potential issue
2 with sewer access at intersection of Pomerado Road and
3 Icarus Lane cross street, subject property [REDACTED]
4 [REDACTED] presently has septic system. Want to keep option
5 to replace septic with sewer. If the proposed gas line
6 stays northbound as shown in the KMZ, that is highly
7 preferable. If it was changed to southbound, it would
8 be a major issue.

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CALIFORNIA PUBLIC UTILITIES COMMISSION
PIPELINE SAFETY AND RELIABILITY PROJECT - NEW NATURAL GAS
LINE 3602 AND DE-RATING LINE 1600 (PSRP) EIR
PUBLIC SCOPING MEETING
PARK AVENUE COMMUNITY CENTER
210 E. PARK AVENUE, ESCONDIDO, CALIFORNIA 92025
6:00 P.M. to 8:00 P.M.

REPORTED BY AMANDA NOEL MARCOS, CSR NO. 13965

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PUBLIC COMMENTS,

commencing at the hour of 6:00 p.m. on Wednesday, May
24, 2017, at 210 E. Park Avenue, Escondido, California
92025, before Amanda Noel Marcos, Certified Shorthand
Reporter, No. 13965, in and for the State of California.

1 ██████████: I'd just like to know how they
2 plan on providing that information. Essentially, what
3 are the failure modes? How often is it going to fail
4 and what plans are going to be placed for dealing with
5 that? And who has looked at those plans and said
6 that -- given approval to -- I don't mean individuals.
7 I mean, like, agencies.

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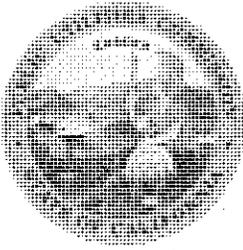
SAN DIEGO CA 920

07 JUN 2017 PM 9 L



Robert Peterson
California Public Utilities Commission
Re: Pipeline Safety & Reliability Project
% Ecology & Environment Inc.
505 Sansome St # 300
San Francisco CA 94111

94111-315575



Pipeline Safety and Reliability Project – New Natural Gas Line 3602 and De-rating Line 1600 (PSRP) CPUC Public Scoping Comment Form

Comments must be postmarked or received by **Monday, June 12, 2017**, to be considered in the Draft Environmental Impact Report. Comments may be submitted at the public scoping meetings, or mailed to the address below. Please note that comments and corresponding contact information received during the public scoping period will become part of the public record and may be made publicly available. Comments submitted anonymously will be accepted and considered.

Please Print Clearly – Use the Other Side of This Form if Additional Space for Comment is Needed

Date: 6/7/17

To Whom it May Concern,
My husband & I are long time residents on [REDACTED] Escondido. We are very concerned about the proposal of putting a natural gas pipeline right down our very narrow street. The proposed area has 5 schools on the route, 4 houses of worship, many businesses & hundreds of homes. This would be a very negative route for this pipeline. This makes no sense to us & our long time neighbors!

Please use the alternative route down Center City Pkwy and down to S Escondido Blvd.

Thank you, from very concerned citizens,

Please place this completed form in a comment box at a CPUC PSRP public scoping meeting, or mail by June 12, 2017, to:
Robert Peterson
California Public Utilities Commission
Re: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome St., Suite 300
San Francisco, CA 94111

You may also submit comments online at <http://www.cpuc.com/pipeline-psrp.com>
or email comments to SD@cpucinfo.com

Waterfront Bar + Grill
2044 Kettner Blvd.
San Diego, CA 92101

SAN DIEGO CA 920

08 JUN 2017 PM 2 L



Robert Peterson
California Public Utilities Commission
RE: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

94111-315575



June 6, 2017

Robert Peterson
California Public Utilities Commission
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

Re: Pipeline Safety and Reliability Project

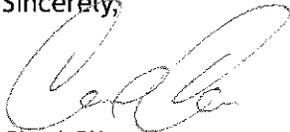
To Whom It May Concern,

I wish to express my support for the Pipeline Safety & Reliability Project, a recently proposed natural gas pipeline project by San Diego Gas & Electric.

I own and oversee operations for a half-dozen restaurant and bar concepts in the City of San Diego, all of which rely on natural gas to operate. Natural gas is used to cook food, clean dishes, wash linens, and - perhaps most importantly - chill beer. Without it, we wouldn't be able to prepare the food and drinks we're known for serving. Besides that, natural gas is a critical source of our region's electricity. So, even if we could prepare food and drinks without it, our guests would have to enjoy them in the dark.

I support the Pipeline Safety & Reliability Project because it will keep natural gas flowing to San Diego businesses like mine. That's good for regional employment, tourism and our economic bottom line. Please act in the best interest of San Diego residents and approve this project without delay. The success of businesses like mine could depend on it.

Sincerely,



Chad Cline
Owner, Waterfront Bar & Grill
2044 Kettner Blvd
San Diego, CA 92101

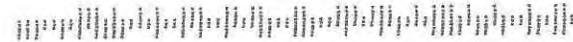
CARLSBAD
CHAMBER OF COMMERCE
5934 Priestly Drive
Carlsbad, California 92008

SAN DIEGO
CA 920
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PM 9 L



California Public Utilities Commission
Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome St., Suite 300
San Francisco, CA 94111

0444 106875



Ted Owen
President & CEO

towen@carlsbad.org



5934 Priestly Drive
Carlsbad, CA 92008

760.931.8400
www.carlsbad.org



June 7, 2017

California Public Utilities Commission
RE: Re: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome St., Suite 300
San Francisco, CA 94111

To Whom It May Concern,

Thank you for the opportunity to comment on San Diego Gas & Electric's (SDG&E) Pipeline Safety and Reliability Project. The Carlsbad Chamber of Commerce is pleased to support this project in concept and appreciates the Commission's timely review of this application.

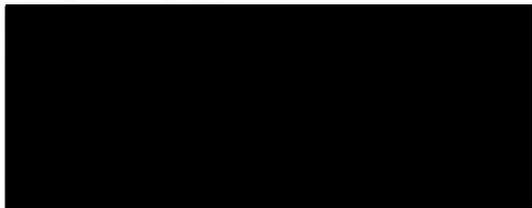
The Carlsbad Chamber of Commerce is the second largest chamber in San Diego County and the 10th largest within the state of California, with a membership of over 1,300 businesses employing over 65,000 individuals. It is critical that these businesses have reliable delivery of energy to ensure that they are able to best serve their customers.

We support SDG&E's goal of enhancing and maintaining the safety and reliability of our region's natural gas infrastructure to meet our current and future energy needs. More than 40 percent of the natural gas in San Diego is used to produce electricity, including when renewable resources like solar and wind are not available. The rest of the natural gas is used by San Diego residents, businesses, military and institutions for space heating, cooking, hot water, manufacturing and transportation. Currently, SDG&E's existing natural gas transmission system primarily relies on one pipeline for 90 percent of the natural gas delivered to San Diego every day and another older pipeline constructed in 1949 for the remaining natural gas. We support SDG&E's efforts to reduce the dependence on one primary transmission line to enhance our natural gas system.

The Carlsbad Chamber of Commerce supports the Pipeline Safety and Reliability Project in concept and the continued need for reliable natural gas infrastructure.

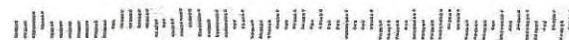
Sincerely,

Ted Owen, President/CEO
Carlsbad Chamber of Commerce



Robert Peterson
California Public Utilities Commission
505 Sansome St, Ste 300
San Francisco, CA 94111

9411133195 0017





June 8, 2017

Sent Via U.S. Mail and E-mail to SDgaspipeline@ene.com

Robert Peterson
California Public Utilities Commission
505 Sansome St. Suite 300
San Francisco, Ca 94111

RE: SDG&E 36 inch Natural Gas Line from Riverside down to Poway and MCAS Miramar

Dear Mr. Peterson and Members of the PUC:

We represent the [REDACTED] family who own several subdivided properties along the apparent San Diego Gas & Electric route to build a 36 inch natural gas line from Riverside down to Poway and MCAS Miramar.

