ATTACHMENT B

to the Supplemental Testimony of SDG&E and SoCalGas (February 2017)

Cost-Effectiveness Analysis (Corrected February 2017)
Workpaper - Avoided Cost Model (Corrected February 2017)
Workpaper - Scenario Analysis (Corrected February 2017)

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, as corrected February 2017

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 15-09-013[1] (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 ruling[2] (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
*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.*	A benefits scoring model was developed based on quantifiable data for each of the seven benefit types.	• 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
*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]*	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.	• 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
*The analysis will apply quantifiable data to define the relative **benefits** of the proposed project and, at a minimum, the range of alternatives.*	A benefit score was developed for the Proposed Project and each Alternative.	• Table 2 - Proposed Project and Alternatives Relative Benefit Ranking and Net Costs
Include an estimate of costs, both fixed and operating, as required by Rule 3.1(f).	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.	• 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 Ranking[8] and Net Costs[9]

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	$460.1
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 $465 million and includes Alternate Diameters of 10-, 12- and 42-inches, the Replace Line 1600 In-Place with a New 16-inch Transmission Pipeline Atlernative, and 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 (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;

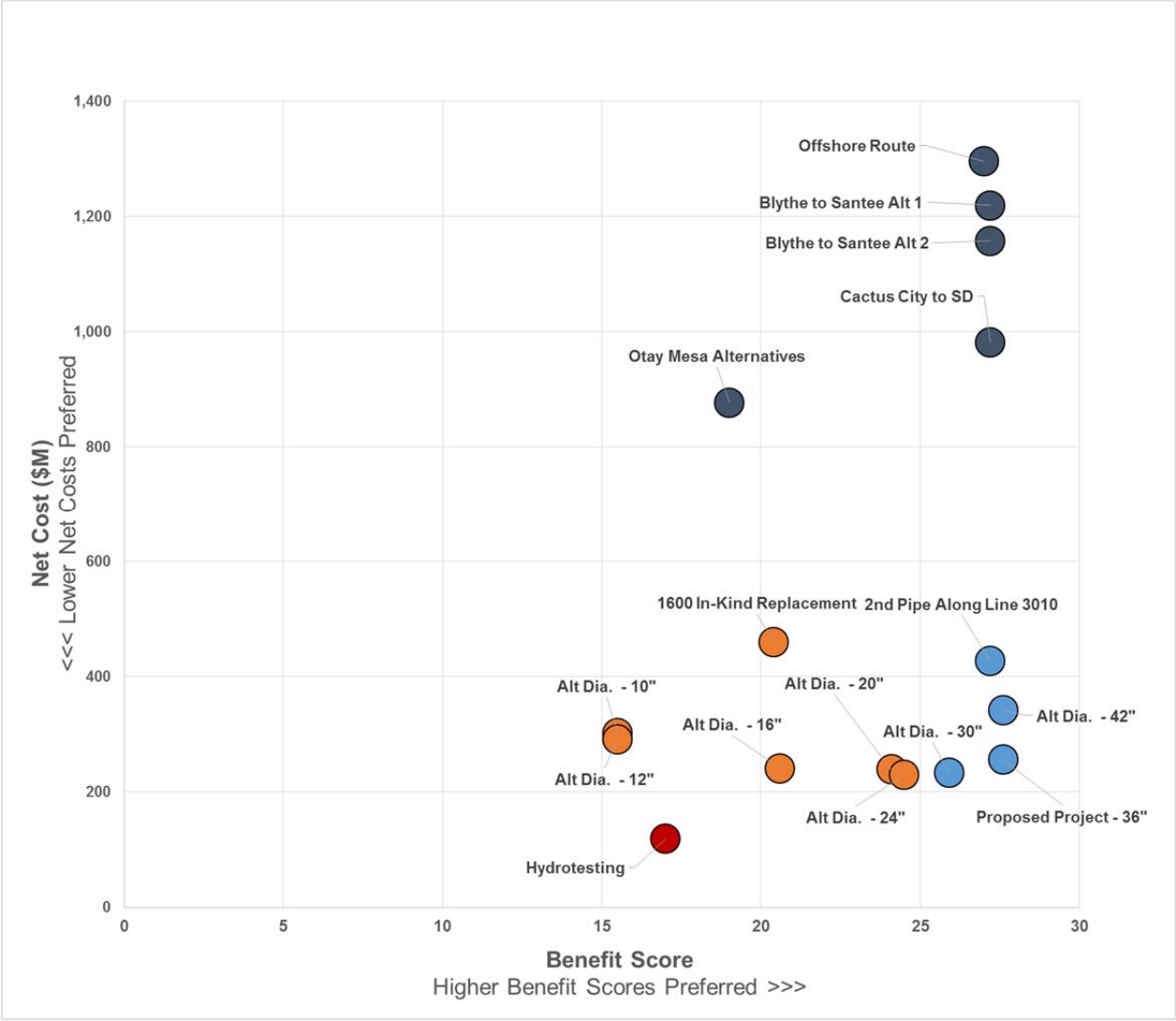
- The 42-inch Alternate Diameter Pipeline offers the same benefits as the Proposed Project but costs approximately $86 million more.

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 Ruling[17] 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.

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[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.

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

	Type of Assessment		
Description	**Quantitative Monetary**	**Quantitative Non-Monetary**	**Metric/Measure**
Project Costs - Fixed costs	✓		Dollars
Project Costs - Operating costs	✓		Dollars

[20] Ruling, page 12.

	Type of Assessment		
Description	**Quantitative Monetary**	**Quantitative Non-Monetary**	**Metric/Measure**
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 three 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.

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[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 Line[26]

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 Ruling[28] 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 facilities[31] 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 Ruling[33] 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 Ruling[40] 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]

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[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.

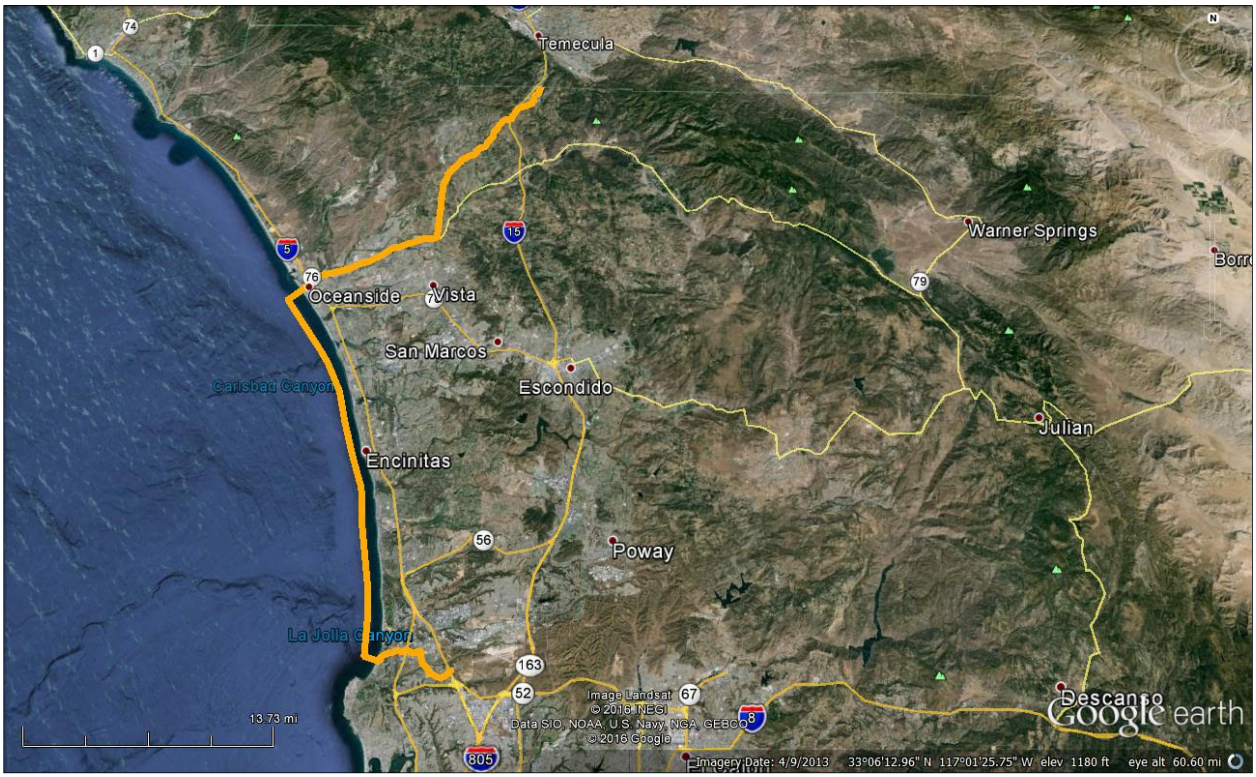

Figure 2 - Offshore Route Alternative (Conceptual - illustrative purposes only)

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.

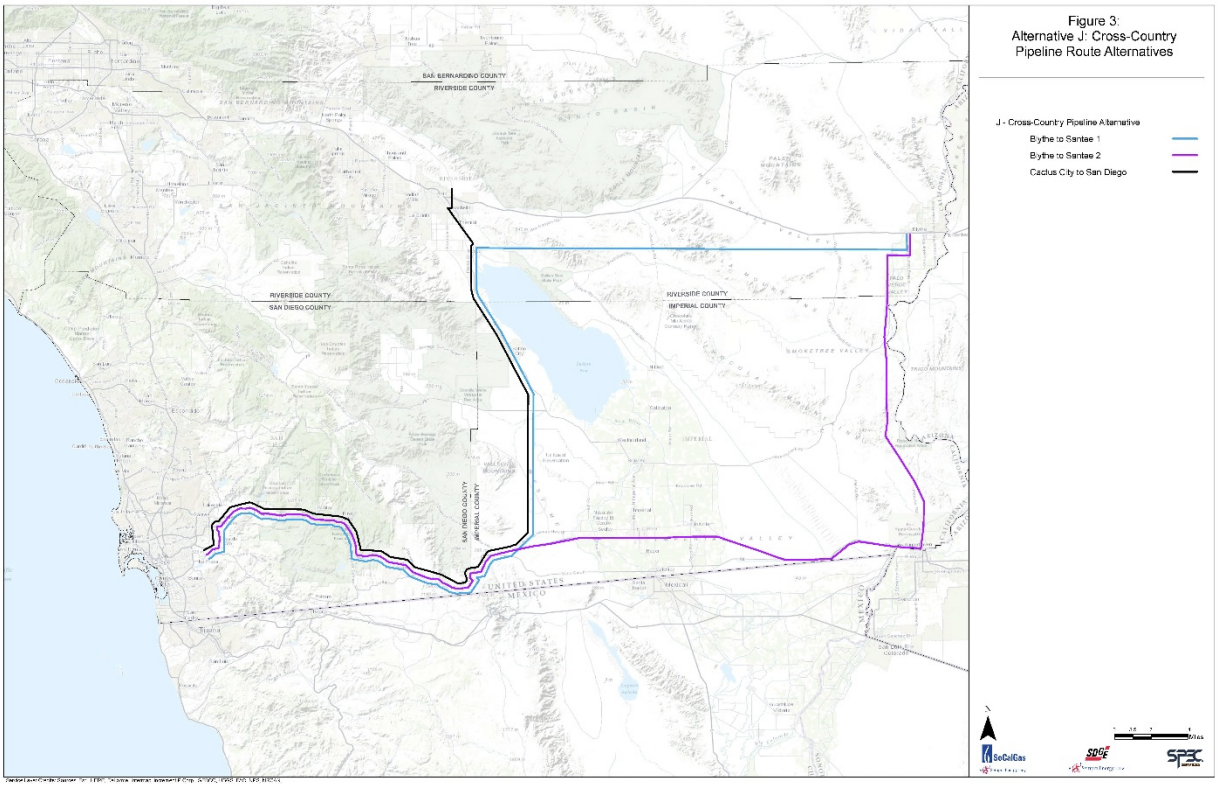

Figure 3 - Cross County Pipeline Route Alternatives (Conceptual - illustrative purposes only)

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 Ruling[48] 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:

Fixed Costs + *O&M Costs* + *Avoided Costs* = 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 PEA[50] – 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 International[51] 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

	Primary Characteristic	***Secondary Characteristic***		
ESTIMATE CLASS	**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 form 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 Costs[55]

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 developed from the Proposed Projectestimate as a baseline. This project involves the same proposed route and similar components as the Proposed Project though in differentsizes. 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 developed from the Proposed Project estimate as a baseline. This project involves the same proposed route and similar components as the Proposed Project though in differentsizes. 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 developed from the Proposed Project estimate as a baseline. This project involves the same proposed route and similar components as the Proposed Project though in different sizes. 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 developed from the Proposed Project estimate as a baseline. This project involves the same proposed route and similar components as the Proposed Project though in different sizes. 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 developed from the Proposed Project estimate as a baseline. This project involves the same proposed route and similar components as the Proposed Project though in different sizes. 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 developed from the Proposed Project estimate as a baseline. This project involves the same proposed route and similar components as the Proposed Project though in different sizes. 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 developed from the Proposed Project estimate as a baseline. This project involves the same proposed route and similar components as the Proposed Project though in different sizes. 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 developed using theAlternative B and Alternative C3 estimates as a baseline. 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 life[64] for the Proposed Project and Alternatives involving construction of a new pipeline (all Alternatives except the Hydrotest 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' methodology[65] 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);
- Tabulate the avoided costs on a time line for the Proposed Project and for those Alternatives to which they apply;

[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.

- 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	($100.3)	$460.1
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 $465 million, and includes Alternative Diameters of 10-, 12- and 42-inches, the Replace Line 1600 In-Place with a New 16-Inch Transmission Pipeline Alternative, and 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 (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 $465 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
	D	Replace Line 1600 In Place with a New 16-inch Transmission Pipeline	$460.1M
$500 M to $1Billion	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 ANALYSIS[81]

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 MMcfd 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)	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. Ability to achieve "as soon as practicable" safety objective based on completion or in-service year.

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)	The removal and replacement of Line 1600 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. Unable to achieve "as soon as practicable" safety objective based on completion or in-service year.
De-rated Line 1600 is assumed for each of the below options (but no transmission pipeline is part of the project): • Otay Mesa Alternatives • LNG Storage • Alternate Energy – Grid Scale • Alternate Energy – Smaller Scale	De-rating of Line 1600 to distribution service will improve overall system safety margin. There is no new transmission pipeline to meet or exceed modern design standards for longer-term safety benefit of transmission pipeline safety. Fewer incidents per HCA mile due a de-rated distribution Line 1600. No improvements in real-time awareness of excavation damages. Low ability to achieve "as soon as practicable" safety objective based on completion or in-service year for the Otay Mesa, the

Project	Safety Benefits
	LNG and Alternate Energy Alternatives.
Alternative Pipelines – 36" (with a de-rated Line 1600) • 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 2nd 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 analysis[89] 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 14[90] 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 Alternatives[91]

[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 analysis[92] 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 14[93] 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 Alternatives[94]
  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

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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 analysis[95] 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 14[96] 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 Alternatives[97]
  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 analysis[98] 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 14[99] 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.

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[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 Alternatives[100]
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	[illegible] 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	End Pipeline Along 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: • 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.
• 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 flexibility[102] 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	[illegible]	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	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	5
Average Score	**5**	**4**	**4**	**4**	**4**	**5**	**5**	**5**	**5**	**4**	**3**	**4**	**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	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
1600)	
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: • 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.
• 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" pipeline[104] 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 Line1600 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: • 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%.
• 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]: • 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.
• 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:

$$Risk = Likelihood\ of\ Incident \times HCA\ Miles$$

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

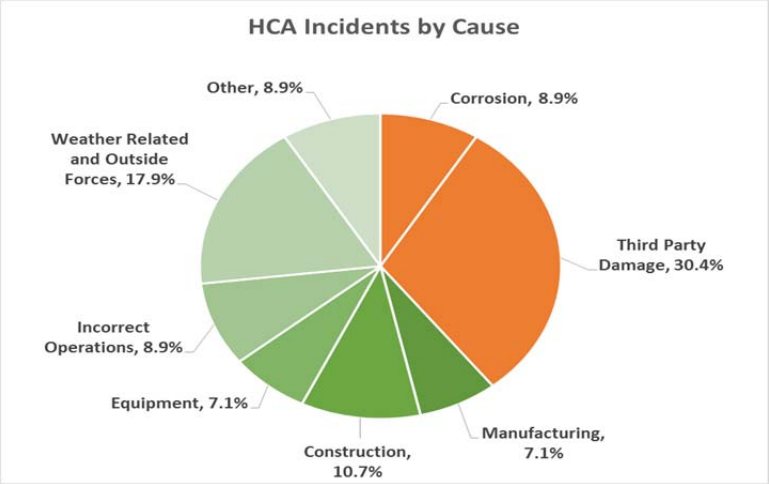
Line	Incident Period	Incident Rate per Thousand Mile Years
Line similar to 1600	1970 – 2014	0.354
Line similar to 1600	2000 – 2014	0.0915
Line similar to 3602[114]	2000 - 2014	0.064

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.

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[119] Information compiled at the federal level by PHMSA and published at location http://primis.phmsa.dot.gov/gasimp/performancemeasures.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:

$$Risk\ Score\ of\ Proposed\ Alternative = \sqrt{0.21^2 + 2.05^2} = 2.06$$

The risk score for the Hydrotest Alternative is:

$$Risk\ Score\ of\ (Hydrotest)\ Alternative\ = 2.99$$

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 conditions[125]

	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
Project Alterantives Capacity [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

[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
Project Alterantives Capacity [MMcfd]						
Alternate Diameter Pipeline 24"	400	400	400	400	400	400
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 Supply[127]						
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

[127] Otay Mesa supply provided over various seasonal conditions (source: SoCalGas/SDG&E Gas Transmission Planning Department).

[128] 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.

	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
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	• Is immediate curtailment at Electrical Generation stations required?
	• Overall capacity shortfalls in MMcfd
Curtailment to Gas Customers[129]	• 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	• 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

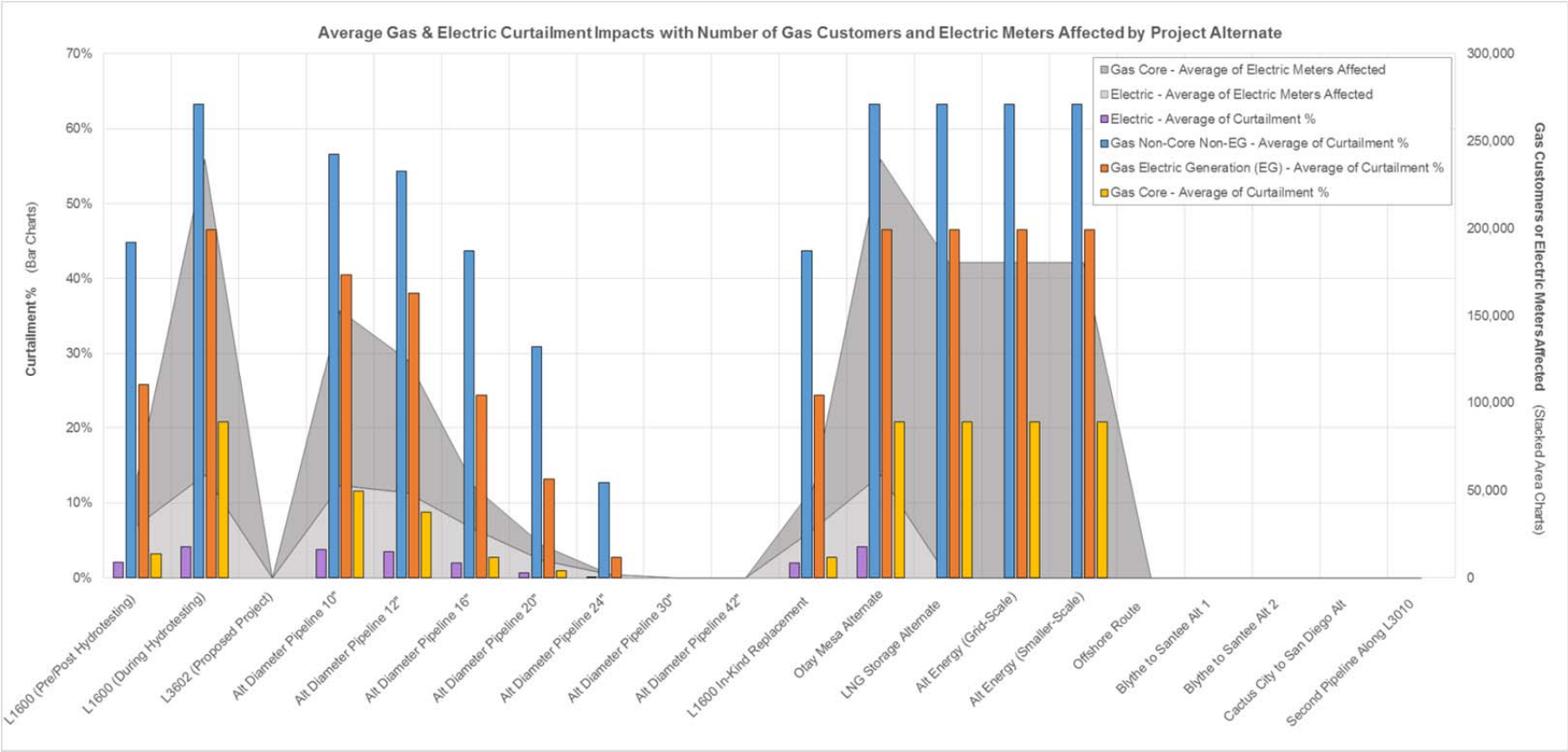

Table 37 - Ranking of Project Alternatives by Average Curtailment

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	1	1	1	1
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	$460.1
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 $465 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 (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.

PSRP Cost-Effectiveness Analysis Change Log – February 2017

Document	Witness	Page	Location	Revision Detail
CEA	Anthony Caletka	Cover	N/A	Added "as corrected February 2017"
CEA	Anthony Caletka	3	Table 2	For Alternative D, changed "$560.4" to "$460.1"
CEA	Anthony Caletka	4	6th bullet point	Modified sentence as follows: "After the cluster that includes the Proposed Project, the next group of projects grouped by least net cost ranges from $290 million to ~~$430~~ $465 million and includes Alternate Diameters of 10-, 12- and 42-inches, the Replace Line 1600 In-Place with a New 16-inch Transmission Pipeline Alternative, and ~~as well as~~ the Second Pipeline Along Line 3010 Alternative;"
CEA	Anthony Caletka	4	7th bullet point	Modified sentence as follows: "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);"
CEA	Anthony Caletka	6	Figure 1	This figure is corrected to reflect the correction in Table 2. See the position of Alternative D: "1600 In-Kind Replacement"
CEA	Anthony Caletka	11	Section III.B second paragraph, first sentence	Modified sentence as follows: "The Hydrotest Alternative involves a complex ~~four~~ three year project to test the northern 45-miles of Line 1600, from Rainbow Metering Station to Kearny Villa Station."

Document	Witness	Page	Location	Revision Detail
CEA	Anthony Caletka	23	Under Alternative C1: second and third sentence	Modified sentences as follows: "Costs for this Alternative were ~~scaled~~ developed from the Proposed Project ~~on a cost per mile basis~~ estimate as a baseline. This project involves the same proposed route and similar components as the Proposed Project though in different ~~quantities~~ sizes."
CEA	Anthony Caletka	24	Under Alternative C2: second and third sentence	Modified sentences as follows: "Costs for this Alternative were ~~scaled~~ developed from the Proposed Project ~~on a cost per mile basis~~ estimate as a baseline. This project involves the same proposed route and similar components as the Proposed Project though in different ~~quantities~~ sizes."
CEA	Anthony Caletka	24	Under Alternative C3: second and third sentence	Modified sentences as follows: "Costs for this Alternative were ~~scaled~~ developed from the Proposed Project ~~on a cost per mile basis~~ estimate as a baseline. This project involves the same proposed route and similar components as the Proposed Project though in different ~~quantities~~ sizes."
CEA	Anthony Caletka	24	Under Alternative C4: second and third sentence	Modified sentences as follows: "Costs for this Alternative were ~~scaled~~ developed from the Proposed Project ~~on a cost per mile basis~~ estimate as a baseline. This project involves the same proposed route and similar components as the Proposed Project though in different ~~quantities~~ sizes."
CEA	Anthony Caletka	24	Under Alternative C5: second and third sentence	Modified sentences as follows: "Costs for this Alternative were ~~scaled~~ developed from the Proposed Project ~~on a cost per mile basis~~ estimate as a baseline. This project involves the same proposed route and similar components as the Proposed Project though in different ~~quantities~~ sizes."