Specifically, the [REDACTED] family owns approximately 93.2 acres of land in [REDACTED] California designated as the [REDACTED] property described as Tax Assessor's Parcel Nos. [REDACTED] located south of [REDACTED] Road and in between Aqueduct Road and Via Ararat Drive. On June 27, 2012 the County of San Diego approved a tentative map (TM 5276 RPL) dividing this property into 28 single-family lots ranging in size from 2.1 to 5.9 acres. The [REDACTED] family also owns what they refer to as the "[REDACTED] property" located south of the [REDACTED] property on [REDACTED] containing approximately 21.44 acres previously legally divided into eight separate parcels. The [REDACTED] parcels consist of parcel nos. [REDACTED]

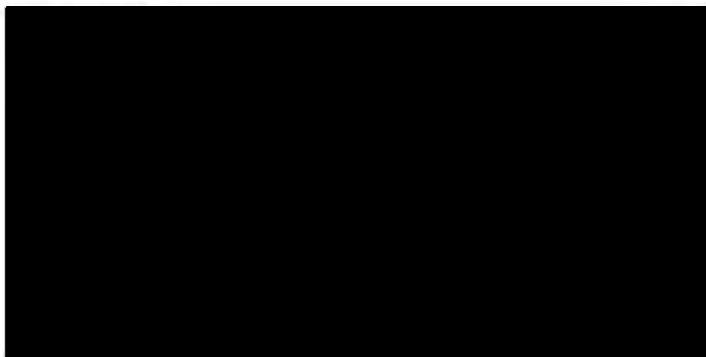
We have recently been informed that SDG&E is asking the PUC for approval to build a 36 inch natural gas line from Riverside down to Poway and MCAS Miramar. As we understand it, SDG&E's preferred approach is to install the natural gas line along Old Highway 395. However, we also understand there is an alternative route being proposed that will extend west from Old Highway 395 along West Lilac Road and then turn south along Old Grove Road that runs east of the [REDACTED] property through the [REDACTED] property subdivision and then south between the [REDACTED] property and a property owned by [REDACTED].

This letter is to inform you that the [REDACTED] family does not want any of the 36 inch diameter natural gas line to be installed under either the [REDACTED] or the [REDACTED] subdivision properties. The [REDACTED] family is concerned about both impacts and liability issues associated with the installation of such a large gas line under its planned home sites.

We previously sent a letter to San Diego Gas & Electric Company on September 21, 2015 expressly objecting to the use of the West Lilac Road alternative. I am providing you with a copy of this September 21, 2015 letter. On October 20, 2015 we received a response from SDG&E indicating they did not select the West Lilac route segment because of concerns related to constructability associated with steep slopes along that segment and the fact this alternative would create additional impacts to agricultural land and residential land uses. I am providing you with a copy of the October 20, 2015 response we received from SDG&E.

We are therefore respectfully requesting that the Public Utility Commission not select the West Lilac Road alternative for all of the reasons enumerated in this letter and in the SDG&E response.

Sincerely,

A large black rectangular redaction box covering the signature area of the letter.



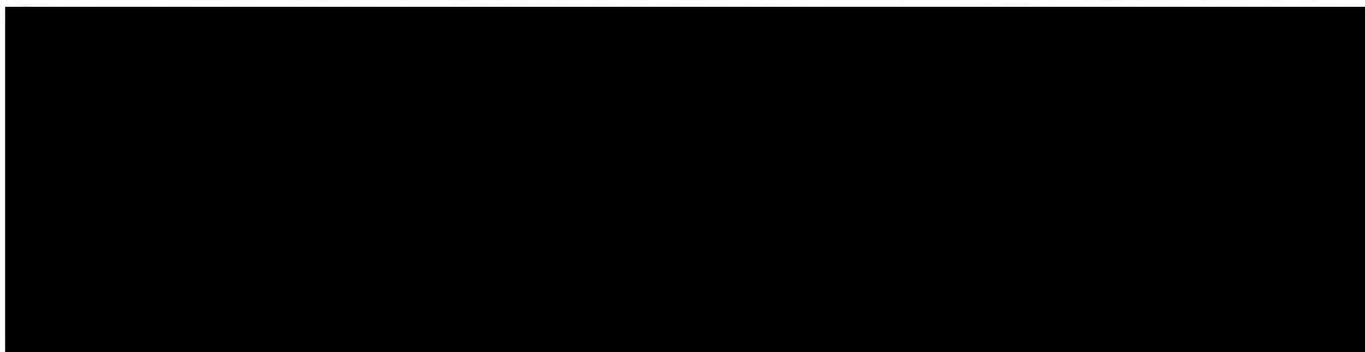
Pipeline Safety and Reliability Project – New Natural Gas Line 3602 and De-rating Line 1600 (PSRP) CPUC Public Scoping Comment Form

Comments must be postmarked or received by **Monday, June 12, 2017**, to be considered in the Draft Environmental Impact Report. Comments may be submitted at the public scoping meetings, or mailed to the address below. Please note that comments and corresponding contact information received during the public scoping period will become part of the public record and may be made publicly available. Comments submitted anonymously will be accepted and considered.

Please Print Clearly – Use the Other Side of This Form if Additional Space for Comment is Needed

Date: 6/8/17

Please include the attached letter on behalf of the [redacted] family as part of the public comments.



Please place this completed form in a comment box at a CPUC PSRP public scoping meeting, or mail by **June 12, 2017**, to:
Robert Peterson
California Public Utilities Commission
RE: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome St., Suite 300
San Francisco, CA 94111
You may also submit comments online at <http://sandiegopipeline-psrp.com>
or email comments to SDgaspipeline@ene.com



September 21, 2015

Jennifer Quijano
San Diego Gas & Electric Company
8330 Century Park Court
San Diego, CA 92123

Sent Via Overnight Mail

RE: SDG&E 36 inch Natural Gas Line from Riverside down to Poway and MCAS Miramar

Dear Ms. Quijano:

We represent the [REDACTED] family who own several subdivided properties along the apparent San Diego Gas & Electric route to build a 36 inch natural gas line from Riverside down to Poway and MCAS Miramar.

Specifically, the [REDACTED] family owns approximately 93.2 acres of land in [REDACTED] California designated as the [REDACTED] property described as Tax Assessor's Parcel Nos. [REDACTED] located south of West Lilac Road and in between Aqueduct Road and Via Ararat Drive. On June 27, 2012 the County of San Diego approved a tentative map (TM 5276 RPL) dividing this property into 28 single-family lots ranging in size from 2.1 to 5.9 acres. The [REDACTED] family also owns what they refer to as the "[REDACTED] property" located south of the West Lilac property on Mount Ararat Way containing approximately 21.44 acres previously legally divided into eight separate parcels. The [REDACTED] parcels consist of parcel nos. [REDACTED].

We have recently been informed that SDG&E is proposing to build a 36 inch natural gas line from Riverside down to Poway and MCAS Miramar. As we understand it, SDG&E's preferred approach is to install the natural gas line along Old Highway 395. However, we also understand there is an alternative route being proposed that will extend west from Old Highway 395 along West Lilac Road and then turn south along Old Grove Road that runs east of the [REDACTED] property through the [REDACTED] property subdivision and then south between the [REDACTED] property and a property owned by [REDACTED].

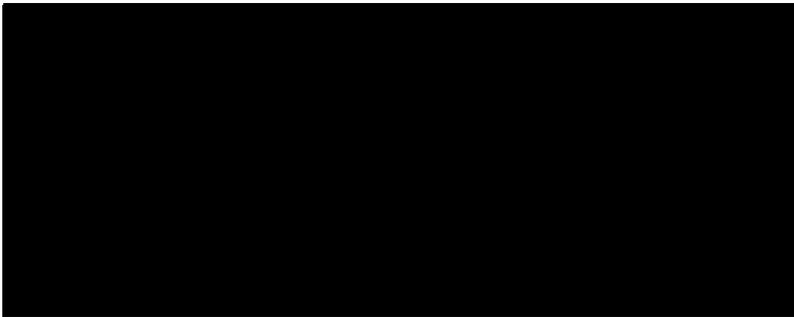
This letter is to inform you that the [REDACTED] family does not want any of the 36 inch diameter natural gas line to be installed under either the [REDACTED] or the [REDACTED] subdivision properties.