Document	Witness	Page	Location	Revision Detail
CEA	Anthony Caletka	24	Under Alternative C6: second and third sentence	Modified sentences as follows: "Costs for this Alternative were ~~scaled~~ developed from the Proposed Project ~~on a cost per mile basis~~ estimate as a baseline. This project involves the same proposed route and similar components as the Proposed Project though in different ~~quantities~~ sizes."
CEA	Anthony Caletka	25	Under Alternative C7: second and third sentence	Modified sentences as follows: "Costs for this Alternative were ~~scaled~~ developed from the Proposed Project ~~on a cost per mile basis~~ estimate as a baseline. This project involves the same proposed route and similar components as the Proposed Project though in different ~~quantities~~ sizes."
CEA	Anthony Caletka	25	Under Alternative D: second and third sentence	Modified sentences as follows: "Costs for this Alternative were ~~scaled from~~ developed using the ~~Proposed Project~~ Alternative B and Alternative C3 estimates as a baseline. ~~on a cost per mile basis. This project involves similar components as the Proposed Project though in different quantities~~.
CEA	Anthony Caletka	27	Section C first sentence	Modified sentence as follows: "The Applicants analyzed the total avoided costs that would accrue over an assumed 100 year useful life[64] 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 Alterative~~)."
CEA	Anthony Caletka	32	Table 8	For Alternative D: Avoided Cost – changed "$0.0" to "($100.3)" Net Cost – changed "$560.4" to "$460.1"

Document	Witness	Page	Location	Revision Detail
CEA	Anthony Caletka	33	First paragraph, last sentence	Modified sentence as follows: "The third least-cost category has a larger range, from $290 million to ~~$430~~$465 million, and includes Alternative Diameters of 10-, 12- and 42-inches, the Replace Line 1600 In-Place with a New 16-inch Transmission Pipeline Alternative, and ~~as well as~~ the Second Pipeline Along Line 3010 Alternative."
CEA	Anthony Caletka	33	Second paragraph, second sentence	Modified sentence as follows: "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)."
CEA	Anthony Caletka	33	Table 9	Net Cost Range for Alternatives C2, C1, C7, K and D – change from "$290 M to $430 M" to "$290 M to $465 M" Change Net Cost for Alternative D from "$560.4 M" to "$460.1 M"
CEA	Anthony Caletka	68	Table 34	Change heading from "Natural Gas Demand [MMcfd]" to "Project Alternatives Capacity [MMcfd]"
CEA	Anthony Caletka	68	Footnote 127	Footnote 127 was missing in the original CEA and should read: "Otay Mesa supply provided over various seasonal conditions (source: SoCalGas/SDG&E Gas Transmission Planning Department)."
CEA	Anthony Caletka	68	Footnote 128	Footnote 128 was missing in the original CEA and should read: "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."

Document	Witness	Page	Location	Revision Detail
CEA	Anthony Caletka	70	Figure 5	This figure is corrected to reflect the corrections in Table 37. See the scores for the Otay Mesa Alternatives
CEA	Anthony Caletka	71	Table 37	The scores for the Otay Mesa Alternatives are modified as follows: Gas Non-Core, Non-EG Customers – change "4" to "1" Gas Electric Generation (EG) Customers – change "5" to "1" Gas Core Customers – change "5" to "1" Electric – change "5" to "1"
CEA	Anthony Caletka	74	Table 40	For Alternative D, changed "$560.4" to "$460.1"
CEA	Anthony Caletka	74	Last paragraph, second sentence	Modified sentence as follows: "The third least-cost group has a larger range, from $290 million to ~~$430~~$465 million, and the remaining two groups of Alternatives far exceed the net costs of the Proposed Project."
CEA	Anthony Caletka	74-75	Last paragraph, last sentence	Modified sentence as follows: "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 Pipeline,~~ 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)."
CEA Workpaper Avoided Cost Model	Anthony Caletka	Inputs Tab Page 1, line 23	Second column	Change heading from "Capacity Needed to Meet PSEP 1-in-10 Year Winter Day Requirements (MMcfd)" to "Current System Capacity (MMcfd)"
CEA Workpaper Avoided Cost Model	Anthony Caletka	Inputs Tab Page 1, line 23	Fourth column	Change heading as follows: "Capacity Shortfall ~~of Min Req~~ [MMcfd]"

Document	Witness	Page	Location	Revision Detail
CEA Workpaper Avoided Cost Model	Anthony Caletka	Costs over 100 Yrs Tab, Page 2, Line 127,	Years 2039 and 2040	Updated the Avoided Cost Model, Alternative D, by adding in the costs for replacing Line 1600 as a transmission pipeline. The resulting output is shown on the "Outputs" tab, Line 14, Column "Avoided Cost – Line 1600 Replacement" (-$100.3M) and Line 14, Column "Net Cost" ($460.1M)
CEA Workpaper Scenario Analysis	Anthony Caletka	Gas Tab, Line 25	Columns C through H	Changed the fixed gas supply from the Otay Mesa Alternative from 400 MMcfd to 0 MMcfd. The resulting output is shown on the "Scoring" tab, Line 15, Columns M through P. The scores for the Otay Mesa Alternatives are modified as follows: Gas Non-Core, Non-EG Customers – change "4" to "1" Gas Electric Generation (EG) Customers – change "5" to "1" Gas Core Customers – change "5" to "1" Electric – change "5" to "1"

A.15-09-013 Cost-Effectiveness Analysis Workpaper - Avoided Cost Model corrected February 2017

WORK PAPER TABLE - AVOIDED COST MODEL INPUTS (AC 1.1)
INPUTS AND ASSUMPTIONS FOR AVOIDED COST MODEL, BY PROJECT ALTERNATE
APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.

Model Inputs

Fixed Input Data		Assumptions / Sources:
MCS O&M and Emissions Cost	**($5,866,617)**	Source: Moreno Valley Compressor Station – PSRP Benefit Analysis Final - 3-4-2016 Lou Pagdanganan 3-4-2016. Assumes 95% reduction in operations.
Future L1600 Replacement Cos	**($337,050,844)**	Based on 16" Alternate Diameter Pipeline running same route as the Proposed Project. Includes 11.9% contingency. This is the more cost effective option than "Replace Line 1600 In-Place With a 16-Inch Pipeline (In-Kind Replacement)" (
Discount Rate	**7.79%**	SDG&E Business Finance. Authorized Cost of Capital (to change in 201
Inflation Rate	**2.90%**	IHS Power Plant Q4 2014 Forecast - Construction Cost Indexes. Cost Trends of Gas Utility Construction. Pacific Region. Average percent change for Transmission Plant from 2017-2025. Provided by SDG&E Fina
L1600 Hydrotesting Duration (yrs	**3**	Hydrotesting occurring on shoulder seasons only. See Prepared Direct Testimony of Neil Navin (March 21, 201
Est Useful Life of L1600 After Hydrotesting (yrs	**20**	From Cost Effectiveness Analysis. Installation of new L1600 starts 20 years after hydrotesting and is completed 2 years after t
Project Lifetime Period (yrs	**100**	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 pu

Inputs by Project Alternative

	Avoided Cost Inputs	Proposed Project (Line 3602)	Hydrotest (Line 1600)	Alt. Diameter Pipelines							Replace Line 1600 In-Place	Otay Mesa Alternative	LNG Storage (Peak-Shaver)	Alternate Energy		Offshore Route	Cross-County Pipeline Alts			Second Pipeline Along Line 3010
				10"	12"	16"	20"	24"	30"	42"				Grid-Scale Batteries	Smaller-Scale Batteries		Blythe to Santee 1	Blythe to Santee 2	Cactus City to San Diego	
Footnotes	**ALTERNATIVE REFERENCE:**	***A***	***B***	***C1***	***C2***	***C3***	***C4***	***C5***	***C6***	***C7***	***D***	***E/F***	***G***	***H1***	***H2***	***I***	***J1***	***J2***	***J3***	***K***
N/A	Future L1600 Replacement Cos	✓	×	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
6	MCS O&M and Emissions Cost	✓	×	✓	✓	×	✓	✓	✓	✓	×	✓	×	×	×	✓	✓	✓	✓	✓
6	MCS Usage %	100%	0%	0%	0%	0%	20%	40%	70%	100%	0%	0%	0%	0%	0%	100%	100%	100%	100%	100%
2	Est Time Until Operational (From 2015	6	6	6	6	6	6	6	6	6	11	9	10	10	10	15	10	10	10	11
2,3,5	Annual O&M Cost	$240.0 K	$300.0 K	$240.0 K	$240.0 K	$240.0 K	$240.0 K	$240.0 K	$240.0 K	$240.0 K	$300.0 K	$.0 K	$1200.0 K	$1200.0 K	$1200.0 K	$450.0 K	$1138.1 K	$1139.1 K	$819.3 K	$230.3 K
2,4	TIMP Cost (Pigging Every 7 Years	$500.0 K	$1400.0 K	$500.0 K	$500.0 K	$500.0 K	$500.0 K	$500.0 K	$500.0 K	$500.0 K	$500.0 K	$.0 K	$.0 K	$.0 K	$.0 K	$500.0 K	$1500.0 K	$1500.0 K	$1500.0 K	$500.0 K

Importing Gas[1]

Alternative Pipeline Size	Current System Capacity (MMcfd)	System Capacity w/ Line 3010 [MMcfd]	Capacity Shortfall [MMcfd]	NG Incremental Transport Cost ($/dekatherm)	NG Incremental Transport Cost ($/MMcf)	Annual Cost to Import NG (2015 $)
10 Inch	630	570	60	0.3	300	6,570,000
12 inch	630	590	40	0.3	300	4,380,000
16 inch	630	630	0	0.3	300	-

Footnotes

1. The 10-inch and 12-inch alternate diameter pipelines do not meet regulatory requirements for natural gas demand on a one in ten year winter day. It is assumed that these alternatives will require the import of gas via the Otay Mesa receipt point. The fixed costs used for these alternatives include the present value of gas required for the period analyzed, assuming a 2015 rate of $0.30/dekatherm, assuming a 60 MMcfd shortfall for the 10-inch pipeline and a 40 MMcfd shortfall for the 12-inch pipeline. It was assumed for either option that the required import capacity would have to be contracted for the entire year.
2. See Prepared Direct Testimony of Neil Navin (March 21, 2016), page 31, workpaper Estimated Fixed and Operating Costs for Proposed Project and Alterna
3. Following derating, Line 1600 maintenance will fall under the DIMP requirements. These have not been considered as part of this analy
4. Costs for pigging Line 1600 after hydrotesting were provided by SDG&E. They are much higher than TIMP costs associated with other options because of multi-diameter segments, potential retrofits of certain segments, and the need to import gas during hydro
5. The O&M costs of small-scale batteries were assumed to be the same as or similar to the grid-scale opti
6. Savings are based on the "best case" (95%) savings identified in the Moreno Valley Compressor Station - PSRP Benefit Analysis, Pagdanganan, 3-4-2016. Savings for pipelines between 16" and 36" are allocated on a straightline basis. Compression is assumed to not be required for pipelines with a diameter of 36" or greater. It is assumed that no additional compression is required for pipelines with a diameter of 16" or less.

WORK PAPER TABLE - AVOIDED COST MODEL - COSTS OVER 100 YEARS (AC 1.2)

ANNUAL COSTS BY PROJECT ALTERNATE, FOR AVOIDED COSTS AND O&M COSTS

A.15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.

		PV (X years after operational)	0	1	2	3	4	5	6	7	8	9	10	11	12	13
		100														
	A ***Proposed Project (Line 3602)***															
		PV	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**
									Operational Year							
1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2	MCS O&M and Emissions Cost	$ (89,968,134)	$ -	$ -	$ -	$ -	$ -	$ -	$ (6,964,340)	$ (7,166,306)	$ (7,374,129)	$ (7,587,979)	$ (7,808,030)	$ (8,034,463)	$ (8,267,462)	$ (8,507,219)
3	***Total Avoided Costs***	**$ (190,253,617)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ (6,964,340)**	**$ (7,166,306)**	**$ (7,374,129)**	**$ (7,587,979)**	**$ (7,808,030)**	**$ (8,034,463)**	**$ (8,267,462)**	**$ (8,507,219)**
	Manual PV calc over 100 yrs for L3602 (Columns H to DJ)	***$ (190,253,617)***	*$ -*	*$ -*	*$ -*	*$ -*	*$ -*	*$ -*	*$ (4,119,369)*	*$ (3,932,490)*	*$ (3,754,088)*	*$ (3,583,780)*	*$ (3,421,199)*	*$ (3,265,993)*	*$ (3,117,828)*	*$ (2,976,384)*
4	Annual O&M Cost	$ 3,680,546	$ -	$ -	$ -	$ -	$ -	$ -	$ 284,907	$ 293,170	$ 301,671	$ 310,420	$ 319,422	$ 328,685	$ 338,217	$ 348,026
5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE
6	TIMP Cost	$ 904,581	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 725,053
7	***Total O&M Costs***	**$ 4,585,126**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 284,907**	**$ 293,170**	**$ 301,671**	**$ 310,420**	**$ 319,422**	**$ 328,685**	**$ 338,217**	**$ 1,073,079**
	B ***Hydrotest Alternate (Line 1600)***															
		PV	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**
									Operational Year							
1	Future L1600 Replacement Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2	MCS O&M and Emissions Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
3	***Total Avoided Costs***	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
4	Annual O&M Cost	$ 4,242,275	$ -	$ -	$ -	$ -	$ -	$ -	$ 356,134	$ 366,462	$ 377,089	$ 388,025	$ 399,278	$ 410,857	$ 422,772	$ 435,032
5	Pigging to Occur	N/A							FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE
6	TIMP Cost	$ 1,574,602	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,030,149
7	***Total O&M Costs***	**$ 5,816,878**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 356,134**	**$ 366,462**	**$ 377,089**	**$ 388,025**	**$ 399,278**	**$ 410,857**	**$ 422,772**	**$ 2,465,181**
	C1 ***Alternative Diameter Pipeline (10")***															
		PV	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**
									Operational Year							
1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2	MCS O&M and Emissions Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
3	***Total Avoided Costs***	**$ (100,285,483)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
4	Annual O&M Cost	$ 3,680,546	$ -	$ -	$ -	$ -	$ -	$ -	$ 284,907	$ 293,170	$ 301,671	$ 310,420	$ 319,422	$ 328,685	$ 338,217	$ 348,026
5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE
6	TIMP Cost	$ 904,581	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 725,053
7	Cost of Importing Gas	$ 100,754,939	$ -	$ -	$ -	$ -	$ -	$ -	$ 7,799,336	$ 8,025,517	$ 8,258,256	$ 8,497,746	$ 8,744,181	$ 8,997,762	$ 9,258,697	$ 9,527,199
8	***Total O&M Costs***	**$ 105,340,065**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 284,907**	**$ 293,170**	**$ 301,671**	**$ 310,420**	**$ 319,422**	**$ 328,685**	**$ 338,217**	**$ 1,073,079**
	C2 ***Alternative Diameter Pipeline (12")***															
		PV	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**
									Operational Year							
1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2	MCS O&M and Emissions Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
3	***Total Avoided Costs***	**$ (100,285,483)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
4	Annual O&M Cost	$ 3,680,546	$ -	$ -	$ -	$ -	$ -	$ -	$ 284,907	$ 293,170	$ 301,671	$ 310,420	$ 319,422	$ 328,685	$ 338,217	$ 348,026
5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE
6	TIMP Cost	$ 904,581	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 725,053
7	Cost of Importing Gas	$ 67,169,959	$ -	$ -	$ -	$ -	$ -	$ -	$ 5,199,557	$ 5,350,344	$ 5,505,504	$ 5,665,164	$ 5,829,454	$ 5,998,508	$ 6,172,465	$ 6,351,466
8	***Total O&M Costs***	**$ 71,755,086**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 284,907**	**$ 293,170**	**$ 301,671**	**$ 310,420**	**$ 319,422**	**$ 328,685**	**$ 338,217**	**$ 1,073,079**
	C3 ***Alternative Diameter Pipeline (16")***															
		PV	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**
									Operational Year							
1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2	MCS O&M and Emissions Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
3	***Total Avoided Costs***	**$ (100,285,483)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
4	Annual O&M Cost	$ 3,680,546	$ -	$ -	$ -	$ -	$ -	$ -	$ 284,907	$ 293,170	$ 301,671	$ 310,420	$ 319,422	$ 328,685	$ 338,217	$ 348,026
5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE
6	TIMP Cost	$ 904,581	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 725,053
7	***Total O&M Costs***	**$ 4,585,126**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 284,907**	**$ 293,170**	**$ 301,671**	**$ 310,420**	**$ 319,422**	**$ 328,685**	**$ 338,217**	**$ 1,073,079**
	C4 ***Alternative Diameter Pipeline (20")***															
		PV	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**
									Operational Year							
1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2	MCS O&M and Emissions Cost	$ (17,993,627)	$ -	$ -	$ -	$ -	$ -	$ -	$ (1,392,868)	$ (1,433,261)	$ (1,474,826)	$ (1,517,596)	$ (1,561,606)	$ (1,606,893)	$ (1,653,492)	$ (1,701,444)
3	***Total Avoided Costs***	**$ (118,279,110)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ (1,392,868)**	**$ (1,433,261)**	**$ (1,474,826)**	**$ (1,517,596)**	**$ (1,561,606)**	**$ (1,606,893)**	**$ (1,653,492)**	**$ (1,701,444)**
4	Annual O&M Cost	$ 3,680,546	$ -	$ -	$ -	$ -	$ -	$ -	$ 284,907	$ 293,170	$ 301,671	$ 310,420	$ 319,422	$ 328,685	$ 338,217	$ 348,026
5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE
6	TIMP Cost	$ 904,581	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 725,053
7	***Total O&M Costs***	**$ 4,585,126**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 284,907**	**$ 293,170**	**$ 301,671**	**$ 310,420**	**$ 319,422**	**$ 328,685**	**$ 338,217**	**$ 1,073,079**
	C5 ***Alternative Diameter Pipeline (24")***															
		PV	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**
									Operational Year							
1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2	MCS O&M and Emissions Cost	$ (35,987,253)	$ -	$ -	$ -	$ -	$ -	$ -	$ (2,785,736)	$ (2,866,522)	$ (2,949,652)	$ (3,035,192)	$ (3,123,212)	$ (3,213,785)	$ (3,306,985)	$ (3,402,888)
3	***Total Avoided Costs***	**$ (136,272,737)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ (2,785,736)**	**$ (2,866,522)**	**$ (2,949,652)**	**$ (3,035,192)**	**$ (3,123,212)**	**$ (3,213,785)**	**$ (3,306,985)**	**$ (3,402,888)**
4	Annual O&M Cost	$ 3,680,546	$ -	$ -	$ -	$ -	$ -	$ -	$ 284,907	$ 293,170	$ 301,671	$ 310,420	$ 319,422	$ 328,685	$ 338,217	$ 348,026
5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE
6	TIMP Cost	$ 904,581	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 725,053
7	***Total O&M Costs***	**$ 4,585,126**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 284,907**	**$ 293,170**	**$ 301,671**	**$ 310,420**	**$ 319,422**	**$ 328,685**	**$ 338,217**	**$ 1,073,079**

WORK PAPER TABLE - AVOIDED COST MODEL - COSTS OVER 100 YEARS (AC 1.2)