The [REDACTED] family is concerned about both impacts and liability issues associated with the installation of such a large gas line under its planned home sites.

Please promptly e-mail us plans showing both the preferred and alternative routes SDG&E is considering for the 36 inch natural gas line and inform us if any of these routes plan to use any of the [REDACTED] family properties for any of the route.

We understand that you are making a formal proposal on this pipeline to the PUC on September 30, 2015. Please promptly provide us with information on the agenda for this PUC hearing and the date, time, and place of the hearing. If you would like to discuss any of this with us please give us a call.

Sincerely,





Erica L. Martin
Counsel
8330 Century Park Court, CP32B
San Diego, CA 92123-1530
Tel: (858) 654-1813

VIA U.S. MAIL

October 20, 2015



Re: SDG&E and SoCal Gas 36 inch Natural Gas Line from Riverside County Line down to Poway and MCAS Miramar

Dear [REDACTED]:

We received your letter dated September 23, 2015 in which you inquired on behalf of your clients, the [REDACTED] family, about a proposal by San Diego Gas & Electric Company (SDG&E) and Southern California Gas Company (SoCalGas) to construct a natural gas pipeline project.

On September 30, 2015, SDG&E and SoCal Gas filed a joint application (A.15-09-013) with the California Public Utilities Commission (CPUC) to construct a new, approximately 47-mile natural gas transmission pipeline from the existing Rainbow Metering Station near the Riverside County line to Marine Corps Air Station (MCAS) Miramar. The project is called the Pipeline Safety & Reliability Project (PSRP or Project). In the application, SDG&E and SoCal Gas identified a Proposed Route for the PSRP. In the process of identifying the Proposed Route, SDG&E and SoCal Gas evaluated several Route Segment Alternatives that they ultimately did not select for a variety of reasons, including issues with the constructability of the segment and potential impacts to the environment.

The "[REDACTED] property" (parcel nos. [REDACTED]) and the "[REDACTED] property" (parcel nos. [REDACTED]) referenced in your letter are more than 300 feet away from the Proposed Route identified in the PSRP application. However, those parcels are adjacent to one of the Project's Route Segment Alternatives that is called the West Lilac Route Segment Alternative (see attached map). This Route Segment Alternative was not selected by SDG&E and SoCal Gas because of concerns related to constructability associated with steep slopes along that segment. In addition, the segment was not selected because, as compared to the Proposed Route, the analyses revealed that it would create additional impacts to agricultural land and residential land uses. Thank you for providing us with

October 20, 2015

Page 2

additional information about those parcels, which supports the decision not to select those Route Segment Alternatives.

Please be advised that the CPUC is in the process of independently reviewing the Project and will ultimately accept, reject or modify the Project and SDG&E and SoCal Gas' Proposed Route.

The application to construct PSRP is currently in the early stages of the CPUC's review process. As such, no hearings have been scheduled at this time. I encourage you to stay informed about the Project and to participate during the public comment period that will be part of the CPUC's environmental review process, which SDG&E and SoCalGas have requested begin in the first quarter of 2016. You can learn more about the Project and any relevant schedule information by visiting the project website at www.sdge.com/pipeline-project.

Thank you for your interest in our Project.

Very truly yours,



Erica L. Martin
Counsel

Encls.

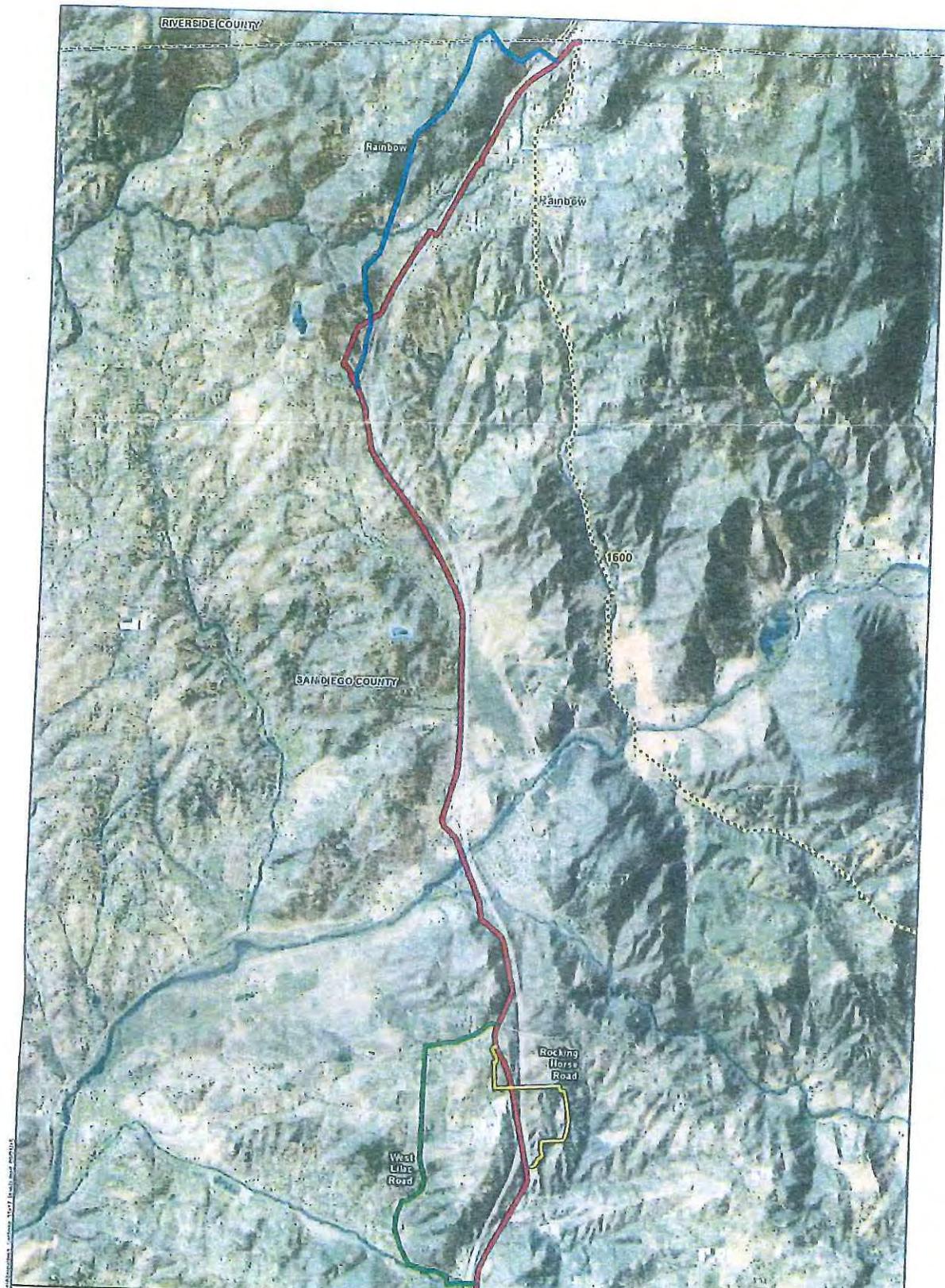
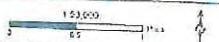


Figure 5-2: Proposed Project Route Segment Alternatives - Inset Map 1 of 3

- | | | | | |
|--------------------|--|-----------------------|--------------------------------|----------------------------|
| Proposed Route | South Central City Parkway/Emmett St Boulevard | El Kahu | Mason Trail | Existing Transmission Line |
| Rainbow | South Central City Parkway | Spring Canyon Parkway | WAS Mission Hill | City/County Boundary |
| Rocking Horse Road | La Verne | Spring Canyon Road | Dahlgren Mesa Road | |
| West Lake Road | La Habra | Creek Road | Back Mountain Option West Mass | |
| Earl W. Park | El Kahu | Rebony Way Road | Back Mountain Option | |



CITY OF SANTEE

10601 Magnolia Avenue
Santee, California 92071-1222

Planning Division



Master

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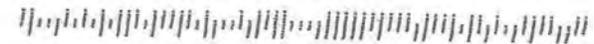
06/23/2017

Mailed From 92071

US POSTAGE

Robert Peterson
California Public Utilities Commission
c/o Ecology & Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

94111\$9155 C017





CITY OF SANTEE

MAYOR
John W. Minto

CITY COUNCIL
Ronn Hall
Stephen Houlahan
Brian W. Jones
Rob McNelis

June 22, 2017

Robert Peterson
California Public Utilities Commission
c/o Ecology & Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

Subject: Opposition to the Pipeline Safety & Reliability Project-New Natural Gas Line
3602 & De-Rating Line 1600 (California Public Utilities Application A.15-09-013)

Dear Mr. Peterson:

On June 14, 2017, the City of Santee City Council adopted the enclosed Resolution expressing non-support of two pipeline alignment alternatives associated with the Pipeline Safety and Reliability Project – New Natural Gasline 3602 and De-rating line 1600. Given the regional importance of this project, the City Council wishes to advise affected jurisdictions and the Marine Corps Air Station (MCAS) Miramar of its official position on the Project.

Respectfully,

Melanie Kush
Development Services Director

C: Marlene Best, City Manager

Enclosure: City of Santee Resolution Number 066-2017

RESOLUTION NO. 066-2017

**RESOLUTION OF THE CITY COUNCIL OF THE CITY OF SANTEE, CALIFORNIA,
OPPOSING THE PROPOSED RAINBOW – SANTEE (NON MIRAMAR) PIPELINE
ALTERNATIVE AND THE “SPRING CANYON” ALTERNATIVE INCLUDED IN THE
NOTICE OF PREPARATION OF AN ENVIRONMENTAL IMPACT REPORT FOR THE
PIPELINE SAFETY AND RELIABILITY PROJECT – NEW NATURAL GAS LINE 3602
AND DE-RATING LINE 1600 (CALIFORNIA PUBLIC UTILITIES APPLICATION A.15-
09-013)**

WHEREAS, an application for a Certificate of Public Convenience and Necessity was submitted by San Diego Gas & Electric (SDG&E) and Southern California Gas Company (SoCalGas) to the California Public Utilities Commission to construct, operate, and maintain the proposed Pipeline Safety and Reliability Project – New Natural Gas Line 3602 and De-rating Line 1600, hereinafter “PSRP”, and deemed complete on August 23, 2016; and

WHEREAS, the “PSRP” includes the construction of a new 36-inch diameter pipeline (Line 3602) approximately 47 miles in length that would carry natural gas from SDG&E’s existing Rainbow station to a tie-in with SDG&E’s existing system within MCAS Miramar; and

WHEREAS, the “PSRP” also includes the de-rating, or lowering of the pressure of an existing transmission line (Line 1600) that begins at the Rainbow Station and terminates in Mission Valley for an approximate pipeline length of 50 miles; and

WHEREAS, support facilities for the new Line 3602 would require approximately two acres of land, the construction of a pressure-limiting station, construction of ten main line valves, construction of three cross-tie facilities for the existing Line 1600 and two others, and the construction of operations support facilities, all or some of which may be located in Santee; and

WHEREAS, the proposed Rainbow – Santee Non-Miramar Alternative (“RSA – Non Miramar”) would skirt Marine Corps Air Station (MCAS) Miramar, and run through an established open space preserve system (Sycamore Canyon and Goodan Ranch Preserves) and along Sycamore Creek on private property south to local city streets; and

WHEREAS, the “Spring Canyon” Alternative which terminates at the Rumson Drive SDG&E facility in the City of Santee would be near the intersection of West Hills Parkway and Mast Boulevard and State Route 52 ramps, which are highly congested streets and ramps; and

WHEREAS, the Land Use Element of the City of Santee General Plan states the City is committed to “minimize[ing] land use conflicts between land uses in adjacent areas and existing and planned uses in the City.” (Section 7.0, Objective 9.0). The Draft EIR must fully analyze the effects of the “RSA Non-Miramar” Alternative on surrounding residential neighborhoods, schools, a nearby regional park (Santee Lakes), commercial businesses and the City’s Fire Station located at the northwest corner of Fanita Parkway and Carlton Oaks Drive; and

RESOLUTION NO. 066-2017

WHEREAS, the City of Santee monitors development that could result in increased land use compatibility impacts to the City of Santee (Land Use Element Policy 9.2). Both the "Spring Canyon" and the "RSA Non-Miramar" Alternative could significantly disrupt the quality of life of the community during construction of the pipeline, result in closed streets and detours, and impose incompatible utility support facilities in areas designated for residential, commercial and open space land use; and

WHEREAS, the "RSA Non-Miramar" Alternative would conflict with the goals and objectives of the Conservation Element of the City's General Plan which aims to conserve open space, natural and cultural resources by protecting areas rich in biological and cultural resources (Objectives 7.0, 8.0), protecting floodways such as Sycamore Creek and the San Diego River (Objectives 2.0, 9.0), maintaining an adequate water supply and supporting Padre Dam Municipal Water District in expanding the water reclamation facility (Objective 3.0, Policy 3.3) and establishing a 2,600-acre preserve system that includes the Goodan Ranch Preserve (Policy 7.4); and

WHEREAS, the Safety Element of the General Plan seeks to minimize injuries, loss of life, and property damage resulting from human-induced safety hazards; any construction impacts that affect Fire Station access and egress and lengthens the response times in the event of emergency and paramedic service calls has the potential to conflict with this overarching goal; to protect the public health, welfare, and safety.

NOW, THEREFORE, BE IT RESOLVED that for the reasons provided herein, the City Council of the City of Santee, California, does hereby formally oppose the proposed "RSA Non-Miramar" and "Spring Canyon" Alternatives unless and until all effects of the proposal are fully disclosed, analyzed, and mitigated with mitigation measures that reduce effects to a level of insignificance in compliance with the California Environmental Quality Act.

BE IT FURTHER RESOLVED that this Resolution shall be forwarded to the California Public Utilities Commission, the County of San Diego, the City of Poway, the City of San Diego and MCAS Miramar.

ADOPTED by the City Council of the City of Santee, California, at a Regular Meeting thereof held this 14th day of June, 2017, by the following roll call vote to wit:

AYES: HALL, HOULAHAN, MCNELIS, MINTO

NOES: NONE

ABSTAIN: JONES

APPROVED:



JOHN W. MINTO, MAYOR

ATTEST:



PATSY BELL, CMC, CITY CLERK



SANTA ANA CA 926

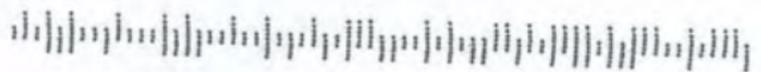
10 JUN 2017 PM 11



Handwritten red scribbles and a large 'X' mark.

Handwritten red scribbles above the address.
Robert Peterson
California Public Utilities Commission
300 Capitol Mall
Sacramento, CA 95814

95814-431317





To Whom it May Concern:

Upon hearing about the proposed Pipeline Safety and Reliability Project (PSRP) - New Natural Gas Line 3602 and De-rating Line 1600, we were immediately concerned by the route choice of this project. It seems that making a turn onto Felicita Road then turning onto Encino Drive would have a tremendous impact on residents and commuters. Outlined below are some of our concerns.

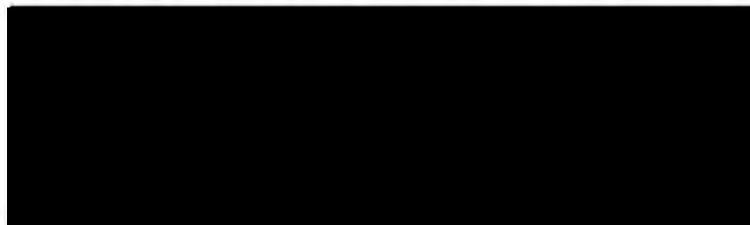
Along the proposed route there are:

- Five schools
- Four houses of worship
- Many businesses
- Hundreds of homes

Also,

- Felicita is a busy two lane street connecting east and west Escondido.
 - There are a number of private drives and cul de sacs as well as homes along the north and south sides of Felicita
- Encino is a narrow two lane street
 - There are three cul de sacs and homes along this street as well as two houses of worship. How are we to get in and out of homes, our streets, or houses of worship during construction?
 - Should there be an emergency, how would the necessary vehicles be able to get through?
- Bear Valley Parkway is a very busy thoroughfare bringing traffic from Valley Center, as well as north and east Escondido to get to Interstate 15.
 - Along that stretch there are four schools and at least two houses of worship that would be affected.
- An environmental concern is the riparian habitat across the street from Marlynn Court that is overseen by CA Fish and Wildlife.
- The watertable in the surrounding area of Marlynn Court and Encino Drive is very close to the surface and feeds a natural spring just east of Encino.