ANNUAL COSTS BY PROJECT ALTERNATE, FOR AVOIDED COSTS AND O&M COSTS

A.15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2(

Line No.			PV (X years after operational)	14	15	16	17	18	19	20	21	22	23	24	25	26
			100													
	A	***Proposed Project (Line 3602)***														
			PV	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**	**2040**	**2041**
1		Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ (334,683,589)	$ (344,389,413)	$ -
2		MCS O&M and Emissions Cost	$ (89,968,134)	$ (8,753,928)	$ (9,007,792)	$ (9,269,018)	$ (9,537,820)	$ (9,814,416)	$ (10,099,035)	$ (10,391,907)	$ (10,693,272)	$ (11,003,377)	$ (11,322,475)	$ (11,650,826)	$ (11,988,700)	$ (12,336,373)
3		***Total Avoided Costs***	**$ (190,253,617)**	**$ (8,753,928)**	**$ (9,007,792)**	**$ (9,269,018)**	**$ (9,537,820)**	**$ (9,814,416)**	**$ (10,099,035)**	**$ (10,391,907)**	**$ (10,693,272)**	**$ (11,003,377)**	**$ (11,322,475)**	**$ (346,334,415)**	**$ (356,378,113)**	**$ (12,336,373)**
		Manual PV calc over 100 yrs for L3602 (Columns H to DJ)	***$ (190,253,617)***	*$ (2,841,358)*	*$ (2,712,457)*	*$ (2,589,403)*	*$ (2,471,933)*	*$ (2,359,791)*	*$ (2,252,737)*	*$ (2,150,539)*	*$ (2,052,978)*	*$ (1,959,842)*	*$ (1,870,932)*	*$ (53,092,583)*	*$ (50,683,985)*	*$ (1,627,679)*
4		Annual O&M Cost	$ 3,680,546	$ 358,118	$ 368,504	$ 379,190	$ 390,187	$ 401,502	$ 413,146	$ 425,127	$ 437,456	$ 450,142	$ 463,196	$ 476,629	$ 490,451	$ 504,674
5		Pigging to Occur	N/A	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
6		TIMP Cost	$ 904,581	$ -	$ -	$ -	$ -	$ -	$ -	$ 885,681	$ -	$ -	$ -	$ -	$ -	$ -
7		***Total O&M Costs***	**$ 4,585,126**	**$ 358,118**	**$ 368,504**	**$ 379,190**	**$ 390,187**	**$ 401,502**	**$ 413,146**	**$ 1,310,808**	**$ 437,456**	**$ 450,142**	**$ 463,196**	**$ 476,629**	**$ 490,451**	**$ 504,674**
	B	***Hydrotest Alternate (Line 1600)***														
			PV	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**	**2040**	**2041**
1		Future L1600 Replacement Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2		MCS O&M and Emissions Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
3		***Total Avoided Costs***	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
4		Annual O&M Cost	$ 4,242,275	$ 447,648	$ 460,630	$ 473,988	$ 487,734	$ 501,878	$ 516,432	$ 531,409	$ 546,820	$ 562,677	$ 578,995	$ 595,786	$ 613,064	$ 504,674
5		Pigging to Occur	N/A	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
6		TIMP Cost	$ 1,574,602	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,479,908	$ -	$ -	$ -	$ -	$ -	$ -
7		***Total O&M Costs***	**$ 5,816,878**	**$ 447,648**	**$ 460,630**	**$ 473,988**	**$ 487,734**	**$ 501,878**	**$ 516,432**	**$ 3,011,317**	**$ 546,820**	**$ 562,677**	**$ 578,995**	**$ 595,786**	**$ 613,064**	**$ 504,674**
	C1	***Alternative Diameter Pipeline (10")***														
			PV	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**	**2040**	**2041**
1		Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ (334,683,589)	$ (344,389,413)	$ -
2		MCS O&M and Emissions Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
3		***Total Avoided Costs***	**$ (100,285,483)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ (334,683,589)**	**$ (344,389,413)**	**$ -**
4		Annual O&M Cost	$ 3,680,546	$ 358,118	$ 368,504	$ 379,190	$ 390,187	$ 401,502	$ 413,146	$ 425,127	$ 437,456	$ 450,142	$ 463,196	$ 476,629	$ 490,451	$ 504,674
5		Pigging to Occur	N/A	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
6		TIMP Cost	$ 904,581	$ -	$ -	$ -	$ -	$ -	$ -	$ 885,681	$ -	$ -	$ -	$ -	$ -	$ -
7		Cost of Importing Gas	$ 100,754,939	$ 9,803,488	$ 10,087,789	$ 10,380,335	$ 10,681,365	$ 10,991,124	$ 11,309,867	$ 11,637,853	$ 11,975,351	$ 12,322,636	$ 12,679,992	$ 13,047,712	$ 13,426,096	$ 13,815,452
8		***Total O&M Costs***	**$ 105,340,065**	**$ 358,118**	**$ 368,504**	**$ 379,190**	**$ 390,187**	**$ 401,502**	**$ 413,146**	**$ 1,310,808**	**$ 437,456**	**$ 450,142**	**$ 463,196**	**$ 476,629**	**$ 490,451**	**$ 504,674**
	C2	***Alternative Diameter Pipeline (12")***														
			PV	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**	**2040**	**2041**
1		Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ (334,683,589)	$ (344,389,413)	$ -
2		MCS O&M and Emissions Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
3		***Total Avoided Costs***	**$ (100,285,483)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ (334,683,589)**	**$ (344,389,413)**	**$ -**
4		Annual O&M Cost	$ 3,680,546	$ 358,118	$ 368,504	$ 379,190	$ 390,187	$ 401,502	$ 413,146	$ 425,127	$ 437,456	$ 450,142	$ 463,196	$ 476,629	$ 490,451	$ 504,674
5		Pigging to Occur	N/A	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
6		TIMP Cost	$ 904,581	$ -	$ -	$ -	$ -	$ -	$ -	$ 885,681	$ -	$ -	$ -	$ -	$ -	$ -
7		Cost of Importing Gas	$ 67,169,959	$ 6,535,659	$ 6,725,193	$ 6,920,223	$ 7,120,910	$ 7,327,416	$ 7,539,911	$ 7,758,569	$ 7,983,567	$ 8,215,091	$ 8,453,328	$ 8,698,475	$ 8,950,730	$ 9,210,302
8		***Total O&M Costs***	**$ 71,755,086**	**$ 358,118**	**$ 368,504**	**$ 379,190**	**$ 390,187**	**$ 401,502**	**$ 413,146**	**$ 1,310,808**	**$ 437,456**	**$ 450,142**	**$ 463,196**	**$ 476,629**	**$ 490,451**	**$ 504,674**
	C3	***Alternative Diameter Pipeline (16")***														
			PV	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**	**2040**	**2041**
1		Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ (334,683,589)	$ (344,389,413)	$ -
2		MCS O&M and Emissions Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
3		***Total Avoided Costs***	**$ (100,285,483)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ (334,683,589)**	**$ (344,389,413)**	**$ -**
4		Annual O&M Cost	$ 3,680,546	$ 358,118	$ 368,504	$ 379,190	$ 390,187	$ 401,502	$ 413,146	$ 425,127	$ 437,456	$ 450,142	$ 463,196	$ 476,629	$ 490,451	$ 504,674
5		Pigging to Occur	N/A	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
6		TIMP Cost	$ 904,581	$ -	$ -	$ -	$ -	$ -	$ -	$ 885,681	$ -	$ -	$ -	$ -	$ -	$ -
7		***Total O&M Costs***	**$ 4,585,126**	**$ 358,118**	**$ 368,504**	**$ 379,190**	**$ 390,187**	**$ 401,502**	**$ 413,146**	**$ 1,310,808**	**$ 437,456**	**$ 450,142**	**$ 463,196**	**$ 476,629**	**$ 490,451**	**$ 504,674**
	C4	***Alternative Diameter Pipeline (20")***														
			PV	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**	**2040**	**2041**
1		Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ (334,683,589)	$ (344,389,413)	$ -
2		MCS O&M and Emissions Cost	$ (17,993,627)	$ (1,750,786)	$ (1,801,558)	$ (1,853,804)	$ (1,907,564)	$ (1,962,883)	$ (2,019,807)	$ (2,078,381)	$ (2,138,654)	$ (2,200,675)	$ (2,264,495)	$ (2,330,165)	$ (2,397,740)	$ (2,467,275)
3		***Total Avoided Costs***	**$ (118,279,110)**	**$ (1,750,786)**	**$ (1,801,558)**	**$ (1,853,804)**	**$ (1,907,564)**	**$ (1,962,883)**	**$ (2,019,807)**	**$ (2,078,381)**	**$ (2,138,654)**	**$ (2,200,675)**	**$ (2,264,495)**	**$ (337,013,754)**	**$ (346,787,153)**	**$ (2,467,275)**
4		Annual O&M Cost	$ 3,680,546	$ 358,118	$ 368,504	$ 379,190	$ 390,187	$ 401,502	$ 413,146	$ 425,127	$ 437,456	$ 450,142	$ 463,196	$ 476,629	$ 490,451	$ 504,674
5		Pigging to Occur	N/A	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
6		TIMP Cost	$ 904,581	$ -	$ -	$ -	$ -	$ -	$ -	$ 885,681	$ -	$ -	$ -	$ -	$ -	$ -
7		***Total O&M Costs***	**$ 4,585,126**	**$ 358,118**	**$ 368,504**	**$ 379,190**	**$ 390,187**	**$ 401,502**	**$ 413,146**	**$ 1,310,808**	**$ 437,456**	**$ 450,142**	**$ 463,196**	**$ 476,629**	**$ 490,451**	**$ 504,674**
	C5	***Alternative Diameter Pipeline (24")***														
			PV	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**	**2040**	**2041**
1		Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ (334,683,589)	$ (344,389,413)	$ -
2		MCS O&M and Emissions Cost	$ (35,987,253)	$ (3,501,571)	$ (3,603,117)	$ (3,707,607)	$ (3,815,128)	$ (3,925,767)	$ (4,039,614)	$ (4,156,763)	$ (4,277,309)	$ (4,401,351)	$ (4,528,990)	$ (4,660,331)	$ (4,795,480)	$ (4,934,549)
3		***Total Avoided Costs***	**$ (136,272,737)**	**$ (3,501,571)**	**$ (3,603,117)**	**$ (3,707,607)**	**$ (3,815,128)**	**$ (3,925,767)**	**$ (4,039,614)**	**$ (4,156,763)**	**$ (4,277,309)**	**$ (4,401,351)**	**$ (4,528,990)**	**$ (339,343,920)**	**$ (349,184,893)**	**$ (4,934,549)**
4		Annual O&M Cost	$ 3,680,546	$ 358,118	$ 368,504	$ 379,190	$ 390,187	$ 401,502	$ 413,146	$ 425,127	$ 437,456	$ 450,142	$ 463,196	$ 476,629	$ 490,451	$ 504,674
5		Pigging to Occur	N/A	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
6		TIMP Cost	$ 904,581	$ -	$ -	$ -	$ -	$ -	$ -	$ 885,681	$ -	$ -	$ -	$ -	$ -	$ -
7		***Total O&M Costs***	**$ 4,585,126**	**$ 358,118**	**$ 368,504**	**$ 379,190**	**$ 390,187**	**$ 401,502**	**$ 413,146**	**$ 1,310,808**	**$ 437,456**	**$ 450,142**	**$ 463,196**	**$ 476,629**	**$ 490,451**	**$ 504,674**

WORK PAPER TABLE - AVOIDED COST MODEL - COSTS OVER 100 YEARS (AC 1.2)

ANNUAL COSTS BY PROJECT ALTERNATE, FOR AVOIDED COSTS AND O&M COSTS

A.15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2(

Line No.			PV (X years after operational)	27	28	29	30	31	32	33	34	35	36	37	38	39
1			100													
2																
3	A	***Proposed Project (Line 3602)***														
4			**PV**	**2042**	**2043**	**2044**	**2045**	**2046**	**2047**	**2048**	**2049**	**2050**	**2051**	**2052**	**2053**	**2054**
5																
6	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
7	2	MCS O&M and Emissions Cost	$ (89,968,134)	$ (12,694,127)	$ (13,062,257)	$ (13,441,063)	$ (13,830,853)	$ (14,231,948)	$ (14,644,675)	$ (15,069,370)	$ (15,506,382)	$ (15,956,067)	$ (16,418,793)	$ (16,894,938)	$ (17,384,891)	$ (17,889,053)
8	3	***Total Avoided Costs***	**$ (190,253,617)**	**$ (12,694,127)**	**$ (13,062,257)**	**$ (13,441,063)**	**$ (13,830,853)**	**$ (14,231,948)**	**$ (14,644,675)**	**$ (15,069,370)**	**$ (15,506,382)**	**$ (15,956,067)**	**$ (16,418,793)**	**$ (16,894,938)**	**$ (17,384,891)**	**$ (17,889,053)**
9																
10		***Manual PV calc over 100 yrs for L3602 (Columns H to DJ)***	***$ (190,253,617)***	*$ (1,553,838)*	*$ (1,483,346)*	*$ (1,416,053)*	*$ (1,351,812)*	*$ (1,290,486)*	*$ (1,231,942)*	*$ (1,176,053)*	*$ (1,122,701)*	*$ (1,071,768)*	*$ (1,023,146)*	*$ (976,730)*	*$ (932,420)*	*$ (890,120)*
11																
12																
13	4	Annual O&M Cost	$ 3,680,546	$ 519,310	$ 534,370	$ 549,866	$ 565,812	$ 582,221	$ 599,105	$ 616,479	$ 634,357	$ 652,754	$ 671,684	$ 691,162	$ 711,206	$ 731,831
14	5	Pigging to Occur	N/A	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE
15	6	TIMP Cost	$ 904,581	$ 1,081,895	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,321,578	$ -	$ -	$ -	$ -	$ -
16	7	***Total O&M Costs***	**$ 4,585,126**	**$ 1,601,205**	**$ 534,370**	**$ 549,866**	**$ 565,812**	**$ 582,221**	**$ 599,105**	**$ 616,479**	**$ 1,955,935**	**$ 652,754**	**$ 671,684**	**$ 691,162**	**$ 711,206**	**$ 731,831**
17																
18	B	***Hydrotest Alternate (Line 1600)***														
19			**PV**	**2042**	**2043**	**2044**	**2045**	**2046**	**2047**	**2048**	**2049**	**2050**	**2051**	**2052**	**2053**	**2054**
20																
21	1	Future L1600 Replacement Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
22	2	MCS O&M and Emissions Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
23	3	***Total Avoided Costs***	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
24																
25																
26	4	Annual O&M Cost	$ 4,242,275	$ 519,310	$ 534,370	$ 549,866	$ 565,812	$ 582,221	$ 599,105	$ 616,479	$ 634,357	$ 652,754	$ 671,684	$ 691,162	$ 711,206	$ 731,831
27	5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
28	6	TIMP Cost	$ 1,574,602	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,284,332	$ -	$ -	$ -	$ -	$ -	$ -
29	7	***Total O&M Costs***	**$ 5,816,878**	**$ 519,310**	**$ 534,370**	**$ 549,866**	**$ 565,812**	**$ 582,221**	**$ 599,105**	**$ 1,900,812**	**$ 634,357**	**$ 652,754**	**$ 671,684**	**$ 691,162**	**$ 711,206**	**$ 731,831**
30																
31	C1	***Alternative Diameter Pipeline (10")***														
32			**PV**	**2042**	**2043**	**2044**	**2045**	**2046**	**2047**	**2048**	**2049**	**2050**	**2051**	**2052**	**2053**	**2054**
33																
34	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
35	2	MCS O&M and Emissions Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
36	3	***Total Avoided Costs***	**$ (100,285,483)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
37																
38																
39	4	Annual O&M Cost	$ 3,680,546	$ 519,310	$ 534,370	$ 549,866	$ 565,812	$ 582,221	$ 599,105	$ 616,479	$ 634,357	$ 652,754	$ 671,684	$ 691,162	$ 711,206	$ 731,831
40	5	Pigging to Occur	N/A	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE
41	6	TIMP Cost	$ 904,581	$ 1,081,895	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,321,578	$ -	$ -	$ -	$ -	$ -
42	7	Cost of Importing Gas	$ 100,754,939	$ 14,216,101	$ 14,628,368	$ 15,052,590	$ 15,489,115	$ 15,938,300	$ 16,400,510	$ 16,876,125	$ 17,365,533	$ 17,869,133	$ 18,387,338	$ 18,920,571	$ 19,469,267	$ 20,033,876
43	8	***Total O&M Costs***	**$ 105,340,065**	**$ 1,601,205**	**$ 534,370**	**$ 549,866**	**$ 565,812**	**$ 582,221**	**$ 599,105**	**$ 616,479**	**$ 1,955,935**	**$ 652,754**	**$ 671,684**	**$ 691,162**	**$ 711,206**	**$ 731,831**
44																
45	C2	***Alternative Diameter Pipeline (12")***														
46			**PV**	**2042**	**2043**	**2044**	**2045**	**2046**	**2047**	**2048**	**2049**	**2050**	**2051**	**2052**	**2053**	**2054**
47																
48	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
49	2	MCS O&M and Emissions Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
50	3	***Total Avoided Costs***	**$ (100,285,483)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
51																
52																
53	4	Annual O&M Cost	$ 3,680,546	$ 519,310	$ 534,370	$ 549,866	$ 565,812	$ 582,221	$ 599,105	$ 616,479	$ 634,357	$ 652,754	$ 671,684	$ 691,162	$ 711,206	$ 731,831
54	5	Pigging to Occur	N/A	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE
55	6	TIMP Cost	$ 904,581	$ 1,081,895	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,321,578	$ -	$ -	$ -	$ -	$ -
56	7	Cost of Importing Gas	$ 67,169,959	$ 9,477,400	$ 9,752,245	$ 10,035,060	$ 10,326,077	$ 10,625,533	$ 10,933,674	$ 11,250,750	$ 11,577,022	$ 11,912,755	$ 12,258,225	$ 12,613,714	$ 12,979,512	$ 13,355,917
57	8	***Total O&M Costs***	**$ 71,755,086**	**$ 1,601,205**	**$ 534,370**	**$ 549,866**	**$ 565,812**	**$ 582,221**	**$ 599,105**	**$ 616,479**	**$ 1,955,935**	**$ 652,754**	**$ 671,684**	**$ 691,162**	**$ 711,206**	**$ 731,831**
58																
59	C3	***Alternative Diameter Pipeline (16")***														
60			**PV**	**2042**	**2043**	**2044**	**2045**	**2046**	**2047**	**2048**	**2049**	**2050**	**2051**	**2052**	**2053**	**2054**
61																
62	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
63	2	MCS O&M and Emissions Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
64	3	***Total Avoided Costs***	**$ (100,285,483)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
65																
66																
67	4	Annual O&M Cost	$ 3,680,546	$ 519,310	$ 534,370	$ 549,866	$ 565,812	$ 582,221	$ 599,105	$ 616,479	$ 634,357	$ 652,754	$ 671,684	$ 691,162	$ 711,206	$ 731,831
68	5	Pigging to Occur	N/A	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE
69	6	TIMP Cost	$ 904,581	$ 1,081,895	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,321,578	$ -	$ -	$ -	$ -	$ -
70	7	***Total O&M Costs***	**$ 4,585,126**	**$ 1,601,205**	**$ 534,370**	**$ 549,866**	**$ 565,812**	**$ 582,221**	**$ 599,105**	**$ 616,479**	**$ 1,955,935**	**$ 652,754**	**$ 671,684**	**$ 691,162**	**$ 711,206**	**$ 731,831**
71																
72	C4	***Alternative Diameter Pipeline (20")***														
73			**PV**	**2042**	**2043**	**2044**	**2045**	**2046**	**2047**	**2048**	**2049**	**2050**	**2051**	**2052**	**2053**	**2054**
74																
75	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
76	2	MCS O&M and Emissions Cost	$ (17,993,627)	$ (2,538,825)	$ (2,612,451)	$ (2,688,213)	$ (2,766,171)	$ (2,846,390)	$ (2,928,935)	$ (3,013,874)	$ (3,101,276)	$ (3,191,213)	$ (3,283,759)	$ (3,378,988)	$ (3,476,978)	$ (3,577,811)
77	3	***Total Avoided Costs***	**$ (118,279,110)**	**$ (2,538,825)**	**$ (2,612,451)**	**$ (2,688,213)**	**$ (2,766,171)**	**$ (2,846,390)**	**$ (2,928,935)**	**$ (3,013,874)**	**$ (3,101,276)**	**$ (3,191,213)**	**$ (3,283,759)**	**$ (3,378,988)**	**$ (3,476,978)**	**$ (3,577,811)**
78																
79																
80	4	Annual O&M Cost	$ 3,680,546	$ 519,310	$ 534,370	$ 549,866	$ 565,812	$ 582,221	$ 599,105	$ 616,479	$ 634,357	$ 652,754	$ 671,684	$ 691,162	$ 711,206	$ 731,831
81	5	Pigging to Occur	N/A	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE
82	6	TIMP Cost	$ 904,581	$ 1,081,895	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,321,578	$ -	$ -	$ -	$ -	$ -
83	7	***Total O&M Costs***	**$ 4,585,126**	**$ 1,601,205**	**$ 534,370**	**$ 549,866**	**$ 565,812**	**$ 582,221**	**$ 599,105**	**$ 616,479**	**$ 1,955,935**	**$ 652,754**	**$ 671,684**	**$ 691,162**	**$ 711,206**	**$ 731,831**
84																
85	C5	***Alternative Diameter Pipeline (24")***														
86			**PV**	**2042**	**2043**	**2044**	**2045**	**2046**	**2047**	**2048**	**2049**	**2050**	**2051**	**2052**	**2053**	**2054**
87																
88	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
89	2	MCS O&M and Emissions Cost	$ (35,987,253)	$ (5,077,651)	$ (5,224,903)	$ (5,376,425)	$ (5,532,341)	$ (5,692,779)	$ (5,857,870)	$ (6,027,748)	$ (6,202,553)	$ (6,382,427)	$ (6,567,517)	$ (6,757,975)	$ (6,953,956)	$ (7,155,621)
90	3	***Total Avoided Costs***	**$ (136,272,737)**	**$ (5,077,651)**	**$ (5,224,903)**	**$ (5,376,425)**	**$ (5,532,341)**	**$ (5,692,779)**	**$ (5,857,870)**	**$ (6,027,748)**	**$ (6,202,553)**	**$ (6,382,427)**	**$ (6,567,517)**	**$ (6,757,975)**	**$ (6,953,956)**	**$ (7,155,621)**
91																
92																
93	4	Annual O&M Cost	$ 3,680,546	$ 519,310	$ 534,370	$ 549,866	$ 565,812	$ 582,221	$ 599,105	$ 616,479	$ 634,357	$ 652,754	$ 671,684	$ 691,162	$ 711,206	$ 731,831
94	5	Pigging to Occur	N/A	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE
95	6	TIMP Cost	$ 904,581	$ 1,081,895	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,321,578	$ -	$ -	$ -	$ -	$ -
96	7	***Total O&M Costs***	**$ 4,585,126**	**$ 1,601,205**	**$ 534,370**	**$ 549,866**	**$ 565,812**	**$ 582,221**	**$ 599,105**	**$ 616,479**	**$ 1,955,935**	**$ 652,754**	**$ 671,684**	**$ 691,162**	**$ 711,206**	**$ 731,831**
97																

WORK PAPER TABLE - AVOIDED COST MODEL - COSTS OVER 100 YEARS (AC 1.2)

ANNUAL COSTS BY PROJECT ALTERNATE, FOR AVOIDED COSTS AND O&M COSTS

A.15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2(

Line No.			PV (X years after operational)	40	41	42	43	44	45	46	47	48	49	50	51	52
1			100													
2																
3	A	***Proposed Project (Line 3602)***														
4			**PV**	**2055**	**2056**	**2057**	**2058**	**2059**	**2060**	**2061**	**2062**	**2063**	**2064**	**2065**	**2066**	**2067**
5																
6	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
7	2	MCS O&M and Emissions Cost	$ (89,968,134)	$ (18,407,836)	$ (18,941,663)	$ (19,490,971)	$ (20,056,209)	$ (20,637,839)	$ (21,236,337)	$ (21,852,190)	$ (22,485,904)	$ (23,137,995)	$ (23,808,997)	$ (24,499,458)	$ (25,209,942)	$ (25,941,030)
8	3	***Total Avoided Costs***	**$ (190,253,617)**	**$ (18,407,836)**	**$ (18,941,663)**	**$ (19,490,971)**	**$ (20,056,209)**	**$ (20,637,839)**	**$ (21,236,337)**	**$ (21,852,190)**	**$ (22,485,904)**	**$ (23,137,995)**	**$ (23,808,997)**	**$ (24,499,458)**	**$ (25,209,942)**	**$ (25,941,030)**
9																
10		***Manual PV calc over 100 yrs for L3602 (Columns H to DJ)***	***$ (190,253,617)***	*$ (849,739)*	*$ (811,189)*	*$ (774,389)*	*$ (739,258)*	*$ (705,721)*	*$ (673,705)*	*$ (643,142)*	*$ (613,965)*	*$ (586,112)*	*$ (559,522)*	*$ (534,139)*	*$ (509,907)*	*$ (486,775)*
11																
12																
13	4	Annual O&M Cost	$ 3,680,546	$ 753,054	$ 774,893	$ 797,365	$ 820,488	$ 844,282	$ 868,767	$ 893,961	$ 919,886	$ 946,562	$ 974,013	$ 1,002,259	$ 1,031,325	$ 1,061,233
14	5	Pigging to Occur	N/A	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE
15	6	TIMP Cost	$ 904,581	$ -	$ 1,614,360	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,972,005	$ -	$ -	$ -	$ -	$ -
16	7	***Total O&M Costs***	**$ 4,585,126**	**$ 753,054**	**$ 2,389,253**	**$ 797,365**	**$ 820,488**	**$ 844,282**	**$ 868,767**	**$ 893,961**	**$ 919,886**	**$ 2,918,567**	**$ 974,013**	**$ 1,002,259**	**$ 1,031,325**	**$ 1,061,233**
17																
18	B	***Hydrotest Alternate (Line 1600)***														
19																
20			**PV**	**2055**	**2056**	**2057**	**2058**	**2059**	**2060**	**2061**	**2062**	**2063**	**2064**	**2065**	**2066**	**2067**
21	1	Future L1600 Replacement Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
22	2	MCS O&M and Emissions Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
23	3	***Total Avoided Costs***	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
24																
25																
26	4	Annual O&M Cost	$ 4,242,275	$ 753,054	$ 774,893	$ 797,365	$ 820,488	$ 844,282	$ 868,767	$ 893,961	$ 919,886	$ 946,562	$ 974,013	$ 1,002,259	$ 1,031,325	$ 1,061,233
27	5	Pigging to Occur	N/A	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE
28	6	TIMP Cost	$ 1,574,602	$ 1,568,863	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,916,428	$ -	$ -	$ -	$ -	$ -
29	7	***Total O&M Costs***	**$ 5,816,878**	**$ 2,321,917**	**$ 774,893**	**$ 797,365**	**$ 820,488**	**$ 844,282**	**$ 868,767**	**$ 893,961**	**$ 2,836,314**	**$ 946,562**	**$ 974,013**	**$ 1,002,259**	**$ 1,031,325**	**$ 1,061,233**
30																
31	C1	***Alternative Diameter Pipeline (10")***														
32																
33			**PV**	**2055**	**2056**	**2057**	**2058**	**2059**	**2060**	**2061**	**2062**	**2063**	**2064**	**2065**	**2066**	**2067**
34	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
35	2	MCS O&M and Emissions Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
36	3	***Total Avoided Costs***	**$ (100,285,483)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
37																
38																
39	4	Annual O&M Cost	$ 3,680,546	$ 753,054	$ 774,893	$ 797,365	$ 820,488	$ 844,282	$ 868,767	$ 893,961	$ 919,886	$ 946,562	$ 974,013	$ 1,002,259	$ 1,031,325	$ 1,061,233
40	5	Pigging to Occur	N/A	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
41	6	TIMP Cost	$ 904,581	$ -	$ 1,614,360	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,972,005	$ -	$ -	$ -	$ -
42	7	Cost of Importing Gas	$ 100,754,939	$ 20,614,859	$ 21,212,689	$ 21,827,857	$ 22,460,865	$ 23,112,230	$ 23,782,485	$ 24,472,177	$ 25,181,870	$ 25,912,145	$ 26,663,597	$ 27,436,841	$ 28,232,509	$ 29,051,252
43	8	***Total O&M Costs***	**$ 105,340,065**	**$ 753,054**	**$ 2,389,253**	**$ 797,365**	**$ 820,488**	**$ 844,282**	**$ 868,767**	**$ 893,961**	**$ 919,886**	**$ 2,918,567**	**$ 974,013**	**$ 1,002,259**	**$ 1,031,325**	**$ 1,061,233**
44																
45	C2	***Alternative Diameter Pipeline (12")***														
46			**PV**	**2055**	**2056**	**2057**	**2058**	**2059**	**2060**	**2061**	**2062**	**2063**	**2064**	**2065**	**2066**	**2067**
47																
48	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
49	2	MCS O&M and Emissions Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
50	3	***Total Avoided Costs***	**$ (100,285,483)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
51																
52																
53	4	Annual O&M Cost	$ 3,680,546	$ 753,054	$ 774,893	$ 797,365	$ 820,488	$ 844,282	$ 868,767	$ 893,961	$ 919,886	$ 946,562	$ 974,013	$ 1,002,259	$ 1,031,325	$ 1,061,233
54	5	Pigging to Occur	N/A	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
55	6	TIMP Cost	$ 904,581	$ -	$ 1,614,360	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,972,005	$ -	$ -	$ -	$ -
56	7	Cost of Importing Gas	$ 67,169,959	$ 13,743,239	$ 14,141,793	$ 14,551,905	$ 14,973,910	$ 15,408,154	$ 15,854,990	$ 16,314,785	$ 16,787,914	$ 17,274,763	$ 17,775,731	$ 18,291,227	$ 18,821,673	$ 19,367,501
57	8	***Total O&M Costs***	**$ 71,755,086**	**$ 753,054**	**$ 2,389,253**	**$ 797,365**	**$ 820,488**	**$ 844,282**	**$ 868,767**	**$ 893,961**	**$ 919,886**	**$ 2,918,567**	**$ 974,013**	**$ 1,002,259**	**$ 1,031,325**	**$ 1,061,233**
58																
59	C3	***Alternative Diameter Pipeline (16")***														
60			**PV**	**2055**	**2056**	**2057**	**2058**	**2059**	**2060**	**2061**	**2062**	**2063**	**2064**	**2065**	**2066**	**2067**
61																
62	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
63	2	MCS O&M and Emissions Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
64	3	***Total Avoided Costs***	**$ (100,285,483)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
65																
66																
67	4	Annual O&M Cost	$ 3,680,546	$ 753,054	$ 774,893	$ 797,365	$ 820,488	$ 844,282	$ 868,767	$ 893,961	$ 919,886	$ 946,562	$ 974,013	$ 1,002,259	$ 1,031,325	$ 1,061,233
68	5	Pigging to Occur	N/A	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
69	6	TIMP Cost	$ 904,581	$ -	$ 1,614,360	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,972,005	$ -	$ -	$ -	$ -
70	7	***Total O&M Costs***	**$ 4,585,126**	**$ 753,054**	**$ 2,389,253**	**$ 797,365**	**$ 820,488**	**$ 844,282**	**$ 868,767**	**$ 893,961**	**$ 919,886**	**$ 2,918,567**	**$ 974,013**	**$ 1,002,259**	**$ 1,031,325**	**$ 1,061,233**
71																
72	C4	***Alternative Diameter Pipeline (20")***														
73																
74			**PV**	**2055**	**2056**	**2057**	**2058**	**2059**	**2060**	**2061**	**2062**	**2063**	**2064**	**2065**	**2066**	**2067**
75	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
76	2	MCS O&M and Emissions Cost	$ (17,993,627)	$ (3,681,567)	$ (3,788,333)	$ (3,898,194)	$ (4,011,242)	$ (4,127,568)	$ (4,247,267)	$ (4,370,438)	$ (4,497,181)	$ (4,627,599)	$ (4,761,799)	$ (4,899,892)	$ (5,041,988)	$ (5,188,206)
77	3	***Total Avoided Costs***	**$ (118,279,110)**	**$ (3,681,567)**	**$ (3,788,333)**	**$ (3,898,194)**	**$ (4,011,242)**	**$ (4,127,568)**	**$ (4,247,267)**	**$ (4,370,438)**	**$ (4,497,181)**	**$ (4,627,599)**	**$ (4,761,799)**	**$ (4,899,892)**	**$ (5,041,988)**	**$ (5,188,206)**
78																
79																
80	4	Annual O&M Cost	$ 3,680,546	$ 753,054	$ 774,893	$ 797,365	$ 820,488	$ 844,282	$ 868,767	$ 893,961	$ 919,886	$ 946,562	$ 974,013	$ 1,002,259	$ 1,031,325	$ 1,061,233
81	5	Pigging to Occur	N/A	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
82	6	TIMP Cost	$ 904,581	$ -	$ 1,614,360	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,972,005	$ -	$ -	$ -	$ -
83	7	***Total O&M Costs***	**$ 4,585,126**	**$ 753,054**	**$ 2,389,253**	**$ 797,365**	**$ 820,488**	**$ 844,282**	**$ 868,767**	**$ 893,961**	**$ 919,886**	**$ 2,918,567**	**$ 974,013**	**$ 1,002,259**	**$ 1,031,325**	**$ 1,061,233**
84																
85	C5	***Alternative Diameter Pipeline (24")***														
86			**PV**	**2055**	**2056**	**2057**	**2058**	**2059**	**2060**	**2061**	**2062**	**2063**	**2064**	**2065**	**2066**	**2067**
87																
88	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
89	2	MCS O&M and Emissions Cost	$ (35,987,253)	$ (7,363,134)	$ (7,576,665)	$ (7,796,388)	$ (8,022,484)	$ (8,255,136)	$ (8,494,535)	$ (8,740,876)	$ (8,994,362)	$ (9,255,198)	$ (9,523,599)	$ (9,799,783)	$ (10,083,977)	$ (10,376,412)
90	3	***Total Avoided Costs***	**$ (136,272,737)**	**$ (7,363,134)**	**$ (7,576,665)**	**$ (7,796,388)**	**$ (8,022,484)**	**$ (8,255,136)**	**$ (8,494,535)**	**$ (8,740,876)**	**$ (8,994,362)**	**$ (9,255,198)**	**$ (9,523,599)**	**$ (9,799,783)**	**$ (10,083,977)**	**$ (10,376,412)**
91																
92																
93	4	Annual O&M Cost	$ 3,680,546	$ 753,054	$ 774,893	$ 797,365	$ 820,488	$ 844,282	$ 868,767	$ 893,961	$ 919,886	$ 946,562	$ 974,013	$ 1,002,259	$ 1,031,325	$ 1,061,233
94	5	Pigging to Occur	N/A	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
95	6	TIMP Cost	$ 904,581	$ -	$ 1,614,360	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,972,005	$ -	$ -	$ -	$ -
96	7	***Total O&M Costs***	**$ 4,585,126**	**$ 753,054**	**$ 2,389,253**	**$ 797,365**	**$ 820,488**	**$ 844,282**	**$ 868,767**	**$ 893,961**	**$ 919,886**	**$ 2,918,567**	**$ 974,013**	**$ 1,002,259**	**$ 1,031,325**	**$ 1,061,233**
97																