Envisioning the project, it appears that running the pipeline down Center City Parkway and Escondido Blvd would give the project more breadth of room to work with, and (at least on South Escondido Blvd) less traffic, therefore affecting fewer commuters and residents. It also seems it would be less expensive because it would be more direct. As citizens and taxpayers, we strongly recommend that you reroute the project along the most direct and least disruptive route.



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From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Date: Wednesday, June 28, 2017 2:08:50 PM

To: Robert Peterson
California Public Utilities Commission
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

RE: Pipeline Safety and Reliability Project – New Natural Gas Line 3602 (Application No. A.15-09-013)

Dear Mr. Peterson,

In my opinion, the gas pipeline proposed by SDG&E should be rejected for the following reasons:

Due to global warming, there is an immediate need to decrease our reliance on fossil fuels and transition to renewable energy.

The proposed pipeline is unnecessary and would saddle ratepayers with costs through 2063 totaling over \$600 million. Natural gas usage is in a steep decline in California and SDG&E has determined that the existing pipeline can operate reliably for twenty more years.

Ratepayers must NOT be asked to subsidize SDG&E plans which are not necessary and are counterproductive to California climate goals. I urge you to reject this proposal for a new gas pipeline.

Thank you for your consideration.

Sincerely,

[REDACTED]

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: RE: Pipeline Safety and Reliability Project (Application No. A.15-09-013)
Date: Friday, June 2, 2017 4:25:55 PM

Robert Peterson
California Public Utilities Commission
RE: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

RE: Pipeline Safety and Reliability Project (Application No. A.15-09-013)

I oppose both alternative routes of the proposed gas pipeline (Line 3602). Alternative routes through Mission Trails Regional Park and surrounding park expansion areas are not acceptable.

The first proposed alternative would disrupt the use of and degrade Mission Trails Regional Park's West Sycamore Area including parts of the new Stowe Trail, as well as the Goodan Ranch, and Fanita Ranch. These preserved areas and parklands are used by hundreds of visitors daily. Maintaining the integrity of the preservation of these natural lands is imperative for existing wildlife, flora, and habitat.

The second proposed alternative is equally unacceptable and would degrade Mission Trails's Spring Canyon and East Fortuna Staging Area, and also East Elliott, part of MTRP's larger ecosystem. The park and its surrounding expansion area must be protected. A new gas pipeline does not belong in these natural habitats which are used recreationally by park visitors.

Please drop or oppose these alternative routes. Thank you.

[REDACTED]

[REDACTED]

From: Cohn, Melanie
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: Comment letter
Date: Friday, June 2, 2017 12:34:08 PM
Attachments: [Biocom support for SDGE pipeline-final.pdf](#)

Please see the attached letter of support for SDG&E's Pipeline Safety and Reliability Project.

Melanie Cohn, Director of Regional Policy & Government Affairs
Biocom



10996 Torreyana Rd, Suite 200 | San Diego, CA 92121
858.832.4158 | mcohn@biocom.org | www.biocom.org





June 2, 2017

Robert Peterson
California Public Utilities Commission
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

RE: Pipeline Safety and Reliability Project

Dear Mr. Peterson:

I am writing to express Biocom's support for SDG&E's proposed 47-mile natural gas transmission pipeline, or Pipeline Safety & Reliability Project (PSRP), which would start at the Rainbow Metering Station and connect with SDG&E's natural gas system on Marine Corps Air Station Miramar.

Biocom is the life science association of California, representing over 900 members, including biotechnology and medical device companies, universities, basic research institutions, and service support firms. San Diego's life science cluster of over 1,200 establishments employs 50,000 people, with an average wage of \$117,000. These jobs represent an overall impact of \$34 billion in annual economic activity.

Natural gas is a critical utility to the operation of life science facilities, as it is used to heat occupied spaces that are in use day-and-night, control temperatures on process development, and efficiently operate scientific equipment such as autoclave sterilizers, boilers, and Bunsen burners. We support energy infrastructure expansion within the San Diego region; relying on natural gas infrastructure located in Mexico could put our energy supplies at risk.

SDG&E's existing natural gas transmission system primarily relies on one pipeline for 90 percent of the natural gas delivered to San Diego and another pipeline constructed in 1949 for the rest. This older line must either be pressure tested or replaced according to state law, and Biocom supports its replacement to avoid service interruptions, improve the pipeline's safety outlook, and upgrade to more reliable, modern technology.

The PSRP can help to provide a safe and reliable energy system for the research and experiments that hopefully will someday change and save people's lives. Biocom urges the CPUC to approve this project.

Sincerely,

Joe Panetta, President and CEO
Biocom



From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: Pipeline Route
Date: Friday, June 2, 2017 10:14:50 PM

The gas pipeline should NOT be routed through such highly populated areas of Escondido, Poway and Scripps Ranch, as is being suggested. While the consumers no doubt will be paying for this, safety should still be the main concern, and the route of the pipeline, though more costly, should be routed through less populated areas.

[REDACTED] oppose the currently suggested route.

Please keep us informed of ALL pending and future developments.

Thank you.

[REDACTED]

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: RE: Pipeline Safety and Reliability Project (Application No. A.15-09-013)
Date: Friday, June 2, 2017 12:40:02 PM

Robert Peterson
California Public Utilities Commission
RE: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

I oppose both alternative routes of the proposed gas pipeline (Line 3602). Alternative routes through Mission Trails Regional Park and surrounding park expansion areas are not acceptable.

The first proposed alternative would disrupt the use of and degrade Mission Trails Regional Park's West Sycamore Area including parts of the new Stowe Trail, as well as the Goodan Ranch, and Fanita Ranch. These preserved areas and parklands are used by hundreds of visitors daily. Maintaining the integrity of the preservation of these natural lands is imperative for existing wildlife, flora, and habitat.

The second proposed alternative is equally unacceptable and would degrade Mission Trails's Spring Canyon and East Fortuna Staging Area, and also East Elliott, part of MTRP's larger ecosystem. The park and its surrounding expansion area must be protected. A new gas pipeline does not belong in these natural habitats which are used recreationally by park visitors.

Please drop or oppose these alternative routes. Thank you.

[REDACTED]

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: Public Comments - Pipeline Safety and Reliability Project
Date: Friday, June 2, 2017 6:47:22 PM

To whom it may concern,

Please consider my comments as it relates to the above subject SCGC project.

First, one should be highly skeptical based on title alone "Pipeline Safety and Reliability Project". This is a tactic (putting lipstick on a pig) to sway public acceptance and avoid visibility. This is the same tactic used in Congress to push unfavorable bills through to vote. Corporations do the same. A recent example, is the Jelly Belly company listing "evaporated cane juice" as an ingredient instead of listing what it really is – SUGAR.

Second, please consider looking at all alternate routes for where the pipeline could be installed with focus on less public disruption. Have SCGC explain why they considered the current route. More than likely, it is to save money. Do they really think running a gas pipeline down Pomerado road next to an Elementary school the wisest of decisions?

Third, for those properties that will be affected by the pipeline, what consideration is being proposed? Have SCGC simultaneously bury their electrical lines for existing/older neighborhoods as a proposed offset. There will be a decline of property value as a result of this project.

Last, public health and safety is fundamental. What assurance is SCGC providing that leaks will be detected immediately upon occurrence? What is their emergency plan and what corrective measures will be implemented? Natural gas is invisible and odorless. What measures will be taken to avoid another catastrophe like the San Bruno pipeline explosion which occurred in San Bruno, California, when a 30-inch (76 cm) diameter steel natural gas pipeline owned by Pacific Gas & Electric exploded.

[REDACTED]
Poway resident

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: No New Pipeline!
Date: Saturday, June 3, 2017 11:23:15 PM

Dear CPUC,

SDG&E's fracked gas pipeline project should be abandoned. The pipeline expansion is not needed. Natural Gas use is declining in the region. The likely conversion of ratepayer-financed infrastructure to export LNG would be contrary to California's climate goals and contrary to the public interest. Our parks are not intended to be sacrificed for utility profits.

Sincerely,

[REDACTED]

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: Natural Gas Line 3602 (Application No. A.15-09-013)
Date: Saturday, June 3, 2017 11:47:18 PM

Dear CPUC,

SDG&E's fracked gas pipeline project should be abandoned. The pipeline expansion is not needed. Natural Gas use is declining in the region. The likely conversion of ratepayer-financed infrastructure to export LNG would be contrary to California's climate goals and contrary to the public interest. Our parks are not intended to be sacrificed for utility profits.

Sincerely,

[REDACTED]

Sent from my iPhone

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: NO PIPELINE
Date: Saturday, June 3, 2017 10:58:18 PM

Please do not run a pipeline through Mission Trails Park – it is an urban treasure. Renewable energy is the future.

[REDACTED]

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: No on gas pipeline
Date: Saturday, June 3, 2017 10:49:39 PM

As a taxpayer, I am against the proposed pipeline through Mission Trails. Taxpayer dollars should stop forcing petrochemicals through protected wilderness, for ourselves and our future. When you put a pipeline through such a place, it only makes it more likely for other environmental concessions later, until its no longer worth protecting and it gets sold to the highest bidder. Mission Trails is worth protecting.

[REDACTED]

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: Please do not destroy my favorite place to hike!!!!
Date: Saturday, June 3, 2017 11:11:43 PM

Robert Peterson
California Public Utilities Commission
300 Capitol Mall
Sacramento, CA 95814

RE: Pipeline Safety and Reliability Project – New Natural Gas Line 3602 (Application No. A.15-09-013)

I oppose both alternative routes of the proposed gas pipeline (Line 3602). Alternative routes through Mission Trails Regional Park and surrounding park expansion areas are not acceptable.

The first proposed alternative would disrupt the use of and degrade Mission Trails Regional Park's West Sycamore Area including parts of the new Stowe Trail, as well as the Goodan Ranch, and Fanita Ranch. These preserved areas and parklands are used by hundreds of visitors daily. Maintaining the integrity of the preservation of these natural lands is imperative for existing wildlife, flora, and habitat.

The second proposed alternative is equally unacceptable and would degrade Mission Trails's Spring Canyon and East Fortuna Staging Area, and also East Elliott, part of MTRP's larger ecosystem. The park and its surrounding expansion area must be protected. A new gas pipeline does not belong in these natural habitats which are used recreationally by park visitors.

SDG&E's fracked gas pipeline project should be abandoned. The pipeline expansion is not needed. Natural Gas use is declining in the region. The likely conversion of ratepayer-financed infrastructure to export LNG would be contrary to California's climate goals and contrary to the public interest. Our parks are not intended to be sacrificed for utility profits.

Please drop or oppose these alternative routes. Thank you.

Sincerely,

[REDACTED]
[REDACTED], CA

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: Pipeline through Mission Trails
Date: Saturday, June 3, 2017 11:50:08 PM

PLEASE stop all efforts to put a pipeline through this beautiful parkland. It would do terrible damage to this area. We MUST save Mission Trails from such a disaster.

Sincerely,

[REDACTED]

[REDACTED], CA [REDACTED]

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: Natural Gas Line 3602 (Application No. A.15-09-013)
Date: Saturday, June 3, 2017 11:11:42 PM

SDG&E's fracked gas pipeline project should be abandoned. The pipeline expansion is not needed. Natural Gas use is declining in the region. The likely conversion of ratepayer-financed infrastructure to export LNG would be contrary to California's climate goals and contrary to the public interest. Our parks are not intended to be sacrificed for utility profits.

Sincerely,

[REDACTED]

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: CPUC Public Scooping Comments
Date: Sunday, June 4, 2017 8:22:06 PM

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

June

5, 2017

Robert Peterson

Re: SDgaspipeline@ene.com

Dear Sir:

This letter is for the CPUC Public Scooping Comments due by June 12, 22017.

There is a very urgent problem for large numbers of San Diego residents in the attempt of SDG&E to place a large gas pipe line down Pomerado Road south of Highland Valley Road.

This area of San Diego is called Rancho Bernardo.

There are several dangers in this to the residents using Pomerado Road. I will try to be brief:

1. First of all, a little history- In the late 1980s or early 1990s, SDG&E tried to do the same thing. Fortunately, with the help of former City Attorney Jan Goldsmith, who at the time was our representative, I believe in the CA legislature,

we were able to stop this very dangerous pipe line from going down Pomerado Road. Here are the reasons then and now:

2. Warning signal #1: At that time, we were told the US government would not allow such a pipe line to be placed on or along an interstate highway

so they wanted to put it down Pomerado Road!!!!!! Why would that be any safer now?

#3. I live in a senior community called Oaks North. We have around 1600 units with between 1600 to 3200 residents. Pomerado Road is the ONLY WAY for us to leave

our subdivision. This was learned during the 2007 fires when we had to evacuate at 5AM

and it took us 45 minutes to go 1/2 mile to reach Pomerado Road! Fortunately for us,

the fire did not spread to us although it was VERY close.

I believe, if you check your maps, you will find that there are 3 or 4 more subdivisions with the same situation-only Pomerado Road as their exit. This alone should be important enough to stop the project.

4. Please have your staff research “gas pipe line fires”.

Almost ALL of them are caused by human error or a natural disaster such as an earth quake. There is NO WAY to protect a pipe line from human errors,

or a natural disaster, and these are the usual cause of a gas pipe line fire. I believe a gas fire on Pomerado Road could cause many casualties and deaths

and it is up to our elected officials, as our agents, to stop this threat.

Lastly, Pomerado Road is a very busy road on its entire length through Rancho Bernardo and Poway. It would be a major inconvenience for the thousands

of cars that travel on it to have this prolonged construction on it.

So I implore you to act quickly to stop this project.

Thank you for your help,

██████████

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: No gas pipeline
Date: Sunday, June 4, 2017 9:56:53 AM

No gas pipeline!

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: STOP the proposed gas line in East County San Diego
Date: Sunday, June 4, 2017 5:41:42 PM

RE: Natural Gas Line 3602 (Application No. A.15-09-013)

Dear CPUC,

Planning on SDG&E's fracked gas pipeline project should be discontinued right away. The pipeline expansion is not needed as Natural Gas use is declining. Even if this were not the case, the route through parts of Santee and Mission Trails Park is dangerous and destructive to the community and it's natural resources.

The likely conversion of ratepayer-financed infrastructure to export LNG would be contrary to California's climate goals and certainly not in the public interest. Our parks are not intended to be sacrificed for utility profits.

Sincerely,

--

[REDACTED]

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: NO to fracked gas pipeline!
Date: Sunday, June 4, 2017 8:07:12 PM

RE: Natural Gas Line 3602 (Application No. A.15-09-013)

Dear CPUC,

*SDG&E's fracked gas pipeline project should be abandoned.
The pipeline expansion is not needed. Natural Gas use is declining in the region.
The likely conversion of ratepayer-financed infrastructure to export LNG would be contrary
to California's climate goals and contrary to the public interest.*

Our parks are not intended to be sacrificed for utility profits.

Sincerely,

[REDACTED]
*Santee Resident
and Mission Trails Parks user*

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: Pipeline 3602
Date: Sunday, June 4, 2017 6:37:56 AM

No, no, no, I do not want that pipeline expanded through our natural areas, or coming near to my house. Natural gas demand is dropping in Southern California. There is no other reason to build this other than profits. Please do not destroy our natural habitats for this unnecessary project. No, no, no!
Sincerely, [REDACTED]

[REDACTED]

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: Natural Gas Line 3602 (Application No. A. 15.09.013)
Date: Sunday, June 4, 2017 1:48:23 PM

Dear CPUC,

SDG&E's fracked gas pipeline project should be abandoned. The pipeline expansion is not needed. Natural Gas use is declining in the region. The likely conversion of ratepayer-financed infrastructure to export LNG would be contrary to California's climate goals and contrary to the public interest. Our parks are not intended to be sacrificed for utility profits.