WORK PAPER TABLE - AVOIDED COST MODEL - COSTS OVER 100 YEARS (AC 1.2)

ANNUAL COSTS BY PROJECT ALTERNATE, FOR AVOIDED COSTS AND O&M COSTS

A.15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2(

Line No.			PV (X years after operational)	53	54	55	56	57	58	59	60	61	62	63	64	65
1			100													
2																
3	A	***Proposed Project (Line 3602)***														
4			**PV**	**2068**	**2069**	**2070**	**2071**	**2072**	**2073**	**2074**	**2075**	**2076**	**2077**	**2078**	**2079**	**2080**
5																
6	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
7	2	MCS O&M and Emissions Cost	$ (89,968,134)	$ (26,693,320)	$ (27,467,427)	$ (28,263,982)	$ (29,083,638)	$ (29,927,063)	$ (30,794,948)	$ (31,688,001)	$ (32,606,953)	$ (33,552,555)	$ (34,525,579)	$ (35,526,821)	$ (36,557,099)	$ (37,617,255)
8	3	***Total Avoided Costs***	**$ (190,253,617)**	**$ (26,693,320)**	**$ (27,467,427)**	**$ (28,263,982)**	**$ (29,083,638)**	**$ (29,927,063)**	**$ (30,794,948)**	**$ (31,688,001)**	**$ (32,606,953)**	**$ (33,552,555)**	**$ (34,525,579)**	**$ (35,526,821)**	**$ (36,557,099)**	**$ (37,617,255)**
9																
10		***Manual PV calc over 100 yrs for L3602 (Columns H to DJ)***	***$ (190,253,617)***	*$ (464,692)*	*$ (443,611)*	*$ (423,486)*	*$ (404,274)*	*$ (385,934)*	*$ (368,425)*	*$ (351,711)*	*$ (335,756)*	*$ (320,524)*	*$ (305,983)*	*$ (292,102)*	*$ (278,850)*	*$ (266,200)*
11																
12																
13	4	Annual O&M Cost	$ 3,680,546	$ 1,092,009	$ 1,123,677	$ 1,156,264	$ 1,189,795	$ 1,224,299	$ 1,259,804	$ 1,296,338	$ 1,333,932	$ 1,372,616	$ 1,412,422	$ 1,453,382	$ 1,495,530	$ 1,538,901
14	5	Pigging to Occur	N/A	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
15	6	TIMP Cost	$ 904,581	$ -	$ -	$ 2,408,882	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,942,546	$ -	$ -	$ -
16	7	***Total O&M Costs***	**$ 4,585,126**	**$ 1,092,009**	**$ 1,123,677**	**$ 3,565,146**	**$ 1,189,795**	**$ 1,224,299**	**$ 1,259,804**	**$ 1,296,338**	**$ 1,333,932**	**$ 1,372,616**	**$ 4,354,968**	**$ 1,453,382**	**$ 1,495,530**	**$ 1,538,901**
17																
18	B	***Hydrotest Alternate (Line 1600)***														
19																
20			**PV**	**2068**	**2069**	**2070**	**2071**	**2072**	**2073**	**2074**	**2075**	**2076**	**2077**	**2078**	**2079**	**2080**
21	1	Future L1600 Replacement Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
22	2	MCS O&M and Emissions Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
23	3	***Total Avoided Costs***	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
24																
25																
26	4	Annual O&M Cost	$ 4,242,275	$ 1,092,009	$ 1,123,677	$ 1,156,264	$ 1,189,795	$ 1,224,299	$ 1,259,804	$ 1,296,338	$ 1,333,932	$ 1,372,616	$ 1,412,422	$ 1,453,382	$ 1,495,530	$ 1,538,901
27	5	Pigging to Occur	N/A	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
28	6	TIMP Cost	$ 1,574,602	$ -	$ 2,340,994	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,859,617	$ -	$ -	$ -	$ -
29	7	***Total O&M Costs***	**$ 5,816,878**	**$ 1,092,009**	**$ 3,464,671**	**$ 1,156,264**	**$ 1,189,795**	**$ 1,224,299**	**$ 1,259,804**	**$ 1,296,338**	**$ 1,333,932**	**$ 4,232,233**	**$ 1,412,422**	**$ 1,453,382**	**$ 1,495,530**	**$ 1,538,901**
30																
31	C1	***Alternative Diameter Pipeline (10")***														
32																
33			**PV**	**2068**	**2069**	**2070**	**2071**	**2072**	**2073**	**2074**	**2075**	**2076**	**2077**	**2078**	**2079**	**2080**
34	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
35	2	MCS O&M and Emissions Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
36	3	***Total Avoided Costs***	**$ (100,285,483)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
37																
38																
39	4	Annual O&M Cost	$ 3,680,546	$ 1,092,009	$ 1,123,677	$ 1,156,264	$ 1,189,795	$ 1,224,299	$ 1,259,804	$ 1,296,338	$ 1,333,932	$ 1,372,616	$ 1,412,422	$ 1,453,382	$ 1,495,530	$ 1,538,901
40	5	Pigging to Occur	N/A	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
41	6	TIMP Cost	$ 904,581	$ -	$ -	$ 2,408,882	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,942,546	$ -	$ -	$ -
42	7	Cost of Importing Gas	$ 100,754,939	$ 29,893,739	$ 30,760,657	$ 31,652,716	$ 32,570,645	$ 33,515,193	$ 34,487,134	$ 35,487,261	$ 36,516,392	$ 37,575,367	$ 38,665,053	$ 39,786,339	$ 40,940,143	$ 42,127,407
43	8	***Total O&M Costs***	**$ 105,340,065**	**$ 1,092,009**	**$ 1,123,677**	**$ 3,565,146**	**$ 1,189,795**	**$ 1,224,299**	**$ 1,259,804**	**$ 1,296,338**	**$ 1,333,932**	**$ 1,372,616**	**$ 4,354,968**	**$ 1,453,382**	**$ 1,495,530**	**$ 1,538,901**
44																
45	C2	***Alternative Diameter Pipeline (12")***														
46			**PV**	**2068**	**2069**	**2070**	**2071**	**2072**	**2073**	**2074**	**2075**	**2076**	**2077**	**2078**	**2079**	**2080**
47																
48	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
49	2	MCS O&M and Emissions Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
50	3	***Total Avoided Costs***	**$ (100,285,483)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
51																
52																
53	4	Annual O&M Cost	$ 3,680,546	$ 1,092,009	$ 1,123,677	$ 1,156,264	$ 1,189,795	$ 1,224,299	$ 1,259,804	$ 1,296,338	$ 1,333,932	$ 1,372,616	$ 1,412,422	$ 1,453,382	$ 1,495,530	$ 1,538,901
54	5	Pigging to Occur	N/A	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
55	6	TIMP Cost	$ 904,581	$ -	$ -	$ 2,408,882	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,942,546	$ -	$ -	$ -
56	7	Cost of Importing Gas	$ 67,169,959	$ 19,929,159	$ 20,507,105	$ 21,101,811	$ 21,713,763	$ 22,343,462	$ 22,991,423	$ 23,658,174	$ 24,344,261	$ 25,050,245	$ 25,776,702	$ 26,524,226	$ 27,293,429	$ 28,084,938
57	8	***Total O&M Costs***	**$ 71,755,086**	**$ 1,092,009**	**$ 1,123,677**	**$ 3,565,146**	**$ 1,189,795**	**$ 1,224,299**	**$ 1,259,804**	**$ 1,296,338**	**$ 1,333,932**	**$ 1,372,616**	**$ 4,354,968**	**$ 1,453,382**	**$ 1,495,530**	**$ 1,538,901**
58																
59	C3	***Alternative Diameter Pipeline (16")***														
60			**PV**	**2068**	**2069**	**2070**	**2071**	**2072**	**2073**	**2074**	**2075**	**2076**	**2077**	**2078**	**2079**	**2080**
61																
62	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
63	2	MCS O&M and Emissions Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
64	3	***Total Avoided Costs***	**$ (100,285,483)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
65																
66																
67	4	Annual O&M Cost	$ 3,680,546	$ 1,092,009	$ 1,123,677	$ 1,156,264	$ 1,189,795	$ 1,224,299	$ 1,259,804	$ 1,296,338	$ 1,333,932	$ 1,372,616	$ 1,412,422	$ 1,453,382	$ 1,495,530	$ 1,538,901
68	5	Pigging to Occur	N/A	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
69	6	TIMP Cost	$ 904,581	$ -	$ -	$ 2,408,882	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,942,546	$ -	$ -	$ -
70	7	***Total O&M Costs***	**$ 4,585,126**	**$ 1,092,009**	**$ 1,123,677**	**$ 3,565,146**	**$ 1,189,795**	**$ 1,224,299**	**$ 1,259,804**	**$ 1,296,338**	**$ 1,333,932**	**$ 1,372,616**	**$ 4,354,968**	**$ 1,453,382**	**$ 1,495,530**	**$ 1,538,901**
71																
72	C4	***Alternative Diameter Pipeline (20")***														
73			**PV**	**2068**	**2069**	**2070**	**2071**	**2072**	**2073**	**2074**	**2075**	**2076**	**2077**	**2078**	**2079**	**2080**
74																
75	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
76	2	MCS O&M and Emissions Cost	$ (17,993,627)	$ (5,338,664)	$ (5,493,485)	$ (5,652,796)	$ (5,816,728)	$ (5,985,413)	$ (6,158,990)	$ (6,337,600)	$ (6,521,391)	$ (6,710,511)	$ (6,905,116)	$ (7,105,364)	$ (7,311,420)	$ (7,523,451)
77	3	***Total Avoided Costs***	**$ (118,279,110)**	**$ (5,338,664)**	**$ (5,493,485)**	**$ (5,652,796)**	**$ (5,816,728)**	**$ (5,985,413)**	**$ (6,158,990)**	**$ (6,337,600)**	**$ (6,521,391)**	**$ (6,710,511)**	**$ (6,905,116)**	**$ (7,105,364)**	**$ (7,311,420)**	**$ (7,523,451)**
78																
79																
80	4	Annual O&M Cost	$ 3,680,546	$ 1,092,009	$ 1,123,677	$ 1,156,264	$ 1,189,795	$ 1,224,299	$ 1,259,804	$ 1,296,338	$ 1,333,932	$ 1,372,616	$ 1,412,422	$ 1,453,382	$ 1,495,530	$ 1,538,901
81	5	Pigging to Occur	N/A	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
82	6	TIMP Cost	$ 904,581	$ -	$ -	$ 2,408,882	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,942,546	$ -	$ -	$ -
83	7	***Total O&M Costs***	**$ 4,585,126**	**$ 1,092,009**	**$ 1,123,677**	**$ 3,565,146**	**$ 1,189,795**	**$ 1,224,299**	**$ 1,259,804**	**$ 1,296,338**	**$ 1,333,932**	**$ 1,372,616**	**$ 4,354,968**	**$ 1,453,382**	**$ 1,495,530**	**$ 1,538,901**
84																
85	C5	***Alternative Diameter Pipeline (24")***														
86			**PV**	**2068**	**2069**	**2070**	**2071**	**2072**	**2073**	**2074**	**2075**	**2076**	**2077**	**2078**	**2079**	**2080**
87																
88	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
89	2	MCS O&M and Emissions Cost	$ (35,987,253)	$ (10,677,328)	$ (10,986,971)	$ (11,305,593)	$ (11,633,455)	$ (11,970,825)	$ (12,317,979)	$ (12,675,201)	$ (13,042,781)	$ (13,421,022)	$ (13,810,232)	$ (14,210,728)	$ (14,622,839)	$ (15,046,902)
90	3	***Total Avoided Costs***	**$ (136,272,737)**	**$ (10,677,328)**	**$ (10,986,971)**	**$ (11,305,593)**	**$ (11,633,455)**	**$ (11,970,825)**	**$ (12,317,979)**	**$ (12,675,201)**	**$ (13,042,781)**	**$ (13,421,022)**	**$ (13,810,232)**	**$ (14,210,728)**	**$ (14,622,839)**	**$ (15,046,902)**
91																
92																
93	4	Annual O&M Cost	$ 3,680,546	$ 1,092,009	$ 1,123,677	$ 1,156,264	$ 1,189,795	$ 1,224,299	$ 1,259,804	$ 1,296,338	$ 1,333,932	$ 1,372,616	$ 1,412,422	$ 1,453,382	$ 1,495,530	$ 1,538,901
94	5	Pigging to Occur	N/A	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
95	6	TIMP Cost	$ 904,581	$ -	$ -	$ 2,408,882	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,942,546	$ -	$ -	$ -
96	7	***Total O&M Costs***	**$ 4,585,126**	**$ 1,092,009**	**$ 1,123,677**	**$ 3,565,146**	**$ 1,189,795**	**$ 1,224,299**	**$ 1,259,804**	**$ 1,296,338**	**$ 1,333,932**	**$ 1,372,616**	**$ 4,354,968**	**$ 1,453,382**	**$ 1,495,530**	**$ 1,538,901**
97																

WORK PAPER TABLE - AVOIDED COST MODEL - COSTS OVER 100 YEARS (AC 1.2)