Sincerely,

[REDACTED]

[REDACTED]

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: don't do it!
Date: Sunday, June 4, 2017 7:17:02 PM

Dear CPUC,

SDG&E's fracked gas pipeline project should be abandoned. The pipeline expansion is not needed. Natural Gas use is declining in the region. The likely conversion of ratepayer-financed infrastructure to export LNG would be contrary to California's climate goals and contrary to the public interest. Our parks are not intended to be sacrificed for utility profits.

Sincerely,

[REDACTED]

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: Natural Gas Line 3602 (Application No. A.15-09-013)
Date: Sunday, June 4, 2017 9:06:51 PM

RE: Natural Gas Line 3602 (Application No. A.15-09-013)

Dear CPUC,

SDG&E's fracked gas pipeline project should be abandoned. The pipeline expansion is not needed. Natural Gas use is declining in the region. The likely conversion of ratepayer-financed infrastructure to export LNG would be contrary to California's climate goals and contrary to the public interest. Our parks are not intended to be sacrificed for utility profits.

Sincerely,

[REDACTED]

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline, CPUC](#)
Subject: Natural Gas Line 3602 (Application No. A.15-09-013)
Date: Sunday, June 4, 2017 10:50:45 AM

Dear CPUC,

SDG&E's fracked gas pipeline project should be abandoned. The pipeline expansion is not needed. Natural Gas use is declining in the region. The likely conversion of ratepayer-financed infrastructure to export LNG would be contrary to California's climate goals and contrary to the public interest. Our parks are not intended to be sacrificed for utility profits.

Sincerely,

[REDACTED]

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: Opposition to pipeline
Date: Sunday, June 4, 2017 12:35:42 AM

Dear CPUC,

The value of Mission Trails Park and the surrounding area where you are wanting to run the pipeline is much greater than your return you are looking for. We will oppose the pipeline from day one. It doesn't belong on this route. We don't need more LNG. We don't want to pay the price of reduced quality of living for your profits. Please consider an alternative.

Thank you

[REDACTED]

[REDACTED]

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: fracking pipeline
Date: Sunday, June 4, 2017 10:38:12 PM

Dear CPUC,

SDG&E's fracked gas pipeline project should be abandoned. The pipeline expansion is not needed. Natural Gas use is declining in the region. The likely conversion of ratepayer-financed infrastructure to export LNG would be contrary to California's climate goals and contrary to the public interest. Our parks are not intended to be sacrificed for utility profits.

Sincerely,

[REDACTED]

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: Santee pipeline say no to pipeline through mission trails and Santee
Date: Sunday, June 4, 2017 10:55:06 AM

Sent from my iPad

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: Gas line expansion
Date: Sunday, June 4, 2017 11:42:37 PM

To whom it concern,

My family is strongly opposed to the gas line expansion that had been proposed through the Santee area. For our future and future of our families please let's peers eve all the natural space that is possible, they're must be another way.

Strongly opposed,

[REDACTED]

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Date: Sunday, June 4, 2017 12:48:44 AM

Mr. Robert Peterson California Public Utilities Commission c/o Ecology and Environment,
Inc.
505 Sansome Street,
Suite 300
San Francisco, CA 94111
SDgaspipeline@ene.com

Considering the decline in Natural Gas demand, maintenance of the existing line until Natural Gas use becomes obsolete is reasonable. Building a new line with excessive capacity at a cost of over \$600 million to ratepayers is not reasonable, especially when severe environmental impacts are considered.

Why is the new pipeline (at 36" in diameter) proposed at more than double the capacity of the existing 16" pipeline when demand for natural gas in California and San Diego County is declining?

Our fear is that this massive project is not intended to help the people of San Diego. It's not needed so why this increase in pipe sizing?

This is wrong.

[REDACTED]

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: pipeline
Date: Sunday, June 4, 2017 12:35:44 AM

RE: Natural Gas Line 3602 (Application No. A-1509-0130)

Dear CPUC:

SDG&E's fracked gas pipeline project must be abandoned. The pipeline expansion is definitely not needed and the use of natural gas has declined in this region. The likely conversion of ratepayer-financed infrastructure to export LNG would be contrary to California's climate goals and contrary to the public interest. Our park are not intended to be sacrificed for utility profits.

Sincerely,

[REDACTED]

[REDACTED] from [Mail](#) for Windows 10

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: Stop Planning Expanded Pipeline thru Mission Trails
Date: Sunday, June 4, 2017 7:38:53 PM

SDG&E

I oppose your company's plan to expand the gas pipeline through Western Santee and Mission Trails Regional Park. The service is not necessary in today's energy network. Our parks are not meant to be targets for utilities to place their infrastructure simply because they are green plots on your planning maps. We are trying to save the last open spaces for quality of life, natural biodiversity and future generations. It's not "how much we can build--today it's all about how much we can save".

I appeal to your company to not expand the gas pipeline, but instead support our open spaces and help protect Santee and Mission Trails.

Thank You for your consideration.

[REDACTED]
[REDACTED] CA
CA State Parks, Retired

[REDACTED]

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: Gas Pipeline expansion
Date: Sunday, June 4, 2017 9:58:05 PM

SDG&E

I oppose your company's plan to expand the gas pipeline through Western Santee and Mission Trails Regional Park. The service is not necessary in today's energy network. It is important to save the last open spaces for future generations.

I appeal to your company to not expand the gas pipeline, but instead support our open spaces and help protect Santee and Mission Trails.

Thank You for your consideration.

[REDACTED]
Resident and lifetime customer of SDG&E

[REDACTED]

[REDACTED]

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: gas line
Date: Sunday, June 4, 2017 5:59:55 PM

I say NO to the gas line through Mission Trails. This is a beautiful and serene place that do not need to be destroyed by this.

Concerned citizen,

[REDACTED]



Virus-free. www.avast.com

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: No pipeline through what little
Date: Sunday, June 4, 2017 9:58:05 PM

No pipeline through what little open “safe” space we have left.

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: Natural Gas Line 3602 application No. A15-09-013
Date: Sunday, June 4, 2017 9:00:07 AM

Dear CPUC,

SDG&E's fracked gas pipeline project should be abandoned. The pipeline expansion is not needed. Natural Gas use is declining in the region. The likely conversion of ratepayer-financed infrastructure to export LNG would be contrary to California's climate goals and contrary to the public interest. Our parks are not intended to be sacrificed for utility profits.

Sincerely,

[REDACTED]

[REDACTED]

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: Fracking Pipeline
Date: Sunday, June 4, 2017 12:09:41 AM

NO!
We do not need it!
We do not want it!!!

[REDACTED]
[REDACTED]
[REDACTED] 92122

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: gas pipeline
Date: Sunday, June 4, 2017 1:24:39 PM

Do not expand or replace the gas pipeline while renewable energy is needed!

[REDACTED] IL [REDACTED] phone [REDACTED]

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: Do not allow this.
Date: Sunday, June 4, 2017 12:35:07 AM

[REDACTED]

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Cc: [REDACTED]
Subject: No to proposed 30 inch gas pipe line
Date: Sunday, June 4, 2017 12:54:02 PM

I am totally against running a 30 inch gas pipe line near a populated area and then into The mission trails regional park .
It would destroy habitat and pose a danger to human life

[REDACTED]

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: Natural Gas Line 3602 (Application No. A.15-09-013)
Date: Sunday, June 4, 2017 11:43:00 AM

CPUC,

With the increase of renewable solar power, natural gas use has been declining in the San Diego region. Application No. A.15-09-013 appears to be a SDG&E plan for ratepayers to finance LNG infrastructure in supporting LNG exports to foreign interests solely for company profits.

This project is contrary to California's climate goals, and completely contrary to the public interest. Our park lands are intended for the benefit of the public, and should not be sacrificed for utility profits.