ANNUAL COSTS BY PROJECT ALTERNATE, FOR AVOIDED COSTS AND O&M COSTS

A.15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2(

Line No.			PV (X years after operational)	66	67	68	69	70	71	72	73	74	75	76	77	78
			100													
	A	***Proposed Project (Line 3602)***														
			PV	**2081**	**2082**	**2083**	**2084**	**2085**	**2086**	**2087**	**2088**	**2089**	**2090**	**2091**	**2092**	**2093**
6	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
7	2	MCS O&M and Emissions Cost	$ (89,968,134)	$ (38,708,155)	$ (39,830,691)	$ (40,985,781)	$ (42,174,369)	$ (43,397,426)	$ (44,655,951)	$ (45,950,974)	$ (47,283,552)	$ (48,654,775)	$ (50,065,764)	$ (51,517,671)	$ (53,011,683)	$ (54,549,022)
8	3	***Total Avoided Costs***	**$ (190,253,617)**	**$ (38,708,155)**	**$ (39,830,691)**	**$ (40,985,781)**	**$ (42,174,369)**	**$ (43,397,426)**	**$ (44,655,951)**	**$ (45,950,974)**	**$ (47,283,552)**	**$ (48,654,775)**	**$ (50,065,764)**	**$ (51,517,671)**	**$ (53,011,683)**	**$ (54,549,022)**
9																
10		***Manual PV calc over 100 yrs for L3602 (Columns H to DJ)***	***$ (190,253,617)***	*$ (254,124)*	*$ (242,595)*	*$ (231,589)*	*$ (221,083)*	*$ (211,053)*	*$ (201,479)*	*$ (192,339)*	*$ (183,613)*	*$ (175,283)*	*$ (167,331)*	*$ (159,740)*	*$ (152,493)*	*$ (145,575)*
11																
12																
13	4	Annual O&M Cost	$ 3,680,546	$ 1,583,529	$ 1,629,451	$ 1,676,705	$ 1,725,330	$ 1,775,364	$ 1,826,850	$ 1,879,828	$ 1,934,344	$ 1,990,439	$ 2,048,162	$ 2,107,559	$ 2,168,678	$ 2,231,570
14	5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE
15	6	TIMP Cost	$ 904,581	$ -	$ -	$ -	$ 3,594,437	$ -	$ -	$ -	$ -	$ -	$ -	$ 4,390,748	$ -	$ -
16	7	***Total O&M Costs***	**$ 4,585,126**	**$ 1,583,529**	**$ 1,629,451**	**$ 1,676,705**	**$ 5,319,767**	**$ 1,775,364**	**$ 1,826,850**	**$ 1,879,828**	**$ 1,934,344**	**$ 1,990,439**	**$ 2,048,162**	**$ 6,498,307**	**$ 2,168,678**	**$ 2,231,570**
17																
18	B	***Hydrotest Alternate (Line 1600)***														
19																
20			**PV**	**2081**	**2082**	**2083**	**2084**	**2085**	**2086**	**2087**	**2088**	**2089**	**2090**	**2091**	**2092**	**2093**
21	1	Future L1600 Replacement Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
22	2	MCS O&M and Emissions Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
23	3	***Total Avoided Costs***	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
24																
25																
26	4	Annual O&M Cost	$ 4,242,275	$ 1,583,529	$ 1,629,451	$ 1,676,705	$ 1,725,330	$ 1,775,364	$ 1,826,850	$ 1,879,828	$ 1,934,344	$ 1,990,439	$ 2,048,162	$ 2,107,559	$ 2,168,678	$ 2,231,570
27	5	Pigging to Occur	N/A	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
28	6	TIMP Cost	$ 1,574,602	$ -	$ -	$ 3,493,136	$ -	$ -	$ -	$ -	$ -	$ -	$ 4,267,005	$ -	$ -	$ -
29	7	***Total O&M Costs***	**$ 5,816,878**	**$ 1,583,529**	**$ 1,629,451**	**$ 5,169,841**	**$ 1,725,330**	**$ 1,775,364**	**$ 1,826,850**	**$ 1,879,828**	**$ 1,934,344**	**$ 1,990,439**	**$ 6,315,167**	**$ 2,107,559**	**$ 2,168,678**	**$ 2,231,570**
30																
31	C1	***Alternative Diameter Pipeline (10")***														
32																
			PV	**2081**	**2082**	**2083**	**2084**	**2085**	**2086**	**2087**	**2088**	**2089**	**2090**	**2091**	**2092**	**2093**
34	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
35	2	MCS O&M and Emissions Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
36	3	***Total Avoided Costs***	**$ (100,285,483)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
37																
38																
39	4	Annual O&M Cost	$ 3,680,546	$ 1,583,529	$ 1,629,451	$ 1,676,705	$ 1,725,330	$ 1,775,364	$ 1,826,850	$ 1,879,828	$ 1,934,344	$ 1,990,439	$ 2,048,162	$ 2,107,559	$ 2,168,678	$ 2,231,570
40	5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE
41	6	TIMP Cost	$ 904,581	$ -	$ -	$ -	$ 3,594,437	$ -	$ -	$ -	$ -	$ -	$ -	$ 4,390,748	$ -	$ -
42	7	Cost of Importing Gas	$ 100,754,939	$ 43,349,102	$ 44,606,226	$ 45,899,806	$ 47,230,901	$ 48,600,597	$ 50,010,014	$ 51,460,305	$ 52,952,653	$ 54,488,280	$ 56,068,441	$ 57,694,425	$ 59,367,564	$ 61,089,223
43	8	***Total O&M Costs***	**$ 105,340,065**	**$ 1,583,529**	**$ 1,629,451**	**$ 1,676,705**	**$ 5,319,767**	**$ 1,775,364**	**$ 1,826,850**	**$ 1,879,828**	**$ 1,934,344**	**$ 1,990,439**	**$ 2,048,162**	**$ 6,498,307**	**$ 2,168,678**	**$ 2,231,570**
44																
45	C2	***Alternative Diameter Pipeline (12")***														
46			**PV**	**2081**	**2082**	**2083**	**2084**	**2085**	**2086**	**2087**	**2088**	**2089**	**2090**	**2091**	**2092**	**2093**
47																
48	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
49	2	MCS O&M and Emissions Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
50	3	***Total Avoided Costs***	**$ (100,285,483)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
51																
52																
53	4	Annual O&M Cost	$ 3,680,546	$ 1,583,529	$ 1,629,451	$ 1,676,705	$ 1,725,330	$ 1,775,364	$ 1,826,850	$ 1,879,828	$ 1,934,344	$ 1,990,439	$ 2,048,162	$ 2,107,559	$ 2,168,678	$ 2,231,570
54	5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE
55	6	TIMP Cost	$ 904,581	$ -	$ -	$ -	$ 3,594,437	$ -	$ -	$ -	$ -	$ -	$ -	$ 4,390,748	$ -	$ -
56	7	Cost of Importing Gas	$ 67,169,959	$ 28,899,401	$ 29,737,484	$ 30,599,871	$ 31,487,267	$ 32,400,398	$ 33,340,009	$ 34,306,870	$ 35,301,769	$ 36,325,520	$ 37,378,960	$ 38,462,950	$ 39,578,376	$ 40,726,149
57	8	***Total O&M Costs***	**$ 71,755,086**	**$ 1,583,529**	**$ 1,629,451**	**$ 1,676,705**	**$ 5,319,767**	**$ 1,775,364**	**$ 1,826,850**	**$ 1,879,828**	**$ 1,934,344**	**$ 1,990,439**	**$ 2,048,162**	**$ 6,498,307**	**$ 2,168,678**	**$ 2,231,570**
58																
59	C3	***Alternative Diameter Pipeline (16")***														
60			**PV**	**2081**	**2082**	**2083**	**2084**	**2085**	**2086**	**2087**	**2088**	**2089**	**2090**	**2091**	**2092**	**2093**
61																
62	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
63	2	MCS O&M and Emissions Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
64	3	***Total Avoided Costs***	**$ (100,285,483)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
65																
66																
67	4	Annual O&M Cost	$ 3,680,546	$ 1,583,529	$ 1,629,451	$ 1,676,705	$ 1,725,330	$ 1,775,364	$ 1,826,850	$ 1,879,828	$ 1,934,344	$ 1,990,439	$ 2,048,162	$ 2,107,559	$ 2,168,678	$ 2,231,570
68	5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE
69	6	TIMP Cost	$ 904,581	$ -	$ -	$ -	$ 3,594,437	$ -	$ -	$ -	$ -	$ -	$ -	$ 4,390,748	$ -	$ -
70	7	***Total O&M Costs***	**$ 4,585,126**	**$ 1,583,529**	**$ 1,629,451**	**$ 1,676,705**	**$ 5,319,767**	**$ 1,775,364**	**$ 1,826,850**	**$ 1,879,828**	**$ 1,934,344**	**$ 1,990,439**	**$ 2,048,162**	**$ 6,498,307**	**$ 2,168,678**	**$ 2,231,570**
71																
72	C4	***Alternative Diameter Pipeline (20")***														
73																
			PV	**2081**	**2082**	**2083**	**2084**	**2085**	**2086**	**2087**	**2088**	**2089**	**2090**	**2091**	**2092**	**2093**
75	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
76	2	MCS O&M and Emissions Cost	$ (17,993,627)	$ (7,741,631)	$ (7,966,138)	$ (8,197,156)	$ (8,434,874)	$ (8,679,485)	$ (8,931,190)	$ (9,190,195)	$ (9,456,710)	$ (9,730,955)	$ (10,013,153)	$ (10,303,534)	$ (10,602,337)	$ (10,909,804)
77	3	***Total Avoided Costs***	**$ (118,279,110)**	**$ (7,741,631)**	**$ (7,966,138)**	**$ (8,197,156)**	**$ (8,434,874)**	**$ (8,679,485)**	**$ (8,931,190)**	**$ (9,190,195)**	**$ (9,456,710)**	**$ (9,730,955)**	**$ (10,013,153)**	**$ (10,303,534)**	**$ (10,602,337)**	**$ (10,909,804)**
78																
79																
80	4	Annual O&M Cost	$ 3,680,546	$ 1,583,529	$ 1,629,451	$ 1,676,705	$ 1,725,330	$ 1,775,364	$ 1,826,850	$ 1,879,828	$ 1,934,344	$ 1,990,439	$ 2,048,162	$ 2,107,559	$ 2,168,678	$ 2,231,570
81	5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE
82	6	TIMP Cost	$ 904,581	$ -	$ -	$ -	$ 3,594,437	$ -	$ -	$ -	$ -	$ -	$ -	$ 4,390,748	$ -	$ -
83	7	***Total O&M Costs***	**$ 4,585,126**	**$ 1,583,529**	**$ 1,629,451**	**$ 1,676,705**	**$ 5,319,767**	**$ 1,775,364**	**$ 1,826,850**	**$ 1,879,828**	**$ 1,934,344**	**$ 1,990,439**	**$ 2,048,162**	**$ 6,498,307**	**$ 2,168,678**	**$ 2,231,570**
84																
85	C5	***Alternative Diameter Pipeline (24")***														
86			**PV**	**2081**	**2082**	**2083**	**2084**	**2085**	**2086**	**2087**	**2088**	**2089**	**2090**	**2091**	**2092**	**2093**
87																
88	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
89	2	MCS O&M and Emissions Cost	$ (35,987,253)	$ (15,483,262)	$ (15,932,277)	$ (16,394,313)	$ (16,869,748)	$ (17,358,970)	$ (17,862,380)	$ (18,380,390)	$ (18,913,421)	$ (19,461,910)	$ (20,026,305)	$ (20,607,068)	$ (21,204,673)	$ (21,819,609)
90	3	***Total Avoided Costs***	**$ (136,272,737)**	**$ (15,483,262)**	**$ (15,932,277)**	**$ (16,394,313)**	**$ (16,869,748)**	**$ (17,358,970)**	**$ (17,862,380)**	**$ (18,380,390)**	**$ (18,913,421)**	**$ (19,461,910)**	**$ (20,026,305)**	**$ (20,607,068)**	**$ (21,204,673)**	**$ (21,819,609)**
91																
92																
93	4	Annual O&M Cost	$ 3,680,546	$ 1,583,529	$ 1,629,451	$ 1,676,705	$ 1,725,330	$ 1,775,364	$ 1,826,850	$ 1,879,828	$ 1,934,344	$ 1,990,439	$ 2,048,162	$ 2,107,559	$ 2,168,678	$ 2,231,570
94	5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE
95	6	TIMP Cost	$ 904,581	$ -	$ -	$ -	$ 3,594,437	$ -	$ -	$ -	$ -	$ -	$ -	$ 4,390,748	$ -	$ -
96	7	***Total O&M Costs***	**$ 4,585,126**	**$ 1,583,529**	**$ 1,629,451**	**$ 1,676,705**	**$ 5,319,767**	**$ 1,775,364**	**$ 1,826,850**	**$ 1,879,828**	**$ 1,934,344**	**$ 1,990,439**	**$ 2,048,162**	**$ 6,498,307**	**$ 2,168,678**	**$ 2,231,570**
97																

WORK PAPER TABLE - AVOIDED COST MODEL - COSTS OVER 100 YEARS (AC 1.2)

ANNUAL COSTS BY PROJECT ALTERNATE, FOR AVOIDED COSTS AND O&M COSTS

A.15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2(

Line No.			PV (X years after operational)	79	80	81	82	83	84	85	86	87	88	89	90	91
			100													
	A	***Proposed Project (Line 3602)***														
			PV	**2094**	**2095**	**2096**	**2097**	**2098**	**2099**	**2100**	**2101**	**2102**	**2103**	**2104**	**2105**	**2106**
6	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
7	2	MCS O&M and Emissions Cost	$ (89,968,134)	$ (56,130,944)	$ (57,758,741)	$ (59,433,744)	$ (61,157,323)	$ (62,930,885)	$ (64,755,881)	$ (66,633,802)	$ (68,566,182)	$ (70,554,601)	$ (72,600,685)	$ (74,706,104)	$ (76,872,581)	$ (79,101,886)
8	3	***Total Avoided Costs***	**$ (190,253,617)**	**$ (56,130,944)**	**$ (57,758,741)**	**$ (59,433,744)**	**$ (61,157,323)**	**$ (62,930,885)**	**$ (64,755,881)**	**$ (66,633,802)**	**$ (68,566,182)**	**$ (70,554,601)**	**$ (72,600,685)**	**$ (74,706,104)**	**$ (76,872,581)**	**$ (79,101,886)**
9																
10		***Manual PV calc over 100 yrs for L3602 (Columns H to DJ)***	***$ (190,253,617)***	*$ (138,971)*	*$ (132,667)*	*$ (126,648)*	*$ (120,903)*	*$ (115,418)*	*$ (110,182)*	*$ (105,183)*	*$ (100,411)*	*$ (95,856)*	*$ (91,508)*	*$ (87,356)*	*$ (83,393)*	*$ (79,610)*
11																
12																
13	4	Annual O&M Cost	$ 3,680,546	$ 2,296,285	$ 2,362,878	$ 2,431,401	$ 2,501,912	$ 2,574,467	$ 2,649,127	$ 2,725,951	$ 2,805,004	$ 2,886,349	$ 2,970,053	$ 3,056,185	$ 3,144,814	$ 3,236,014
14	5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE
15	6	TIMP Cost	$ 904,581	$ -	$ -	$ -	$ -	$ 5,363,473	$ -	$ -	$ -	$ -	$ -	$ -	$ 6,551,696	$ -
16	7	***Total O&M Costs***	**$ 4,585,126**	**$ 2,296,285**	**$ 2,362,878**	**$ 2,431,401**	**$ 2,501,912**	**$ 7,937,940**	**$ 2,649,127**	**$ 2,725,951**	**$ 2,805,004**	**$ 2,886,349**	**$ 2,970,053**	**$ 3,056,185**	**$ 9,696,510**	**$ 3,236,014**
17																
18	B	***Hydrotest Alternate (Line 1600)***														
19																
20			**PV**	**2094**	**2095**	**2096**	**2097**	**2098**	**2099**	**2100**	**2101**	**2102**	**2103**	**2104**	**2105**	**2106**
21	1	Future L1600 Replacement Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
22	2	MCS O&M and Emissions Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
23	3	***Total Avoided Costs***	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
24																
25																
26	4	Annual O&M Cost	$ 4,242,275	$ 2,296,285	$ 2,362,878	$ 2,431,401	$ 2,501,912	$ 2,574,467	$ 2,649,127	$ 2,725,951	$ 2,805,004	$ 2,886,349	$ 2,970,053	$ 3,056,185	$ 3,144,814	$ 3,236,014
27	5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE
28	6	TIMP Cost	$ 1,574,602	$ -	$ -	$ -	$ 5,212,316	$ -	$ -	$ -	$ -	$ -	$ -	$ 6,367,051	$ -	$ -
29	7	***Total O&M Costs***	**$ 5,816,878**	**$ 2,296,285**	**$ 2,362,878**	**$ 2,431,401**	**$ 7,714,228**	**$ 2,574,467**	**$ 2,649,127**	**$ 2,725,951**	**$ 2,805,004**	**$ 2,886,349**	**$ 2,970,053**	**$ 9,423,236**	**$ 3,144,814**	**$ 3,236,014**
30																
31	C1	***Alternative Diameter Pipeline (10")***														
32																
			PV	**2094**	**2095**	**2096**	**2097**	**2098**	**2099**	**2100**	**2101**	**2102**	**2103**	**2104**	**2105**	**2106**
34	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
35	2	MCS O&M and Emissions Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
36	3	***Total Avoided Costs***	**$ (100,285,483)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
37																
38																
39	4	Annual O&M Cost	$ 3,680,546	$ 2,296,285	$ 2,362,878	$ 2,431,401	$ 2,501,912	$ 2,574,467	$ 2,649,127	$ 2,725,951	$ 2,805,004	$ 2,886,349	$ 2,970,053	$ 3,056,185	$ 3,144,814	$ 3,236,014
40	5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE
41	6	TIMP Cost	$ 904,581	$ -	$ -	$ -	$ -	$ 5,363,473	$ -	$ -	$ -	$ -	$ -	$ -	$ 6,551,696	$ -
42	7	Cost of Importing Gas	$ 100,754,939	$ 62,860,810	$ 64,683,774	$ 66,559,603	$ 68,489,832	$ 70,476,037	$ 72,519,842	$ 74,622,917	$ 76,786,982	$ 79,013,805	$ 81,305,205	$ 83,663,056	$ 86,089,284	$ 88,585,874
43	8	***Total O&M Costs***	**$ 105,340,065**	**$ 2,296,285**	**$ 2,362,878**	**$ 2,431,401**	**$ 2,501,912**	**$ 7,937,940**	**$ 2,649,127**	**$ 2,725,951**	**$ 2,805,004**	**$ 2,886,349**	**$ 2,970,053**	**$ 3,056,185**	**$ 9,696,510**	**$ 3,236,014**
44																
45	C2	***Alternative Diameter Pipeline (12")***														
46			**PV**	**2094**	**2095**	**2096**	**2097**	**2098**	**2099**	**2100**	**2101**	**2102**	**2103**	**2104**	**2105**	**2106**
47																
48	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
49	2	MCS O&M and Emissions Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
50	3	***Total Avoided Costs***	**$ (100,285,483)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
51																
52																
53	4	Annual O&M Cost	$ 3,680,546	$ 2,296,285	$ 2,362,878	$ 2,431,401	$ 2,501,912	$ 2,574,467	$ 2,649,127	$ 2,725,951	$ 2,805,004	$ 2,886,349	$ 2,970,053	$ 3,056,185	$ 3,144,814	$ 3,236,014
54	5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE
55	6	TIMP Cost	$ 904,581	$ -	$ -	$ -	$ -	$ 5,363,473	$ -	$ -	$ -	$ -	$ -	$ -	$ 6,551,696	$ -
56	7	Cost of Importing Gas	$ 67,169,959	$ 41,907,207	$ 43,122,516	$ 44,373,069	$ 45,659,888	$ 46,984,025	$ 48,346,561	$ 49,748,612	$ 51,191,321	$ 52,675,870	$ 54,203,470	$ 55,775,371	$ 57,392,856	$ 59,057,249
57	8	***Total O&M Costs***	**$ 71,755,086**	**$ 2,296,285**	**$ 2,362,878**	**$ 2,431,401**	**$ 2,501,912**	**$ 7,937,940**	**$ 2,649,127**	**$ 2,725,951**	**$ 2,805,004**	**$ 2,886,349**	**$ 2,970,053**	**$ 3,056,185**	**$ 9,696,510**	**$ 3,236,014**
58																
59	C3	***Alternative Diameter Pipeline (16")***														
60			**PV**	**2094**	**2095**	**2096**	**2097**	**2098**	**2099**	**2100**	**2101**	**2102**	**2103**	**2104**	**2105**	**2106**
61																
62	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
63	2	MCS O&M and Emissions Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
64	3	***Total Avoided Costs***	**$ (100,285,483)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
65																
66																
67	4	Annual O&M Cost	$ 3,680,546	$ 2,296,285	$ 2,362,878	$ 2,431,401	$ 2,501,912	$ 2,574,467	$ 2,649,127	$ 2,725,951	$ 2,805,004	$ 2,886,349	$ 2,970,053	$ 3,056,185	$ 3,144,814	$ 3,236,014
68	5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE
69	6	TIMP Cost	$ 904,581	$ -	$ -	$ -	$ -	$ 5,363,473	$ -	$ -	$ -	$ -	$ -	$ -	$ 6,551,696	$ -
70	7	***Total O&M Costs***	**$ 4,585,126**	**$ 2,296,285**	**$ 2,362,878**	**$ 2,431,401**	**$ 2,501,912**	**$ 7,937,940**	**$ 2,649,127**	**$ 2,725,951**	**$ 2,805,004**	**$ 2,886,349**	**$ 2,970,053**	**$ 3,056,185**	**$ 9,696,510**	**$ 3,236,014**
71																
72	C4	***Alternative Diameter Pipeline (20")***														
73			**PV**	**2094**	**2095**	**2096**	**2097**	**2098**	**2099**	**2100**	**2101**	**2102**	**2103**	**2104**	**2105**	**2106**
74																
75	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
76	2	MCS O&M and Emissions Cost	$ (17,993,627)	$ (11,226,189)	$ (11,551,748)	$ (11,886,749)	$ (12,231,465)	$ (12,586,177)	$ (12,951,176)	$ (13,326,760)	$ (13,713,236)	$ (14,110,920)	$ (14,520,137)	$ (14,941,221)	$ (15,374,516)	$ (15,820,377)
77	3	***Total Avoided Costs***	**$ (118,279,110)**	**$ (11,226,189)**	**$ (11,551,748)**	**$ (11,886,749)**	**$ (12,231,465)**	**$ (12,586,177)**	**$ (12,951,176)**	**$ (13,326,760)**	**$ (13,713,236)**	**$ (14,110,920)**	**$ (14,520,137)**	**$ (14,941,221)**	**$ (15,374,516)**	**$ (15,820,377)**
78																
79																
80	4	Annual O&M Cost	$ 3,680,546	$ 2,296,285	$ 2,362,878	$ 2,431,401	$ 2,501,912	$ 2,574,467	$ 2,649,127	$ 2,725,951	$ 2,805,004	$ 2,886,349	$ 2,970,053	$ 3,056,185	$ 3,144,814	$ 3,236,014
81	5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE
82	6	TIMP Cost	$ 904,581	$ -	$ -	$ -	$ -	$ 5,363,473	$ -	$ -	$ -	$ -	$ -	$ -	$ 6,551,696	$ -
83	7	***Total O&M Costs***	**$ 4,585,126**	**$ 2,296,285**	**$ 2,362,878**	**$ 2,431,401**	**$ 2,501,912**	**$ 7,937,940**	**$ 2,649,127**	**$ 2,725,951**	**$ 2,805,004**	**$ 2,886,349**	**$ 2,970,053**	**$ 3,056,185**	**$ 9,696,510**	**$ 3,236,014**
84																
85	C5	***Alternative Diameter Pipeline (24")***														
86			**PV**	**2094**	**2095**	**2096**	**2097**	**2098**	**2099**	**2100**	**2101**	**2102**	**2103**	**2104**	**2105**	**2106**
87																
88	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
89	2	MCS O&M and Emissions Cost	$ (35,987,253)	$ (22,452,377)	$ (23,103,496)	$ (23,773,498)	$ (24,462,929)	$ (25,172,354)	$ (25,902,352)	$ (26,653,521)	$ (27,426,473)	$ (28,221,840)	$ (29,040,274)	$ (29,882,442)	$ (30,749,033)	$ (31,640,755)
90	3	***Total Avoided Costs***	**$ (136,272,737)**	**$ (22,452,377)**	**$ (23,103,496)**	**$ (23,773,498)**	**$ (24,462,929)**	**$ (25,172,354)**	**$ (25,902,352)**	**$ (26,653,521)**	**$ (27,426,473)**	**$ (28,221,840)**	**$ (29,040,274)**	**$ (29,882,442)**	**$ (30,749,033)**	**$ (31,640,755)**
91																
92																
93	4	Annual O&M Cost	$ 3,680,546	$ 2,296,285	$ 2,362,878	$ 2,431,401	$ 2,501,912	$ 2,574,467	$ 2,649,127	$ 2,725,951	$ 2,805,004	$ 2,886,349	$ 2,970,053	$ 3,056,185	$ 3,144,814	$ 3,236,014
94	5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE
95	6	TIMP Cost	$ 904,581	$ -	$ -	$ -	$ -	$ 5,363,473	$ -	$ -	$ -	$ -	$ -	$ -	$ 6,551,696	$ -
96	7	***Total O&M Costs***	**$ 4,585,126**	**$ 2,296,285**	**$ 2,362,878**	**$ 2,431,401**	**$ 2,501,912**	**$ 7,937,940**	**$ 2,649,127**	**$ 2,725,951**	**$ 2,805,004**	**$ 2,886,349**	**$ 2,970,053**	**$ 3,056,185**	**$ 9,696,510**	**$ 3,236,014**
97																

WORK PAPER TABLE - AVOIDED COST MODEL - COSTS OVER 100 YEARS (AC 1.2)