In summary:

- The pipeline is not needed in support of public gas needs
- The project goes against California's climate goals
- It penalizes the public who enjoys our natural parks
- SDG&E's gas pipeline project should not be approved

Thank you for supporting the citizens,

[REDACTED] CA

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: No pipeline Mission Trails
Date: Sunday, June 4, 2017 6:20:14 PM

-- **RE: Natural Gas Line 3602 (Application No. A.15-09-013)**

Dear CPUC,

SDG&E's fracked gas pipeline project should be abandoned. The pipeline expansion is not needed. Natural Gas use is declining in the region. The likely conversion of ratepayer-financed infrastructure to export LNG would be contrary to California's climate goals and contrary to the public interest. Our parks are not intended to be sacrificed for utility profits.

Sincerely,

Regards/Respectfully, [REDACTED] CA

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: Fracked gas pipeline through East San Diego County
Date: Sunday, June 4, 2017 12:35:03 AM

I am opposed to the construction of this gas pipeline through open space and city parks so that SDG&E can transport LNG gas to Asia with our ratepayer dollars.

Parks and open space areas are for recreation and wildlife, not as corridors for utilities to use as construction zones for new projects.

Thank you very much for listening.

[REDACTED]
[REDACTED]

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline CPUC](#)
Subject: (no subject)
Date: Sunday, June 4, 2017 1:18:41 PM

NO NO, NO

From: [REDACTED]
To: [Rainbow Natural Gas Pipeline. CPUC](#)
Subject: Concerns about proposed pipeline
Date: Sunday, June 4, 2017 7:38:05 PM
Attachments: [Pipeline.docx](#)

Please see attached document!

June 2, 2017

I am writing this letter out of concern for the new SDG&E Natural Gas Pipeline from the Rainbow Metering Station to the Marine Corp Air Station Miramar. I understand this is proposed to replace another, almost 70-year old pipeline. My first concern is that this pipeline is safe. I have read reports of a recent explosion of one. Since the proposed pipeline will be near The Welk Resort, lives could be in danger.

A more pressing personal concern is that our family owns the land adjacent to [REDACTED] which the new pipeline will go through, as well as where the MLV4 is to be placed. My father purchased this land 60 years ago to build a ranch until much of it was taken by eminent domain for [REDACTED]. We now have plans for a restaurant and gas station, which makes a gas line even more dangerous. The MLV4 will at least have to be moved 1/2 mile north or south.

We ask that you please reconsider building this new gas line altogether. Apparently the Sierra Club is already asking that SDG&E to put the hundreds of millions of dollars necessary for the new pipeline into renewable energy sources. At least, if the pipeline is constructed, consider keeping it well away from areas where existing and proposed developments will be located and move the MLV4 to a different location.

Sincerely,

[REDACTED]



San Diego Military Advisory Council
409 Camino del Rio South, Ste. 302
San Diego, California 92108

www.sdmac.org

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May 20, 2017

Robert Peterson
California Public Utilities Commission
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

RE: Pipeline Safety and Reliability Project

Dear Commissioners,

On behalf of the San Diego Military Advisory Council (SDMAC), I would like to express our organization's support for SDG&E's Pipeline Safety & Reliability Project, a proposed, new 47-mile long natural gas transmission line. The new pipeline would replace a nearly 70-year-old pipeline, one of only two transmission lines currently servicing our burgeoning region.

Our organization represents a multitude of interests in the defense and military sector of San Diego and one thing we all rely on is safe and unfettered energy access. When it comes to keeping our country safe, it is imperative that our military is able to fuel their operations without interruption. That is why we support this project and reject the Mexico alternative. San Diego has the largest concentration of military in the world, and relying on consistent access to energy from a neighboring nation with which we have little control over jeopardizes the operational capabilities of our nation's critical defense systems.

As this project is considered before the Public Utilities Commission, I urge you to not only consider the importance of natural gas to San Diego's military and defense sector, which accounts for nearly one in four jobs in our region, but also the national significance of ensuring reliable energy access to fuel vital military operations. A loss of access to natural gas would be detrimental to our region-which derives nearly 54 percent of its electricity from natural gas. Please support this project without delay.

Sincerely,

Executive Director



THE CITY OF SAN DIEGO
COUNCILMEMBER SCOTT SHERMAN
SEVENTH DISTRICT

February 15, 2018

Mr. Robert Peterson
California Public Utilities Commission
c/o Ecology and Environment Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

RE: Pipeline Safety and Reliability Project – New Natural Gas Line 3602 and De-rating line 1600

Dear Mr. Peterson:

As Chair of the Mission Trails Regional Park Task Force, a Joint Powers Authority between the County of San Diego, City of San Diego, City of La Mesa, and City of Santee. Our organization is reaching out to express our adamant opposition to any route alignments that would cross through Mission Trails Regional Park.

Mission Trails Regional Park is one of the largest urban parks in the United States the largest in California. These lands are designated open space and it is imperative that we preserve them. Any changes would impact wildlife, flora, and sensitive habitats.

Our chief concern is protecting our natural resources and minimizing any potential disruptions. The California Public Utilities Commission can prevent this from happening by approving SDG&E's Pipeline Safety and Reliability Project – New Natural Gas Line 3602 and De-rating Line 1600 as proposed. This route is the environmentally superior option and also the most cost prohibitive.

Thank you in advance for your time and consideration regarding this matter.

Best regards,

Scott Sherman
Chair, Mission Trails Regional Park Task Force

Kevin Graney
President

May 30, 2017

Robert Peterson
California Public Utilities Commission
RE: Pipeline Safety and Reliability Project
c/o Ecology and Environment, Inc.
505 Sansome Street, Suite 300
San Francisco, CA 94111

Dear Commissioners,

I urge you to support SDG&E's proposed natural gas pipeline project, which will enhance our region's aging natural gas infrastructure and ensure that San Diego County residents and businesses have access to one of the most reliable sources of energy available. Doing so will ensure the region's natural gas transmission system is up to date and not susceptible to potential single points of failure.

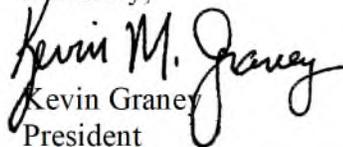
General Dynamics NASSCO is the only full service shipyard on the West Coast specializing in designing, building and repairing ships for the U.S. Navy. Additionally, NASSCO builds commercial cargo carriers at our 86 acre shipyard along the San Diego Bay, making our company a vital contributor to the Port of San Diego's annual economic output, totaling more than \$5 billion.

Natural gas is an important resource for our industry because we rely on affordable energy to power our operations in the most cost-effective manner possible. In addition, General Dynamics NASSCO recently built the first commercial containerships powered entirely by liquefied natural gas (LNG). Maintaining reliable access to natural gas is therefore a top priority for our company and our nearly 3,000 employees in San Diego.

A full replacement of the existing transmission line is necessary to ensure future access to this affordable and reliable energy source.

As this project is considered before the CPUC, I once again urge commissioners to recognize the benefits that natural gas brings to our region's economy and subsequently approve this project. My company's operations depend on it.

Sincerely,


Kevin Graney
President



June 12, 2017

Mr. Robert Peterson
California Public Utilities Commission
c/o Ecology and Environment, Inc.
505 Sansome St., Ste. 300
San Francisco, CA 94111

RE: Pipeline Safety and Reliability Project

Dear Mr. Peterson:

I'm writing today to express my support for the SDG&E Pipeline Safety and Reliability Project. I believe that San Diego and the surrounding region have a need for energy independence and control, and should not be dependent on unknown natural gas supplies and infrastructure outside of the country.

After thoughtful review of the project, I strongly feel that this project will improve energy reliability by reducing the region's dependence on a single natural gas transmission pipeline. I am requesting that the CPUC not consider relying on foreign supplies of natural gas or infrastructure in place of our own energy independence.

Thank you in advance for your thoughtful consideration of this project that will better protect San Diego and the surrounding region.

Sincerely,

A handwritten signature in black ink that reads "Wendy Robinson". The signature is fluid and cursive, with the first name "Wendy" being larger and more prominent than the last name "Robinson".

Wendy Robinson
Executive Director
San Diego Fire Rescue Foundation
P: 619.410.4742