ANNUAL COSTS BY PROJECT ALTERNATE, FOR AVOIDED COSTS AND O&M COSTS

A.15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2(

Line No.			PV (X years after operational)	92	93	94	95	96	97	98	99	100	101	102	103	104
1			100													
2																
3	A	***Proposed Project (Line 3602)***														
4			**PV**	**2107**	**2108**	**2109**	**2110**	**2111**	**2112**	**2113**	**2114**	**2115**	**2116**	**2117**	**2118**	**2119**
5																
6	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
7	2	MCS O&M and Emissions Cost	$ (89,968,134)	$ (81,395,841)	$ (83,756,320)	$ (86,185,254)	$ (88,684,626)	$ (91,256,480)	$ (93,902,918)	$ (96,626,103)	$ (99,428,260)	$ (102,311,679)	$ (105,278,718)	$ (108,331,801)	$ (111,473,423)	$ (114,706,152)
8	3	***Total Avoided Costs***	**$ (190,253,617)**	**$ (81,395,841)**	**$ (83,756,320)**	**$ (86,185,254)**	**$ (88,684,626)**	**$ (91,256,480)**	**$ (93,902,918)**	**$ (96,626,103)**	**$ (99,428,260)**	**$ (102,311,679)**	**$ (105,278,718)**	**$ (108,331,801)**	**$ (111,473,423)**	**$ (114,706,152)**
9																
10		***Manual PV calc over 100 yrs for L3602 (Columns H to DJ)***	***$ (190,253,617)***	*$ (75,998)*	*$ (72,551)*	*$ (69,259)*	*$ (66,117)*	*$ (63,118)*	*$ (60,254)*	*$ (57,521)*	*$ (54,911)*	*$ (52,420)*	*$ (50,042)*	*$ (47,772)*	*$ (45,605)*	*$ (43,536)*
11																
12																
13	4	Annual O&M Cost	$ 3,680,546	$ 3,329,858	$ 3,426,424	$ 3,525,790	$ 3,628,038	$ 3,733,251	$ 3,841,516	$ 3,952,919	$ 4,067,554	$ 4,185,513	$ 4,306,893	$ 4,431,793	$ 4,560,315	$ 4,692,564
14	5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE
15	6	TIMP Cost	$ 904,581	$ -	$ -	$ -	$ -	$ -	$ 8,003,157	$ -	$ -	$ -	$ -	$ -	$ -	$ 9,776,175
16	7	***Total O&M Costs***	**$ 4,585,126**	**$ 3,329,858**	**$ 3,426,424**	**$ 3,525,790**	**$ 3,628,038**	**$ 3,733,251**	**$ 11,844,673**	**$ 3,952,919**	**$ 4,067,554**	**$ 4,185,513**	**$ 4,306,893**	**$ 4,431,793**	**$ 4,560,315**	**$ 14,468,739**
17																
18	B	***Hydrotest Alternate (Line 1600)***														
19			**PV**	**2107**	**2108**	**2109**	**2110**	**2111**	**2112**	**2113**	**2114**	**2115**	**2116**	**2117**	**2118**	**2119**
20																
21	1	Future L1600 Replacement Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
22	2	MCS O&M and Emissions Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
23	3	***Total Avoided Costs***	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
24																
25																
26	4	Annual O&M Cost	$ 4,242,275	$ 3,329,858	$ 3,426,424	$ 3,525,790	$ 3,628,038	$ 3,733,251	$ 3,841,516	$ 3,952,919	$ 4,067,554	$ 4,185,513	$ 4,306,893	$ 4,431,793	$ 4,560,315	$ 4,692,564
27	5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE
28	6	TIMP Cost	$ 1,574,602	$ -	$ -	$ -	$ -	$ 7,777,607	$ -	$ -	$ -	$ -	$ -	$ -	$ 9,500,656	$ -
29	7	***Total O&M Costs***	**$ 5,816,878**	**$ 3,329,858**	**$ 3,426,424**	**$ 3,525,790**	**$ 3,628,038**	**$ 11,510,858**	**$ 3,841,516**	**$ 3,952,919**	**$ 4,067,554**	**$ 4,185,513**	**$ 4,306,893**	**$ 4,431,793**	**$ 14,060,971**	**$ 4,692,564**
30																
31	C1	***Alternative Diameter Pipeline (10")***														
32			**PV**	**2107**	**2108**	**2109**	**2110**	**2111**	**2112**	**2113**	**2114**	**2115**	**2116**	**2117**	**2118**	**2119**
33																
34	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
35	2	MCS O&M and Emissions Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
36	3	***Total Avoided Costs***	**$ (100,285,483)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
37																
38																
39	4	Annual O&M Cost	$ 3,680,546	$ 3,329,858	$ 3,426,424	$ 3,525,790	$ 3,628,038	$ 3,733,251	$ 3,841,516	$ 3,952,919	$ 4,067,554	$ 4,185,513	$ 4,306,893	$ 4,431,793	$ 4,560,315	$ 4,692,564
40	5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE
41	6	TIMP Cost	$ 904,581	$ -	$ -	$ -	$ -	$ -	$ 8,003,157	$ -	$ -	$ -	$ -	$ -	$ -	$ 9,776,175
42	7	Cost of Importing Gas	$ 100,754,939	$ 91,154,864	$ 93,798,355	$ 96,518,507	$ 99,317,544	$ 102,197,753	$ 105,161,488	$ 108,211,171	$ 111,349,295	$ 114,578,424	$ 117,901,199	$ 121,320,333	$ 124,838,623	$ 128,458,943
43	8	***Total O&M Costs***	**$ 105,340,065**	**$ 3,329,858**	**$ 3,426,424**	**$ 3,525,790**	**$ 3,628,038**	**$ 3,733,251**	**$ 11,844,673**	**$ 3,952,919**	**$ 4,067,554**	**$ 4,185,513**	**$ 4,306,893**	**$ 4,431,793**	**$ 4,560,315**	**$ 14,468,739**
44																
45	C2	***Alternative Diameter Pipeline (12")***														
46			**PV**	**2107**	**2108**	**2109**	**2110**	**2111**	**2112**	**2113**	**2114**	**2115**	**2116**	**2117**	**2118**	**2119**
47																
48	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
49	2	MCS O&M and Emissions Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
50	3	***Total Avoided Costs***	**$ (100,285,483)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
51																
52																
53	4	Annual O&M Cost	$ 3,680,546	$ 3,329,858	$ 3,426,424	$ 3,525,790	$ 3,628,038	$ 3,733,251	$ 3,841,516	$ 3,952,919	$ 4,067,554	$ 4,185,513	$ 4,306,893	$ 4,431,793	$ 4,560,315	$ 4,692,564
54	5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE
55	6	TIMP Cost	$ 904,581	$ -	$ -	$ -	$ -	$ -	$ 8,003,157	$ -	$ -	$ -	$ -	$ -	$ -	$ 9,776,175
56	7	Cost of Importing Gas	$ 67,169,959	$ 60,769,909	$ 62,532,237	$ 64,345,672	$ 66,211,696	$ 68,131,835	$ 70,107,658	$ 72,140,781	$ 74,232,863	$ 76,385,616	$ 78,600,799	$ 80,880,222	$ 83,225,749	$ 85,639,295
57	8	***Total O&M Costs***	**$ 71,755,086**	**$ 3,329,858**	**$ 3,426,424**	**$ 3,525,790**	**$ 3,628,038**	**$ 3,733,251**	**$ 11,844,673**	**$ 3,952,919**	**$ 4,067,554**	**$ 4,185,513**	**$ 4,306,893**	**$ 4,431,793**	**$ 4,560,315**	**$ 14,468,739**
58																
59	C3	***Alternative Diameter Pipeline (16")***														
60			**PV**	**2107**	**2108**	**2109**	**2110**	**2111**	**2112**	**2113**	**2114**	**2115**	**2116**	**2117**	**2118**	**2119**
61																
62	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
63	2	MCS O&M and Emissions Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
64	3	***Total Avoided Costs***	**$ (100,285,483)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
65																
66																
67	4	Annual O&M Cost	$ 3,680,546	$ 3,329,858	$ 3,426,424	$ 3,525,790	$ 3,628,038	$ 3,733,251	$ 3,841,516	$ 3,952,919	$ 4,067,554	$ 4,185,513	$ 4,306,893	$ 4,431,793	$ 4,560,315	$ 4,692,564
68	5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE
69	6	TIMP Cost	$ 904,581	$ -	$ -	$ -	$ -	$ -	$ 8,003,157	$ -	$ -	$ -	$ -	$ -	$ -	$ 9,776,175
70	7	***Total O&M Costs***	**$ 4,585,126**	**$ 3,329,858**	**$ 3,426,424**	**$ 3,525,790**	**$ 3,628,038**	**$ 3,733,251**	**$ 11,844,673**	**$ 3,952,919**	**$ 4,067,554**	**$ 4,185,513**	**$ 4,306,893**	**$ 4,431,793**	**$ 4,560,315**	**$ 14,468,739**
71																
72	C4	***Alternative Diameter Pipeline (20")***														
73			**PV**	**2107**	**2108**	**2109**	**2110**	**2111**	**2112**	**2113**	**2114**	**2115**	**2116**	**2117**	**2118**	**2119**
74																
75	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
76	2	MCS O&M and Emissions Cost	$ (17,993,627)	$ (16,279,168)	$ (16,751,264)	$ (17,237,051)	$ (17,736,925)	$ (18,251,296)	$ (18,780,584)	$ (19,325,221)	$ (19,885,652)	$ (20,462,336)	$ (21,055,744)	$ (21,666,360)	$ (22,294,685)	$ (22,941,230)
77	3	***Total Avoided Costs***	**$ (118,279,110)**	**$ (16,279,168)**	**$ (16,751,264)**	**$ (17,237,051)**	**$ (17,736,925)**	**$ (18,251,296)**	**$ (18,780,584)**	**$ (19,325,221)**	**$ (19,885,652)**	**$ (20,462,336)**	**$ (21,055,744)**	**$ (21,666,360)**	**$ (22,294,685)**	**$ (22,941,230)**
78																
79																
80	4	Annual O&M Cost	$ 3,680,546	$ 3,329,858	$ 3,426,424	$ 3,525,790	$ 3,628,038	$ 3,733,251	$ 3,841,516	$ 3,952,919	$ 4,067,554	$ 4,185,513	$ 4,306,893	$ 4,431,793	$ 4,560,315	$ 4,692,564
81	5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE
82	6	TIMP Cost	$ 904,581	$ -	$ -	$ -	$ -	$ -	$ 8,003,157	$ -	$ -	$ -	$ -	$ -	$ -	$ 9,776,175
83	7	***Total O&M Costs***	**$ 4,585,126**	**$ 3,329,858**	**$ 3,426,424**	**$ 3,525,790**	**$ 3,628,038**	**$ 3,733,251**	**$ 11,844,673**	**$ 3,952,919**	**$ 4,067,554**	**$ 4,185,513**	**$ 4,306,893**	**$ 4,431,793**	**$ 4,560,315**	**$ 14,468,739**
84																
85	C5	***Alternative Diameter Pipeline (24")***														
86			**PV**	**2107**	**2108**	**2109**	**2110**	**2111**	**2112**	**2113**	**2114**	**2115**	**2116**	**2117**	**2118**	**2119**
87																
88	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
89	2	MCS O&M and Emissions Cost	$ (35,987,253)	$ (32,558,336)	$ (33,502,528)	$ (34,474,101)	$ (35,473,850)	$ (36,502,592)	$ (37,561,167)	$ (38,650,441)	$ (39,771,304)	$ (40,924,672)	$ (42,111,487)	$ (43,332,720)	$ (44,589,369)	$ (45,882,461)
90	3	***Total Avoided Costs***	**$ (136,272,737)**	**$ (32,558,336)**	**$ (33,502,528)**	**$ (34,474,101)**	**$ (35,473,850)**	**$ (36,502,592)**	**$ (37,561,167)**	**$ (38,650,441)**	**$ (39,771,304)**	**$ (40,924,672)**	**$ (42,111,487)**	**$ (43,332,720)**	**$ (44,589,369)**	**$ (45,882,461)**
91																
92																
93	4	Annual O&M Cost	$ 3,680,546	$ 3,329,858	$ 3,426,424	$ 3,525,790	$ 3,628,038	$ 3,733,251	$ 3,841,516	$ 3,952,919	$ 4,067,554	$ 4,185,513	$ 4,306,893	$ 4,431,793	$ 4,560,315	$ 4,692,564
94	5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE
95	6	TIMP Cost	$ 904,581	$ -	$ -	$ -	$ -	$ -	$ 8,003,157	$ -	$ -	$ -	$ -	$ -	$ -	$ 9,776,175
96	7	***Total O&M Costs***	**$ 4,585,126**	**$ 3,329,858**	**$ 3,426,424**	**$ 3,525,790**	**$ 3,628,038**	**$ 3,733,251**	**$ 11,844,673**	**$ 3,952,919**	**$ 4,067,554**	**$ 4,185,513**	**$ 4,306,893**	**$ 4,431,793**	**$ 4,560,315**	**$ 14,468,739**
97																

WORK PAPER TABLE - AVOIDED COST MODEL - COSTS OVER 100 YEARS (AC 1.2)

ANNUAL COSTS BY PROJECT ALTERNATE, FOR AVOIDED COSTS AND O&M COSTS

A.15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2(

Line No.			PV (X years after operational)	105	106	107	108	109	110	111	112	113	114	115	116
			100												
	A	***Proposed Project (Line 3602)***													
			PV	**2120**	**2121**	**2122**	**2123**	**2124**	**2125**	**2126**	**2127**	**2128**	**2129**	**2130**	**2131**
6	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
7	2	MCS O&M and Emissions Cost	$ (89,968,134)	$ (118,032,631)	$ (121,455,577)	$ (124,977,789)	$ (128,602,145)	$ (132,331,607)	$ (136,169,223)	$ (140,118,131)	$ (144,181,557)	$ (148,362,822)	$ (152,665,344)	$ (157,092,638)	$ (161,648,325)
8	3	***Total Avoided Costs***	**$ (190,253,617)**	**$ (118,032,631)**	**$ (121,455,577)**	**$ (124,977,789)**	**$ (128,602,145)**	**$ (132,331,607)**	**$ (136,169,223)**	**$ (140,118,131)**	**$ (144,181,557)**	**$ (148,362,822)**	**$ (152,665,344)**	**$ (157,092,638)**	**$ (161,648,325)**
10		***Manual PV calc over 100 yrs for L3602 (Columns H to DJ)***	***$ (190,253,617)***	*$ (41,561)*	*$ (39,675)*										
13	4	Annual O&M Cost	$ 3,680,546	$ 4,828,648	$ 4,968,679	$ 5,112,771	$ 5,261,041	$ 5,413,612	$ 5,570,606	$ 5,732,154	$ 5,898,386	$ 6,069,440	$ 6,245,453	$ 6,426,571	$ 6,612,942
14	5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
15	6	TIMP Cost	$ 904,581	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
16	7	***Total O&M Costs***	**$ 4,585,126**	**$ 4,828,648**	**$ 4,968,679**	**$ 5,112,771**	**$ 5,261,041**	**$ 5,413,612**	**$ 5,570,606**	**$ 5,732,154**	**$ 5,898,386**	**$ 6,069,440**	**$ 6,245,453**	**$ 6,426,571**	**$ 6,612,942**
18	B	***Hydrotest Alternate (Line 1600)***													
			PV	**2120**	**2121**	**2122**	**2123**	**2124**	**2125**	**2126**	**2127**	**2128**	**2129**	**2130**	**2131**
21	1	Future L1600 Replacement Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
22	2	MCS O&M and Emissions Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
23	3	***Total Avoided Costs***	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
26	4	Annual O&M Cost	$ 4,242,275	$ 4,828,648	$ 4,968,679	$ 5,112,771	$ 5,261,041	$ 5,413,612	$ 5,570,606	$ 5,732,154	$ 5,898,386	$ 6,069,440	$ 6,245,453	$ 6,426,571	$ 6,612,942
27	5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
28	6	TIMP Cost	$ 1,574,602	$ -	$ -	$ -	$ -	$ -	$ 11,605,430	$ -	$ -	$ -	$ -	$ -	$ -
29	7	***Total O&M Costs***	**$ 5,816,878**	**$ 4,828,648**	**$ 4,968,679**	**$ 5,112,771**	**$ 5,261,041**	**$ 5,413,612**	**$ 17,176,036**	**$ 5,732,154**	**$ 5,898,386**	**$ 6,069,440**	**$ 6,245,453**	**$ 6,426,571**	**$ 6,612,942**
31	C1	***Alternative Diameter Pipeline (10")***													
			PV	**2120**	**2121**	**2122**	**2123**	**2124**	**2125**	**2126**	**2127**	**2128**	**2129**	**2130**	**2131**
34	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
35	2	MCS O&M and Emissions Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
36	3	***Total Avoided Costs***	**$ (100,285,483)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
39	4	Annual O&M Cost	$ 3,680,546	$ 4,828,648	$ 4,968,679	$ 5,112,771	$ 5,261,041	$ 5,413,612	$ 5,570,606	$ 5,732,154	$ 5,898,386	$ 6,069,440	$ 6,245,453	$ 6,426,571	$ 6,612,942
40	5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
41	6	TIMP Cost	$ 904,581	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
42	7	Cost of Importing Gas	$ 100,754,939	$ 132,184,253	$ 136,017,596	$ 139,962,106	$ 144,021,007	$ 148,197,616	$ 152,495,347	$ 156,917,712	$ 161,468,326	$ 166,150,908	$ 170,969,284	$ 175,927,393	$ 181,029,287
43	8	***Total O&M Costs***	**$ 105,340,065**	**$ 4,828,648**	**$ 4,968,679**	**$ 5,112,771**	**$ 5,261,041**	**$ 5,413,612**	**$ 5,570,606**	**$ 5,732,154**	**$ 5,898,386**	**$ 6,069,440**	**$ 6,245,453**	**$ 6,426,571**	**$ 6,612,942**
45	C2	***Alternative Diameter Pipeline (12")***													
			PV	**2120**	**2121**	**2122**	**2123**	**2124**	**2125**	**2126**	**2127**	**2128**	**2129**	**2130**	**2131**
48	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
49	2	MCS O&M and Emissions Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
50	3	***Total Avoided Costs***	**$ (100,285,483)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
53	4	Annual O&M Cost	$ 3,680,546	$ 4,828,648	$ 4,968,679	$ 5,112,771	$ 5,261,041	$ 5,413,612	$ 5,570,606	$ 5,732,154	$ 5,898,386	$ 6,069,440	$ 6,245,453	$ 6,426,571	$ 6,612,942
54	5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
55	6	TIMP Cost	$ 904,581	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
56	7	Cost of Importing Gas	$ 67,169,959	$ 88,122,835	$ 90,678,397	$ 93,308,071	$ 96,014,005	$ 98,798,411	$ 101,663,565	$ 104,611,808	$ 107,645,551	$ 110,767,272	$ 113,979,523	$ 117,284,929	$ 120,686,192
57	8	***Total O&M Costs***	**$ 71,755,086**	**$ 4,828,648**	**$ 4,968,679**	**$ 5,112,771**	**$ 5,261,041**	**$ 5,413,612**	**$ 5,570,606**	**$ 5,732,154**	**$ 5,898,386**	**$ 6,069,440**	**$ 6,245,453**	**$ 6,426,571**	**$ 6,612,942**
59	C3	***Alternative Diameter Pipeline (16")***													
			PV	**2120**	**2121**	**2122**	**2123**	**2124**	**2125**	**2126**	**2127**	**2128**	**2129**	**2130**	**2131**
62	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
63	2	MCS O&M and Emissions Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
64	3	***Total Avoided Costs***	**$ (100,285,483)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
67	4	Annual O&M Cost	$ 3,680,546	$ 4,828,648	$ 4,968,679	$ 5,112,771	$ 5,261,041	$ 5,413,612	$ 5,570,606	$ 5,732,154	$ 5,898,386	$ 6,069,440	$ 6,245,453	$ 6,426,571	$ 6,612,942
68	5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
69	6	TIMP Cost	$ 904,581	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
70	7	***Total O&M Costs***	**$ 4,585,126**	**$ 4,828,648**	**$ 4,968,679**	**$ 5,112,771**	**$ 5,261,041**	**$ 5,413,612**	**$ 5,570,606**	**$ 5,732,154**	**$ 5,898,386**	**$ 6,069,440**	**$ 6,245,453**	**$ 6,426,571**	**$ 6,612,942**
72	C4	***Alternative Diameter Pipeline (20")***													
			PV	**2120**	**2121**	**2122**	**2123**	**2124**	**2125**	**2126**	**2127**	**2128**	**2129**	**2130**	**2131**
75	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
76	2	MCS O&M and Emissions Cost	$ (17,993,627)	$ (23,606,526)	$ (24,291,115)	$ (24,995,558)	$ (25,720,429)	$ (26,466,321)	$ (27,233,845)	$ (28,023,626)	$ (28,836,311)	$ (29,672,564)	$ (30,533,069)	$ (31,418,528)	$ (32,329,665)
77	3	***Total Avoided Costs***	**$ (118,279,110)**	**$ (23,606,526)**	**$ (24,291,115)**	**$ (24,995,558)**	**$ (25,720,429)**	**$ (26,466,321)**	**$ (27,233,845)**	**$ (28,023,626)**	**$ (28,836,311)**	**$ (29,672,564)**	**$ (30,533,069)**	**$ (31,418,528)**	**$ (32,329,665)**
80	4	Annual O&M Cost	$ 3,680,546	$ 4,828,648	$ 4,968,679	$ 5,112,771	$ 5,261,041	$ 5,413,612	$ 5,570,606	$ 5,732,154	$ 5,898,386	$ 6,069,440	$ 6,245,453	$ 6,426,571	$ 6,612,942
81	5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
82	6	TIMP Cost	$ 904,581	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
83	7	***Total O&M Costs***	**$ 4,585,126**	**$ 4,828,648**	**$ 4,968,679**	**$ 5,112,771**	**$ 5,261,041**	**$ 5,413,612**	**$ 5,570,606**	**$ 5,732,154**	**$ 5,898,386**	**$ 6,069,440**	**$ 6,245,453**	**$ 6,426,571**	**$ 6,612,942**
85	C5	***Alternative Diameter Pipeline (24")***													
			PV	**2120**	**2121**	**2122**	**2123**	**2124**	**2125**	**2126**	**2127**	**2128**	**2129**	**2130**	**2131**
88	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
89	2	MCS O&M and Emissions Cost	$ (35,987,253)	$ (47,213,052)	$ (48,582,231)	$ (49,991,115)	$ (51,440,858)	$ (52,932,643)	$ (54,467,689)	$ (56,047,252)	$ (57,672,623)	$ (59,345,129)	$ (61,066,137)	$ (62,837,055)	$ (64,659,330)
90	3	***Total Avoided Costs***	**$ (136,272,737)**	**$ (47,213,052)**	**$ (48,582,231)**	**$ (49,991,115)**	**$ (51,440,858)**	**$ (52,932,643)**	**$ (54,467,689)**	**$ (56,047,252)**	**$ (57,672,623)**	**$ (59,345,129)**	**$ (61,066,137)**	**$ (62,837,055)**	**$ (64,659,330)**
93	4	Annual O&M Cost	$ 3,680,546	$ 4,828,648	$ 4,968,679	$ 5,112,771	$ 5,261,041	$ 5,413,612	$ 5,570,606	$ 5,732,154	$ 5,898,386	$ 6,069,440	$ 6,245,453	$ 6,426,571	$ 6,612,942
94	5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
95	6	TIMP Cost	$ 904,581	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
96	7	***Total O&M Costs***	**$ 4,585,126**	**$ 4,828,648**	**$ 4,968,679**	**$ 5,112,771**	**$ 5,261,041**	**$ 5,413,612**	**$ 5,570,606**	**$ 5,732,154**	**$ 5,898,386**	**$ 6,069,440**	**$ 6,245,453**	**$ 6,426,571**	**$ 6,612,942**

WORK PAPER TABLE - AVOIDED COST MODEL - COSTS OVER 100 YEARS (AC 1.2)

ANNUAL COSTS BY PROJECT ALTERNATE, FOR AVOIDED COSTS AND O&M COSTS

A.15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.

			PV (X years after operational)	0	1	2	3	4	5	6	7	8	9	10	11	12	13
1			100														
98		**C6**	***Alternative Diameter Pipeline (30")***														
99			**PV**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**
100										Operational Year							
101	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
102	2	MCS O&M and Emissions Cost	$ (62,977,694)	$ -	$ -	$ -	$ -	$ -	$ -	$ (4,875,038)	$ (5,016,414)	$ (5,161,890)	$ (5,311,585)	$ (5,465,621)	$ (5,624,124)	$ (5,787,224)	$ (5,955,053)
103	3	***Total Avoided Costs***	**$ (163,263,177)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ (4,875,038)**	**$ (5,016,414)**	**$ (5,161,890)**	**$ (5,311,585)**	**$ (5,465,621)**	**$ (5,624,124)**	**$ (5,787,224)**	**$ (5,955,053)**
104																	
105																	
106	4	Annual O&M Cost	$ 3,680,546	$ -	$ -	$ -	$ -	$ -	$ -	$ 284,907	$ 293,170	$ 301,671	$ 310,420	$ 319,422	$ 328,685	$ 338,217	$ 348,026
107	5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE
108	6	TIMP Cost	$ 904,581	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 725,053
109	7	***Total O&M Costs***	**$ 4,585,126**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 284,907**	**$ 293,170**	**$ 301,671**	**$ 310,420**	**$ 319,422**	**$ 328,685**	**$ 338,217**	**$ 1,073,079**
110																	
111		**C7**	***Alternative Diameter Pipeline (42")***														
112			**PV**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**
113										Operational Year							
114	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
115	2	MCS O&M and Emissions Cost	$ (89,968,134)	$ -	$ -	$ -	$ -	$ -	$ -	$ (6,964,340)	$ (7,166,306)	$ (7,374,129)	$ (7,587,979)	$ (7,808,030)	$ (8,034,463)	$ (8,267,462)	$ (8,507,219)
116	3	***Total Avoided Costs***	**$ (190,253,617)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ (6,964,340)**	**$ (7,166,306)**	**$ (7,374,129)**	**$ (7,587,979)**	**$ (7,808,030)**	**$ (8,034,463)**	**$ (8,267,462)**	**$ (8,507,219)**
117																	
118																	
119	4	Annual O&M Cost	$ 3,680,546	$ -	$ -	$ -	$ -	$ -	$ -	$ 284,907	$ 293,170	$ 301,671	$ 310,420	$ 319,422	$ 328,685	$ 338,217	$ 348,026
120	5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE
121	6	TIMP Cost	$ 904,581	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 725,053
122	7	***Total O&M Costs***	**$ 4,585,126**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 284,907**	**$ 293,170**	**$ 301,671**	**$ 310,420**	**$ 319,422**	**$ 328,685**	**$ 338,217**	**$ 1,073,079**
123																	
124		**D**	***Replace Line 1600 In-Place***														
125			**PV**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**
126															Operational Year		
127	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
128	2	MCS O&M and Emissions Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
129	3	***Total Avoided Costs***	**$ (100,285,483)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
130																	
131																	
132	4	Annual O&M Cost	$ 3,647,596	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 410,857	$ 422,772	$ 435,032
133	5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
134	6	TIMP Cost	$ 717,186	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
135	7	***Total O&M Costs***	**$ 4,364,782**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 410,857**	**$ 422,772**	**$ 435,032**
136																	
137		**E/F**	***Otay Mesa Alternative***														
138			**PV**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**
139													Operational Year				
140	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
141	2	MCS O&M and Emissions Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
142	3	***Total Avoided Costs***	**$ (100,285,483)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
143																	
144																	
145	4	Annual O&M Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
146	5	***Total O&M Costs***	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
147																	
148		**G**	***LNG Storage (Peak-Shaver)***														
149			**PV**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**
150														Operational Year			
151	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
152	2	MCS O&M and Emissions Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
153	3	***Total Avoided Costs***	**$ (100,285,483)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
154																	
155																	
156	4	Annual O&M Cost	$ 15,283,747	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,597,111	$ 1,643,427	$ 1,691,086	$ 1,740,128
157	5	***Total O&M Costs***	**$ 15,283,747**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 1,597,111**	**$ 1,643,427**	**$ 1,691,086**	**$ 1,740,128**
158																	
159		**H1**	***Alternative Energy (Grid-Scale Battery)***														
160			**PV**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**
161														Operational Year			
162	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
163	2	MCS O&M and Emissions Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
164	3	***Total Avoided Costs***	**$ (100,285,483)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
165																	
166																	
167	4	Annual O&M Cost	$ 15,283,747	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,597,111	$ 1,643,427	$ 1,691,086	$ 1,740,128
168	5	***Total O&M Costs***	**$ 15,283,747**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 1,597,111**	**$ 1,643,427**	**$ 1,691,086**	**$ 1,740,128**
169																	
170		**H2**	***Alternative Energy (Smaller-Scale Battery)***														
171			**PV**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**
172														Operational Year			
173	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
174	2	MCS O&M and Emissions Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
175	3	***Total Avoided Costs***	**$ (100,285,483)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
176																	
177																	
178	4	Annual O&M Cost	$ 15,283,747	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,597,111	$ 1,643,427	$ 1,691,086	$ 1,740,128
179	5	***Total O&M Costs***	**$ 15,283,747**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 1,597,111**	**$ 1,643,427**	**$ 1,691,086**	**$ 1,740,128**
180																	
181		**I**	***Off-shore Route***														
182			**PV**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**
183																	
184	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
185	2	MCS O&M and Emissions Cost	$ (59,240,789)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
186	3	***Total Avoided Costs***	**$ (159,526,272)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
187																	
188																	
189	4	Annual O&M Cost	$ 4,544,076	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
190	5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
191	6	TIMP Cost	$ 595,634	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
192	7	***Total O&M Costs***	**$ 5,139,710**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
193																	
194		**J1**	***Blythe to Santee Alternative 1***														
195			**PV**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**
196														Operational Year			
197	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
198	2	MCS O&M and Emissions Cost	$ (74,719,907)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ (7,808,030)	$ (8,034,463)	$ (8,267,462)	$ (8,507,219)
199	3	***Total Avoided Costs***	**$ (175,005,390)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ (7,808,030)**	**$ (8,034,463)**	**$ (8,267,462)**	**$ (8,507,219)**
200																	
201																	
202	4	Annual O&M Cost	$ 14,495,118	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,514,701	$ 1,558,627	$ 1,603,828	$ 1,650,339
203	5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
204	6	TIMP Cost	$ 2,253,804	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
205	7	***Total O&M Costs***	**$ 16,748,922**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 1,514,701**	**$ 1,558,627**	**$ 1,603,828**	**$ 1,650,339**
206																	
207		**J2**	***Blythe to Santee Alternative 2***														

WORK PAPER TABLE - AVOIDED COST MODEL - COSTS OVER 100 YEARS (AC 1.2)

ANNUAL COSTS BY PROJECT ALTERNATE, FOR AVOIDED COSTS AND O&M COSTS

A.15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2(

Line No.			PV (X years after operational)	14	15	16	17	18	19	20	21	22	23	24	25	26
1			100													
2																
98	C6	*Alternative Diameter Pipeline (30")*														
99			PV	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041
100																
101	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ (334,683,589)	$ (344,389,413)	$ -
102	2	MCS O&M and Emissions Cost	$ (62,977,694)	$ (6,127,750)	$ (6,305,455)	$ (6,488,313)	$ (6,676,474)	$ (6,870,092)	$ (7,069,324)	$ (7,274,335)	$ (7,485,290)	$ (7,702,364)	$ (7,925,732)	$ (8,155,578)	$ (8,392,090)	$ (8,635,461)
103	3	***Total Avoided Costs***	**$ (163,263,177)**	**$ (6,127,750)**	**$ (6,305,455)**	**$ (6,488,313)**	**$ (6,676,474)**	**$ (6,870,092)**	**$ (7,069,324)**	**$ (7,274,335)**	**$ (7,485,290)**	**$ (7,702,364)**	**$ (7,925,732)**	**$ (342,839,167)**	**$ (352,781,503)**	**$ (8,635,461)**
104																
105																
106	4	Annual O&M Cost	$ 3,680,546	$ 358,118	$ 368,504	$ 379,190	$ 390,187	$ 401,502	$ 413,146	$ 425,127	$ 437,456	$ 450,142	$ 463,196	$ 476,629	$ 490,451	$ 504,674
107	5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
108	6	TIMP Cost	$ 904,581	$ -	$ -	$ -	$ -	$ -	$ -	$ 885,681	$ -	$ -	$ -	$ -	$ -	$ -
109	7	***Total O&M Costs***	**$ 4,585,126**	**$ 358,118**	**$ 368,504**	**$ 379,190**	**$ 390,187**	**$ 401,502**	**$ 413,146**	**$ 1,310,808**	**$ 437,456**	**$ 450,142**	**$ 463,196**	**$ 476,629**	**$ 490,451**	**$ 504,674**
110																
111	C7	*Alternative Diameter Pipeline (42")*														
112			PV	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041
113																
114	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ (334,683,589)	$ (344,389,413)	$ -
115	2	MCS O&M and Emissions Cost	$ (89,968,134)	$ (8,753,928)	$ (9,007,792)	$ (9,269,018)	$ (9,537,820)	$ (9,814,416)	$ (10,099,035)	$ (10,391,907)	$ (10,693,272)	$ (11,003,377)	$ (11,322,475)	$ (11,650,826)	$ (11,988,700)	$ (12,336,373)
116	3	***Total Avoided Costs***	**$ (190,253,617)**	**$ (8,753,928)**	**$ (9,007,792)**	**$ (9,269,018)**	**$ (9,537,820)**	**$ (9,814,416)**	**$ (10,099,035)**	**$ (10,391,907)**	**$ (10,693,272)**	**$ (11,003,377)**	**$ (11,322,475)**	**$ (346,334,415)**	**$ (356,378,113)**	**$ (12,336,373)**
117																
118																
119	4	Annual O&M Cost	$ 3,680,546	$ 358,118	$ 368,504	$ 379,190	$ 390,187	$ 401,502	$ 413,146	$ 425,127	$ 437,456	$ 450,142	$ 463,196	$ 476,629	$ 490,451	$ 504,674
120	5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
121	6	TIMP Cost	$ 904,581	$ -	$ -	$ -	$ -	$ -	$ -	$ 885,681	$ -	$ -	$ -	$ -	$ -	$ -
122	7	***Total O&M Costs***	**$ 4,585,126**	**$ 358,118**	**$ 368,504**	**$ 379,190**	**$ 390,187**	**$ 401,502**	**$ 413,146**	**$ 1,310,808**	**$ 437,456**	**$ 450,142**	**$ 463,196**	**$ 476,629**	**$ 490,451**	**$ 504,674**
123																
124	D	*Replace Line 1600 In-Place*														
125			PV	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041
126																
127	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ (334,683,589)	$ (344,389,413)	$ -
128	2	MCS O&M and Emissions Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
129	3	***Total Avoided Costs***	**$ (100,285,483)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ (334,683,589)**	**$ (344,389,413)**	**$ -**
130																
131																
132	4	Annual O&M Cost	$ 3,647,596	$ 447,648	$ 460,630	$ 473,988	$ 487,734	$ 501,878	$ 516,432	$ 531,409	$ 546,820	$ 562,677	$ 578,995	$ 595,786	$ 613,064	$ 630,843
133	5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE
134	6	TIMP Cost	$ 717,186	$ -	$ -	$ -	$ -	$ 836,463	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,021,773	$ -
135	7	***Total O&M Costs***	**$ 4,364,782**	**$ 447,648**	**$ 460,630**	**$ 473,988**	**$ 487,734**	**$ 1,338,341**	**$ 516,432**	**$ 531,409**	**$ 546,820**	**$ 562,677**	**$ 578,995**	**$ 595,786**	**$ 1,634,837**	**$ 630,843**
136																
137	E/F	*Otay Mesa Alternative*														
138			PV	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041
139																
140	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ (334,683,589)	$ (344,389,413)	$ -
141	2	MCS O&M and Emissions Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
142	3	***Total Avoided Costs***	**$ (100,285,483)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ (334,683,589)**	**$ (344,389,413)**	**$ -**
143																
144																
145	4	Annual O&M Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
146	5	***Total O&M Costs***	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
147																
148	G	*LNG Storage (Peak-Shaver)*														
149			PV	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041
150																
151	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ (334,683,589)	$ (344,389,413)	$ -
152	2	MCS O&M and Emissions Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
153	3	***Total Avoided Costs***	**$ (100,285,483)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ (334,683,589)**	**$ (344,389,413)**	**$ -**
154																
155																
156	4	Annual O&M Cost	$ 15,283,747	$ 1,790,591	$ 1,842,519	$ 1,895,952	$ 1,950,934	$ 2,007,511	$ 2,065,729	$ 2,125,635	$ 2,187,279	$ 2,250,710	$ 2,315,980	$ 2,383,144	$ 2,452,255	$ 2,523,370
157	5	***Total O&M Costs***	**$ 15,283,747**	**$ 1,790,591**	**$ 1,842,519**	**$ 1,895,952**	**$ 1,950,934**	**$ 2,007,511**	**$ 2,065,729**	**$ 2,125,635**	**$ 2,187,279**	**$ 2,250,710**	**$ 2,315,980**	**$ 2,383,144**	**$ 2,452,255**	**$ 2,523,370**
158																
159	H1	*Alternative Energy (Grid-Scale Battery)*														
160			PV	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041
161																
162	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ (334,683,589)	$ (344,389,413)	$ -
163	2	MCS O&M and Emissions Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
164	3	***Total Avoided Costs***	**$ (100,285,483)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ (334,683,589)**	**$ (344,389,413)**	**$ -**
165																
166																
167	4	Annual O&M Cost	$ 15,283,747	$ 1,790,591	$ 1,842,519	$ 1,895,952	$ 1,950,934	$ 2,007,511	$ 2,065,729	$ 2,125,635	$ 2,187,279	$ 2,250,710	$ 2,315,980	$ 2,383,144	$ 2,452,255	$ 2,523,370
168	5	***Total O&M Costs***	**$ 15,283,747**	**$ 1,790,591**	**$ 1,842,519**	**$ 1,895,952**	**$ 1,950,934**	**$ 2,007,511**	**$ 2,065,729**	**$ 2,125,635**	**$ 2,187,279**	**$ 2,250,710**	**$ 2,315,980**	**$ 2,383,144**	**$ 2,452,255**	**$ 2,523,370**
169																
170	H2	*Alternative Energy (Smaller-Scale Battery)*														
171			PV	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041
172																
173	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ (334,683,589)	$ (344,389,413)	$ -
174	2	MCS O&M and Emissions Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
175	3	***Total Avoided Costs***	**$ (100,285,483)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ (334,683,589)**	**$ (344,389,413)**	**$ -**
176																
177																
178	4	Annual O&M Cost	$ 15,283,747	$ 1,790,591	$ 1,842,519	$ 1,895,952	$ 1,950,934	$ 2,007,511	$ 2,065,729	$ 2,125,635	$ 2,187,279	$ 2,250,710	$ 2,315,980	$ 2,383,144	$ 2,452,255	$ 2,523,370
179	5	***Total O&M Costs***	**$ 15,283,747**	**$ 1,790,591**	**$ 1,842,519**	**$ 1,895,952**	**$ 1,950,934**	**$ 2,007,511**	**$ 2,065,729**	**$ 2,125,635**	**$ 2,187,279**	**$ 2,250,710**	**$ 2,315,980**	**$ 2,383,144**	**$ 2,452,255**	**$ 2,523,370**
180																
181	I	*Off-shore Route*														
182			PV	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041
183					Operational Year											
184	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ (334,683,589)	$ (344,389,413)	$ -
185	2	MCS O&M and Emissions Cost	$ (59,240,789)	$ -	$ (9,007,792)	$ (9,269,018)	$ (9,537,820)	$ (9,814,416)	$ (10,099,035)	$ (10,391,907)	$ (10,693,272)	$ (11,003,377)	$ (11,322,475)	$ (11,650,826)	$ (11,988,700)	$ (12,336,373)
186	3	***Total Avoided Costs***	**$ (159,526,272)**	**$ -**	**$ (9,007,792)**	**$ (9,269,018)**	**$ (9,537,820)**	**$ (9,814,416)**	**$ (10,099,035)**	**$ (10,391,907)**	**$ (10,693,272)**	**$ (11,003,377)**	**$ (11,322,475)**	**$ (346,334,415)**	**$ (356,378,113)**	**$ (12,336,373)**
187																
188																
189	4	Annual O&M Cost	$ 4,544,076	$ -	$ 690,944	$ 710,982	$ 731,600	$ 752,817	$ 774,648	$ 797,113	$ 820,229	$ 844,016	$ 868,493	$ 893,679	$ 919,596	$ 946,264
190	5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
191	6	TIMP Cost	$ 595,634	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 937,796	$ -	$ -	$ -	$ -
192	7	***Total O&M Costs***	**$ 5,139,710**	**$ -**	**$ 690,944**	**$ 710,982**	**$ 731,600**	**$ 752,817**	**$ 774,648**	**$ 797,113**	**$ 820,229**	**$ 1,781,812**	**$ 868,493**	**$ 893,679**	**$ 919,596**	**$ 946,264**
193																
194	J1	*Blythe to Santee Alternative 1*														
195			PV	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041
196																
197	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ (334,683,589)	$ (344,389,413)	$ -
198	2	MCS O&M and Emissions Cost	$ (74,719,907)	$ (8,753,928)	$ (9,007,792)	$ (9,269,018)	$ (9,537,820)	$ (9,814,416)	$ (10,099,035)	$ (10,391,907)	$ (10,693,272)	$ (11,003,377)	$ (11,322,475)	$ (11,650,826)	$ (11,988,700)	$ (12,336,373)
199	3	***Total Avoided Costs***	**$ (175,005,390)**	**$ (8,753,928)**	**$ (9,007,792)**	**$ (9,269,018)**	**$ (9,537,820)**	**$ (9,814,416)**	**$ (10,099,035)**	**$ (10,391,907)**	**$ (10,693,272)**	**$ (11,003,377)**	**$ (11,322,475)**	**$ (346,334,415)**	**$ (356,378,113)**	**$ (12,336,373)**
200																
201																
202	4	Annual O&M Cost	$ 14,495,118	$ 1,698,198	$ 1,747,446	$ 1,798,122	$ 1,850,268	$ 1,903,925	$ 1,959,139	$ 2,015,954	$ 2,074,417	$ 2,134,575	$ 2,196,478	$ 2,260,176	$ 2,325,721	$ 2,393,167
203	5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE
204	6	TIMP Cost	$ 2,253,804	$ -	$ -	$ -	$ 2,438,668	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,978,930	$ -	$ -
205	7	***Total O&M Costs***	**$ 16,748,922**	**$ 1,698,198**	**$ 1,747,446**	**$ 1,798,122**	**$ 4,288,935**	**$ 1,903,925**	**$ 1,959,139**	**$ 2,015,954**	**$ 2,074,417**	**$ 2,134,575**	**$ 2,196,478**	**$ 5,239,105**	**$ 2,325,721**	**$ 2,393,167**
206																
207	J2	*Blythe to Santee Alternative 2*														

WORK PAPER TABLE - AVOIDED COST MODEL - COSTS OVER 100 YEARS (AC 1.2)

ANNUAL COSTS BY PROJECT ALTERNATE, FOR AVOIDED COSTS AND O&M COSTS

A.15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2(

Line No.			PV (X years after operational)	27	28	29	30	31	32	33	34	35	36	37	38	39
1																
2			100													
98	C6	***Alternative Diameter Pipeline (30")***														
99			**PV**	**2042**	**2043**	**2044**	**2045**	**2046**	**2047**	**2048**	**2049**	**2050**	**2051**	**2052**	**2053**	**2054**
100																
101	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
102	2	MCS O&M and Emissions Cost	$ (62,977,694)	$ (8,885,889)	$ (9,143,580)	$ (9,408,744)	$ (9,681,597)	$ (9,962,364)	$ (10,251,272)	$ (10,548,559)	$ (10,854,467)	$ (11,169,247)	$ (11,493,155)	$ (11,826,457)	$ (12,169,424)	$ (12,522,337)
103	3	***Total Avoided Costs***	**$ (163,263,177)**	**$ (8,885,889)**	**$ (9,143,580)**	**$ (9,408,744)**	**$ (9,681,597)**	**$ (9,962,364)**	**$ (10,251,272)**	**$ (10,548,559)**	**$ (10,854,467)**	**$ (11,169,247)**	**$ (11,493,155)**	**$ (11,826,457)**	**$ (12,169,424)**	**$ (12,522,337)**
104																
105																
106	4	Annual O&M Cost	$ 3,680,546	$ 519,310	$ 534,370	$ 549,866	$ 565,812	$ 582,221	$ 599,105	$ 616,479	$ 634,357	$ 652,754	$ 671,684	$ 691,162	$ 711,206	$ 731,831
107	5	Pigging to Occur	N/A	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE
108	6	TIMP Cost	$ 904,581	$ 1,081,895	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,321,578	$ -	$ -	$ -	$ -	$ -
109	7	***Total O&M Costs***	**$ 4,585,126**	**$ 1,601,205**	**$ 534,370**	**$ 549,866**	**$ 565,812**	**$ 582,221**	**$ 599,105**	**$ 616,479**	**$ 1,955,935**	**$ 652,754**	**$ 671,684**	**$ 691,162**	**$ 711,206**	**$ 731,831**
110																
111	C7	***Alternative Diameter Pipeline (42")***														
112			**PV**	**2042**	**2043**	**2044**	**2045**	**2046**	**2047**	**2048**	**2049**	**2050**	**2051**	**2052**	**2053**	**2054**
113																
114	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
115	2	MCS O&M and Emissions Cost	$ (89,968,134)	$ (12,694,127)	$ (13,062,257)	$ (13,441,063)	$ (13,830,853)	$ (14,231,948)	$ (14,644,675)	$ (15,069,370)	$ (15,506,382)	$ (15,956,067)	$ (16,418,793)	$ (16,894,938)	$ (17,384,891)	$ (17,889,053)
116	3	***Total Avoided Costs***	**$ (190,253,617)**	**$ (12,694,127)**	**$ (13,062,257)**	**$ (13,441,063)**	**$ (13,830,853)**	**$ (14,231,948)**	**$ (14,644,675)**	**$ (15,069,370)**	**$ (15,506,382)**	**$ (15,956,067)**	**$ (16,418,793)**	**$ (16,894,938)**	**$ (17,384,891)**	**$ (17,889,053)**
117																
118																
119	4	Annual O&M Cost	$ 3,680,546	$ 519,310	$ 534,370	$ 549,866	$ 565,812	$ 582,221	$ 599,105	$ 616,479	$ 634,357	$ 652,754	$ 671,684	$ 691,162	$ 711,206	$ 731,831
120	5	Pigging to Occur	N/A	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE
121	6	TIMP Cost	$ 904,581	$ 1,081,895	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,321,578	$ -	$ -	$ -	$ -	$ -
122	7	***Total O&M Costs***	**$ 4,585,126**	**$ 1,601,205**	**$ 534,370**	**$ 549,866**	**$ 565,812**	**$ 582,221**	**$ 599,105**	**$ 616,479**	**$ 1,955,935**	**$ 652,754**	**$ 671,684**	**$ 691,162**	**$ 711,206**	**$ 731,831**
123																
124	D	***Replace Line 1600 In-Place***														
125			**PV**	**2042**	**2043**	**2044**	**2045**	**2046**	**2047**	**2048**	**2049**	**2050**	**2051**	**2052**	**2053**	**2054**
126																
127	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
128	2	MCS O&M and Emissions Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
129	3	***Total Avoided Costs***	**$ (100,285,483)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
130																
131																
132	4	Annual O&M Cost	$ 3,647,596	$ 649,137	$ 667,962	$ 687,333	$ 707,266	$ 727,776	$ 748,882	$ 770,599	$ 792,947	$ 815,942	$ 839,604	$ 863,953	$ 889,008	$ 914,789
133	5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE
134	6	TIMP Cost	$ 717,186	$ -	$ -	$ -	$ -	$ -	$ 1,248,136	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,524,648
135	7	***Total O&M Costs***	**$ 4,364,782**	**$ 649,137**	**$ 667,962**	**$ 687,333**	**$ 707,266**	**$ 727,776**	**$ 1,997,018**	**$ 770,599**	**$ 792,947**	**$ 815,942**	**$ 839,604**	**$ 863,953**	**$ 889,008**	**$ 2,439,437**
136																
137	E/F	***Otay Mesa Alternative***														
138			**PV**	**2042**	**2043**	**2044**	**2045**	**2046**	**2047**	**2048**	**2049**	**2050**	**2051**	**2052**	**2053**	**2054**
139																
140	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
141	2	MCS O&M and Emissions Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
142	3	***Total Avoided Costs***	**$ (100,285,483)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
143																
144																
145	4	Annual O&M Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
146	5	***Total O&M Costs***	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
147																
148	G	***LNG Storage (Peak-Shaver)***														
149			**PV**	**2042**	**2043**	**2044**	**2045**	**2046**	**2047**	**2048**	**2049**	**2050**	**2051**	**2052**	**2053**	**2054**
150																
151	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
152	2	MCS O&M and Emissions Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
153	3	***Total Avoided Costs***	**$ (100,285,483)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
154																
155																
156	4	Annual O&M Cost	$ 15,283,747	$ 2,596,548	$ 2,671,848	$ 2,749,332	$ 2,829,062	$ 2,911,105	$ 2,995,527	$ 3,082,397	$ 3,171,787	$ 3,263,769	$ 3,358,418	$ 3,455,812	$ 3,556,031	$ 3,659,155
157	5	***Total O&M Costs***	**$ 15,283,747**	**$ 2,596,548**	**$ 2,671,848**	**$ 2,749,332**	**$ 2,829,062**	**$ 2,911,105**	**$ 2,995,527**	**$ 3,082,397**	**$ 3,171,787**	**$ 3,263,769**	**$ 3,358,418**	**$ 3,455,812**	**$ 3,556,031**	**$ 3,659,155**
158																
159	H1	***Alternative Energy (Grid-Scale Battery)***														
160			**PV**	**2042**	**2043**	**2044**	**2045**	**2046**	**2047**	**2048**	**2049**	**2050**	**2051**	**2052**	**2053**	**2054**
161																
162	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
163	2	MCS O&M and Emissions Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
164	3	***Total Avoided Costs***	**$ (100,285,483)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
165																
166																
167	4	Annual O&M Cost	$ 15,283,747	$ 2,596,548	$ 2,671,848	$ 2,749,332	$ 2,829,062	$ 2,911,105	$ 2,995,527	$ 3,082,397	$ 3,171,787	$ 3,263,769	$ 3,358,418	$ 3,455,812	$ 3,556,031	$ 3,659,155
168	5	***Total O&M Costs***	**$ 15,283,747**	**$ 2,596,548**	**$ 2,671,848**	**$ 2,749,332**	**$ 2,829,062**	**$ 2,911,105**	**$ 2,995,527**	**$ 3,082,397**	**$ 3,171,787**	**$ 3,263,769**	**$ 3,358,418**	**$ 3,455,812**	**$ 3,556,031**	**$ 3,659,155**
169																
170	H2	***Alternative Energy (Smaller-Scale Battery)***														
171			**PV**	**2042**	**2043**	**2044**	**2045**	**2046**	**2047**	**2048**	**2049**	**2050**	**2051**	**2052**	**2053**	**2054**
172																
173	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
174	2	MCS O&M and Emissions Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
175	3	***Total Avoided Costs***	**$ (100,285,483)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
176																
177																
178	4	Annual O&M Cost	$ 15,283,747	$ 2,596,548	$ 2,671,848	$ 2,749,332	$ 2,829,062	$ 2,911,105	$ 2,995,527	$ 3,082,397	$ 3,171,787	$ 3,263,769	$ 3,358,418	$ 3,455,812	$ 3,556,031	$ 3,659,155
179	5	***Total O&M Costs***	**$ 15,283,747**	**$ 2,596,548**	**$ 2,671,848**	**$ 2,749,332**	**$ 2,829,062**	**$ 2,911,105**	**$ 2,995,527**	**$ 3,082,397**	**$ 3,171,787**	**$ 3,263,769**	**$ 3,358,418**	**$ 3,455,812**	**$ 3,556,031**	**$ 3,659,155**
180																
181	I	***Off-shore Route***														
182			**PV**	**2042**	**2043**	**2044**	**2045**	**2046**	**2047**	**2048**	**2049**	**2050**	**2051**	**2052**	**2053**	**2054**
183																
184	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
185	2	MCS O&M and Emissions Cost	$ (59,240,789)	$ (12,694,127)	$ (13,062,257)	$ (13,441,063)	$ (13,830,853)	$ (14,231,948)	$ (14,644,675)	$ (15,069,370)	$ (15,506,382)	$ (15,956,067)	$ (16,418,793)	$ (16,894,938)	$ (17,384,891)	$ (17,889,053)
186	3	***Total Avoided Costs***	**$ (159,526,272)**	**$ (12,694,127)**	**$ (13,062,257)**	**$ (13,441,063)**	**$ (13,830,853)**	**$ (14,231,948)**	**$ (14,644,675)**	**$ (15,069,370)**	**$ (15,506,382)**	**$ (15,956,067)**	**$ (16,418,793)**	**$ (16,894,938)**	**$ (17,384,891)**	**$ (17,889,053)**
187																
188																
189	4	Annual O&M Cost	$ 4,544,076	$ 973,706	$ 1,001,943	$ 1,030,999	$ 1,060,898	$ 1,091,664	$ 1,123,323	$ 1,155,899	$ 1,189,420	$ 1,223,913	$ 1,259,407	$ 1,295,930	$ 1,333,511	$ 1,372,183
190	5	Pigging to Occur	N/A	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
191	6	TIMP Cost	$ 595,634	$ -	$ -	$ 1,145,555	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,399,341	$ -	$ -	$ -
192	7	***Total O&M Costs***	**$ 5,139,710**	**$ 973,706**	**$ 1,001,943**	**$ 2,176,554**	**$ 1,060,898**	**$ 1,091,664**	**$ 1,123,323**	**$ 1,155,899**	**$ 1,189,420**	**$ 1,223,913**	**$ 2,658,748**	**$ 1,295,930**	**$ 1,333,511**	**$ 1,372,183**
193																
194	J1	***Blythe to Santee Alternative 1***														
195			**PV**	**2042**	**2043**	**2044**	**2045**	**2046**	**2047**	**2048**	**2049**	**2050**	**2051**	**2052**	**2053**	**2054**
196																
197	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
198	2	MCS O&M and Emissions Cost	$ (74,719,907)	$ (12,694,127)	$ (13,062,257)	$ (13,441,063)	$ (13,830,853)	$ (14,231,948)	$ (14,644,675)	$ (15,069,370)	$ (15,506,382)	$ (15,956,067)	$ (16,418,793)	$ (16,894,938)	$ (17,384,891)	$ (17,889,053)
199	3	***Total Avoided Costs***	**$ (175,005,390)**	**$ (12,694,127)**	**$ (13,062,257)**	**$ (13,441,063)**	**$ (13,830,853)**	**$ (14,231,948)**	**$ (14,644,675)**	**$ (15,069,370)**	**$ (15,506,382)**	**$ (15,956,067)**	**$ (16,418,793)**	**$ (16,894,938)**	**$ (17,384,891)**	**$ (17,889,053)**
200																
201																
202	4	Annual O&M Cost	$ 14,495,118	$ 2,462,568	$ 2,533,983	$ 2,607,468	$ 2,683,085	$ 2,760,894	$ 2,840,960	$ 2,923,348	$ 3,008,125	$ 3,095,361	$ 3,185,126	$ 3,277,495	$ 3,372,542	$ 3,470,346
203	5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE
204	6	TIMP Cost	$ 2,253,804	$ -	$ -	$ -	$ -	$ 3,638,881	$ -	$ -	$ -	$ -	$ -	$ -	$ 4,445,038	$ -
205	7	***Total O&M Costs***	**$ 16,748,922**	**$ 2,462,568**	**$ 2,533,983**	**$ 2,607,468**	**$ 2,683,085**	**$ 6,399,776**	**$ 2,840,960**	**$ 2,923,348**	**$ 3,008,125**	**$ 3,095,361**	**$ 3,185,126**	**$ 3,277,495**	**$ 7,817,581**	**$ 3,470,346**
206																
207	J2	***Blythe to Santee Alternative 2***														

WORK PAPER TABLE - AVOIDED COST MODEL - COSTS OVER 100 YEARS (AC 1.2)

ANNUAL COSTS BY PROJECT ALTERNATE, FOR AVOIDED COSTS AND O&M COSTS

A.15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2(

Line No.			PV (X years after operational)	40	41	42	43	44	45	46	47	48	49	50	51	52
1			100													
2																
98	C6	***Alternative Diameter Pipeline (30")***														
99			**PV**	**2055**	**2056**	**2057**	**2058**	**2059**	**2060**	**2061**	**2062**	**2063**	**2064**	**2065**	**2066**	**2067**
100																
101	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
102	2	MCS O&M and Emissions Cost	$ (62,977,694)	$ (12,885,485)	$ (13,259,164)	$ (13,643,680)	$ (14,039,346)	$ (14,446,487)	$ (14,865,436)	$ (15,296,533)	$ (15,740,133)	$ (16,196,597)	$ (16,666,298)	$ (17,149,621)	$ (17,646,960)	$ (18,158,721)
103	3	***Total Avoided Costs***	**$ (163,263,177)**	**$ (12,885,485)**	**$ (13,259,164)**	**$ (13,643,680)**	**$ (14,039,346)**	**$ (14,446,487)**	**$ (14,865,436)**	**$ (15,296,533)**	**$ (15,740,133)**	**$ (16,196,597)**	**$ (16,666,298)**	**$ (17,149,621)**	**$ (17,646,960)**	**$ (18,158,721)**
104																
105																
106	4	Annual O&M Cost	$ 3,680,546	$ 753,054	$ 774,893	$ 797,365	$ 820,488	$ 844,282	$ 868,767	$ 893,961	$ 919,886	$ 946,562	$ 974,013	$ 1,002,259	$ 1,031,325	$ 1,061,233
107	5	Pigging to Occur	N/A	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
108	6	TIMP Cost	$ 904,581	$ -	$ 1,614,360	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,972,005	$ -	$ -	$ -	$ -
109	7	***Total O&M Costs***	**$ 4,585,126**	**$ 753,054**	**$ 2,389,253**	**$ 797,365**	**$ 820,488**	**$ 844,282**	**$ 868,767**	**$ 893,961**	**$ 919,886**	**$ 2,918,567**	**$ 974,013**	**$ 1,002,259**	**$ 1,031,325**	**$ 1,061,233**
110																
111	C7	***Alternative Diameter Pipeline (42")***														
112			**PV**	**2055**	**2056**	**2057**	**2058**	**2059**	**2060**	**2061**	**2062**	**2063**	**2064**	**2065**	**2066**	**2067**
113																
114	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
115	2	MCS O&M and Emissions Cost	$ (89,968,134)	$ (18,407,836)	$ (18,941,663)	$ (19,490,971)	$ (20,056,209)	$ (20,637,839)	$ (21,236,337)	$ (21,852,190)	$ (22,485,904)	$ (23,137,995)	$ (23,808,997)	$ (24,499,458)	$ (25,209,942)	$ (25,941,030)
116	3	***Total Avoided Costs***	**$ (190,253,617)**	**$ (18,407,836)**	**$ (18,941,663)**	**$ (19,490,971)**	**$ (20,056,209)**	**$ (20,637,839)**	**$ (21,236,337)**	**$ (21,852,190)**	**$ (22,485,904)**	**$ (23,137,995)**	**$ (23,808,997)**	**$ (24,499,458)**	**$ (25,209,942)**	**$ (25,941,030)**
117																
118																
119	4	Annual O&M Cost	$ 3,680,546	$ 753,054	$ 774,893	$ 797,365	$ 820,488	$ 844,282	$ 868,767	$ 893,961	$ 919,886	$ 946,562	$ 974,013	$ 1,002,259	$ 1,031,325	$ 1,061,233
120	5	Pigging to Occur	N/A	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
121	6	TIMP Cost	$ 904,581	$ -	$ 1,614,360	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,972,005	$ -	$ -	$ -	$ -
122	7	***Total O&M Costs***	**$ 4,585,126**	**$ 753,054**	**$ 2,389,253**	**$ 797,365**	**$ 820,488**	**$ 844,282**	**$ 868,767**	**$ 893,961**	**$ 919,886**	**$ 2,918,567**	**$ 974,013**	**$ 1,002,259**	**$ 1,031,325**	**$ 1,061,233**
123																
124	D	***Replace Line 1600 In-Place***														
125			**PV**	**2055**	**2056**	**2057**	**2058**	**2059**	**2060**	**2061**	**2062**	**2063**	**2064**	**2065**	**2066**	**2067**
126																
127	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
128	2	MCS O&M and Emissions Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
129	3	***Total Avoided Costs***	**$ (100,285,483)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
130																
131																
132	4	Annual O&M Cost	$ 3,647,596	$ 941,318	$ 968,616	$ 996,706	$ 1,025,610	$ 1,055,353	$ 1,085,958	$ 1,117,451	$ 1,149,857	$ 1,183,203	$ 1,217,516	$ 1,252,824	$ 1,289,156	$ 1,326,541
133	5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
134	6	TIMP Cost	$ 717,186	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,862,418	$ -	$ -	$ -	$ -	$ -	$ -
135	7	***Total O&M Costs***	**$ 4,364,782**	**$ 941,318**	**$ 968,616**	**$ 996,706**	**$ 1,025,610**	**$ 1,055,353**	**$ 1,085,958**	**$ 2,979,869**	**$ 1,149,857**	**$ 1,183,203**	**$ 1,217,516**	**$ 1,252,824**	**$ 1,289,156**	**$ 1,326,541**
136																
137	E/F	***Otay Mesa Alternative***														
138			**PV**	**2055**	**2056**	**2057**	**2058**	**2059**	**2060**	**2061**	**2062**	**2063**	**2064**	**2065**	**2066**	**2067**
139																
140	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
141	2	MCS O&M and Emissions Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
142	3	***Total Avoided Costs***	**$ (100,285,483)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
143																
144																
145	4	Annual O&M Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
146	5	***Total O&M Costs***	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
147																
148	G	***LNG Storage (Peak-Shaver)***														
149			**PV**	**2055**	**2056**	**2057**	**2058**	**2059**	**2060**	**2061**	**2062**	**2063**	**2064**	**2065**	**2066**	**2067**
150																
151	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
152	2	MCS O&M and Emissions Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
153	3	***Total Avoided Costs***	**$ (100,285,483)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
154																
155																
156	4	Annual O&M Cost	$ 15,283,747	$ 3,765,271	$ 3,874,464	$ 3,986,823	$ 4,102,441	$ 4,221,412	$ 4,343,833	$ 4,469,804	$ 4,599,428	$ 4,732,812	$ 4,870,063	$ 5,011,295	$ 5,156,623	$ 5,306,165
157	5	***Total O&M Costs***	**$ 15,283,747**	**$ 3,765,271**	**$ 3,874,464**	**$ 3,986,823**	**$ 4,102,441**	**$ 4,221,412**	**$ 4,343,833**	**$ 4,469,804**	**$ 4,599,428**	**$ 4,732,812**	**$ 4,870,063**	**$ 5,011,295**	**$ 5,156,623**	**$ 5,306,165**
158																
159	H1	***Alternative Energy (Grid-Scale Battery)***														
160			**PV**	**2055**	**2056**	**2057**	**2058**	**2059**	**2060**	**2061**	**2062**	**2063**	**2064**	**2065**	**2066**	**2067**
161																
162	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
163	2	MCS O&M and Emissions Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
164	3	***Total Avoided Costs***	**$ (100,285,483)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
165																
166																
167	4	Annual O&M Cost	$ 15,283,747	$ 3,765,271	$ 3,874,464	$ 3,986,823	$ 4,102,441	$ 4,221,412	$ 4,343,833	$ 4,469,804	$ 4,599,428	$ 4,732,812	$ 4,870,063	$ 5,011,295	$ 5,156,623	$ 5,306,165
168	5	***Total O&M Costs***	**$ 15,283,747**	**$ 3,765,271**	**$ 3,874,464**	**$ 3,986,823**	**$ 4,102,441**	**$ 4,221,412**	**$ 4,343,833**	**$ 4,469,804**	**$ 4,599,428**	**$ 4,732,812**	**$ 4,870,063**	**$ 5,011,295**	**$ 5,156,623**	**$ 5,306,165**
169																
170	H2	***Alternative Energy (Smaller-Scale Battery)***														
171			**PV**	**2055**	**2056**	**2057**	**2058**	**2059**	**2060**	**2061**	**2062**	**2063**	**2064**	**2065**	**2066**	**2067**
172																
173	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
174	2	MCS O&M and Emissions Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
175	3	***Total Avoided Costs***	**$ (100,285,483)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
176																
177																
178	4	Annual O&M Cost	$ 15,283,747	$ 3,765,271	$ 3,874,464	$ 3,986,823	$ 4,102,441	$ 4,221,412	$ 4,343,833	$ 4,469,804	$ 4,599,428	$ 4,732,812	$ 4,870,063	$ 5,011,295	$ 5,156,623	$ 5,306,165
179	5	***Total O&M Costs***	**$ 15,283,747**	**$ 3,765,271**	**$ 3,874,464**	**$ 3,986,823**	**$ 4,102,441**	**$ 4,221,412**	**$ 4,343,833**	**$ 4,469,804**	**$ 4,599,428**	**$ 4,732,812**	**$ 4,870,063**	**$ 5,011,295**	**$ 5,156,623**	**$ 5,306,165**
180																
181	I	***Off-shore Route***														
182			**PV**	**2055**	**2056**	**2057**	**2058**	**2059**	**2060**	**2061**	**2062**	**2063**	**2064**	**2065**	**2066**	**2067**
183																
184	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
185	2	MCS O&M and Emissions Cost	$ (59,240,789)	$ (18,407,836)	$ (18,941,663)	$ (19,490,971)	$ (20,056,209)	$ (20,637,839)	$ (21,236,337)	$ (21,852,190)	$ (22,485,904)	$ (23,137,995)	$ (23,808,997)	$ (24,499,458)	$ (25,209,942)	$ (25,941,030)
186	3	***Total Avoided Costs***	**$ (159,526,272)**	**$ (18,407,836)**	**$ (18,941,663)**	**$ (19,490,971)**	**$ (20,056,209)**	**$ (20,637,839)**	**$ (21,236,337)**	**$ (21,852,190)**	**$ (22,485,904)**	**$ (23,137,995)**	**$ (23,808,997)**	**$ (24,499,458)**	**$ (25,209,942)**	**$ (25,941,030)**
187																
188																
189	4	Annual O&M Cost	$ 4,544,076	$ 1,411,977	$ 1,452,924	$ 1,495,059	$ 1,538,415	$ 1,583,029	$ 1,628,937	$ 1,676,177	$ 1,724,786	$ 1,774,804	$ 1,826,274	$ 1,879,236	$ 1,933,734	$ 1,989,812
190	5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE
191	6	TIMP Cost	$ 595,634	$ -	$ -	$ -	$ 1,709,350	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,088,040	$ -	$ -
192	7	***Total O&M Costs***	**$ 5,139,710**	**$ 1,411,977**	**$ 1,452,924**	**$ 1,495,059**	**$ 3,247,766**	**$ 1,583,029**	**$ 1,628,937**	**$ 1,676,177**	**$ 1,724,786**	**$ 1,774,804**	**$ 1,826,274**	**$ 3,967,275**	**$ 1,933,734**	**$ 1,989,812**
193																
194	J1	***Blythe to Santee Alternative 1***														
195			**PV**	**2055**	**2056**	**2057**	**2058**	**2059**	**2060**	**2061**	**2062**	**2063**	**2064**	**2065**	**2066**	**2067**
196																
197	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
198	2	MCS O&M and Emissions Cost	$ (74,719,907)	$ (18,407,836)	$ (18,941,663)	$ (19,490,971)	$ (20,056,209)	$ (20,637,839)	$ (21,236,337)	$ (21,852,190)	$ (22,485,904)	$ (23,137,995)	$ (23,808,997)	$ (24,499,458)	$ (25,209,942)	$ (25,941,030)
199	3	***Total Avoided Costs***	**$ (175,005,390)**	**$ (18,407,836)**	**$ (18,941,663)**	**$ (19,490,971)**	**$ (20,056,209)**	**$ (20,637,839)**	**$ (21,236,337)**	**$ (21,852,190)**	**$ (22,485,904)**	**$ (23,137,995)**	**$ (23,808,997)**	**$ (24,499,458)**	**$ (25,209,942)**	**$ (25,941,030)**
200																
201																
202	4	Annual O&M Cost	$ 14,495,118	$ 3,570,986	$ 3,674,545	$ 3,781,107	$ 3,890,759	$ 4,003,591	$ 4,119,695	$ 4,239,166	$ 4,362,102	$ 4,488,603	$ 4,618,772	$ 4,752,717	$ 4,890,545	$ 5,032,371
203	5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE
204	6	TIMP Cost	$ 2,253,804	$ -	$ -	$ -	$ -	$ -	$ 5,429,791	$ -	$ -	$ -	$ -	$ -	$ -	$ 6,632,706
205	7	***Total O&M Costs***	**$ 16,748,922**	**$ 3,570,986**	**$ 3,674,545**	**$ 3,781,107**	**$ 3,890,759**	**$ 4,003,591**	**$ 9,549,486**	**$ 4,239,166**	**$ 4,362,102**	**$ 4,488,603**	**$ 4,618,772**	**$ 4,752,717**	**$ 4,890,545**	**$ 11,665,077**
206																
207	J2	***Blythe to Santee Alternative 2***														

WORK PAPER TABLE - AVOIDED COST MODEL - COSTS OVER 100 YEARS (AC 1.2)

ANNUAL COSTS BY PROJECT ALTERNATE, FOR AVOIDED COSTS AND O&M COSTS

A.15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2(

Line No.			PV (X years after operational)	53	54	55	56	57	58	59	60	61	62	63	64	65
1			100													
2																
98	C6	***Alternative Diameter Pipeline (30")***														
99			**PV**	**2068**	**2069**	**2070**	**2071**	**2072**	**2073**	**2074**	**2075**	**2076**	**2077**	**2078**	**2079**	**2080**
100																
101	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
102	2	MCS O&M and Emissions Cost	$ (62,977,694)	$ (18,685,324)	$ (19,227,199)	$ (19,784,787)	$ (20,358,546)	$ (20,948,944)	$ (21,556,463)	$ (22,181,601)	$ (22,824,867)	$ (23,486,788)	$ (24,167,905)	$ (24,868,775)	$ (25,589,969)	$ (26,332,078)
103	3	***Total Avoided Costs***	**$ (163,263,177)**	**$ (18,685,324)**	**$ (19,227,199)**	**$ (19,784,787)**	**$ (20,358,546)**	**$ (20,948,944)**	**$ (21,556,463)**	**$ (22,181,601)**	**$ (22,824,867)**	**$ (23,486,788)**	**$ (24,167,905)**	**$ (24,868,775)**	**$ (25,589,969)**	**$ (26,332,078)**
104																
105																
106	4	Annual O&M Cost	$ 3,680,546	$ 1,092,009	$ 1,123,677	$ 1,156,264	$ 1,189,795	$ 1,224,299	$ 1,259,804	$ 1,296,338	$ 1,333,932	$ 1,372,616	$ 1,412,422	$ 1,453,382	$ 1,495,530	$ 1,538,901
107	5	Pigging to Occur	N/A	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
108	6	TIMP Cost	$ 904,581	$ -	$ -	$ 2,408,882	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,942,546	$ -	$ -	$ -
109	7	***Total O&M Costs***	**$ 4,585,126**	**$ 1,092,009**	**$ 1,123,677**	**$ 3,565,146**	**$ 1,189,795**	**$ 1,224,299**	**$ 1,259,804**	**$ 1,296,338**	**$ 1,333,932**	**$ 1,372,616**	**$ 4,354,968**	**$ 1,453,382**	**$ 1,495,530**	**$ 1,538,901**
110																
111	C7	***Alternative Diameter Pipeline (42")***														
112			**PV**	**2068**	**2069**	**2070**	**2071**	**2072**	**2073**	**2074**	**2075**	**2076**	**2077**	**2078**	**2079**	**2080**
113																
114	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
115	2	MCS O&M and Emissions Cost	$ (89,968,134)	$ (26,693,320)	$ (27,467,427)	$ (28,263,982)	$ (29,083,638)	$ (29,927,063)	$ (30,794,948)	$ (31,688,001)	$ (32,606,953)	$ (33,552,555)	$ (34,525,579)	$ (35,526,821)	$ (36,557,099)	$ (37,617,255)
116	3	***Total Avoided Costs***	**$ (190,253,617)**	**$ (26,693,320)**	**$ (27,467,427)**	**$ (28,263,982)**	**$ (29,083,638)**	**$ (29,927,063)**	**$ (30,794,948)**	**$ (31,688,001)**	**$ (32,606,953)**	**$ (33,552,555)**	**$ (34,525,579)**	**$ (35,526,821)**	**$ (36,557,099)**	**$ (37,617,255)**
117																
118																
119	4	Annual O&M Cost	$ 3,680,546	$ 1,092,009	$ 1,123,677	$ 1,156,264	$ 1,189,795	$ 1,224,299	$ 1,259,804	$ 1,296,338	$ 1,333,932	$ 1,372,616	$ 1,412,422	$ 1,453,382	$ 1,495,530	$ 1,538,901
120	5	Pigging to Occur	N/A	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
121	6	TIMP Cost	$ 904,581	$ -	$ -	$ 2,408,882	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,942,546	$ -	$ -	$ -
122	7	***Total O&M Costs***	**$ 4,585,126**	**$ 1,092,009**	**$ 1,123,677**	**$ 3,565,146**	**$ 1,189,795**	**$ 1,224,299**	**$ 1,259,804**	**$ 1,296,338**	**$ 1,333,932**	**$ 1,372,616**	**$ 4,354,968**	**$ 1,453,382**	**$ 1,495,530**	**$ 1,538,901**
123																
124	D	***Replace Line 1600 In-Place***														
125			**PV**	**2068**	**2069**	**2070**	**2071**	**2072**	**2073**	**2074**	**2075**	**2076**	**2077**	**2078**	**2079**	**2080**
126																
127	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
128	2	MCS O&M and Emissions Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
129	3	***Total Avoided Costs***	**$ (100,285,483)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
130																
131																
132	4	Annual O&M Cost	$ 3,647,596	$ 1,365,011	$ 1,404,596	$ 1,445,329	$ 1,487,244	$ 1,530,374	$ 1,574,755	$ 1,620,423	$ 1,667,415	$ 1,715,770	$ 1,765,528	$ 1,816,728	$ 1,869,413	$ 1,923,626
133	5	Pigging to Occur	N/A	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE
134	6	TIMP Cost	$ 717,186	$ 2,275,018	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,779,025	$ -	$ -	$ -	$ -	$ -
135	7	***Total O&M Costs***	**$ 4,364,782**	**$ 3,640,029**	**$ 1,404,596**	**$ 1,445,329**	**$ 1,487,244**	**$ 1,530,374**	**$ 1,574,755**	**$ 1,620,423**	**$ 4,446,440**	**$ 1,715,770**	**$ 1,765,528**	**$ 1,816,728**	**$ 1,869,413**	**$ 1,923,626**
136																
137	E/F	***Otay Mesa Alternative***														
138			**PV**	**2068**	**2069**	**2070**	**2071**	**2072**	**2073**	**2074**	**2075**	**2076**	**2077**	**2078**	**2079**	**2080**
139																
140	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
141	2	MCS O&M and Emissions Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
142	3	***Total Avoided Costs***	**$ (100,285,483)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
143																
144																
145	4	Annual O&M Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
146	5	***Total O&M Costs***	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
147																
148	G	***LNG Storage (Peak-Shaver)***														
149			**PV**	**2068**	**2069**	**2070**	**2071**	**2072**	**2073**	**2074**	**2075**	**2076**	**2077**	**2078**	**2079**	**2080**
150																
151	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
152	2	MCS O&M and Emissions Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
153	3	***Total Avoided Costs***	**$ (100,285,483)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
154																
155																
156	4	Annual O&M Cost	$ 15,283,747	$ 5,460,044	$ 5,618,385	$ 5,781,318	$ 5,948,976	$ 6,121,497	$ 6,299,020	$ 6,481,692	$ 6,669,661	$ 6,863,081	$ 7,062,110	$ 7,266,911	$ 7,477,652	$ 7,694,504
157	5	***Total O&M Costs***	**$ 15,283,747**	**$ 5,460,044**	**$ 5,618,385**	**$ 5,781,318**	**$ 5,948,976**	**$ 6,121,497**	**$ 6,299,020**	**$ 6,481,692**	**$ 6,669,661**	**$ 6,863,081**	**$ 7,062,110**	**$ 7,266,911**	**$ 7,477,652**	**$ 7,694,504**
158																
159	H1	***Alternative Energy (Grid-Scale Battery)***														
160			**PV**	**2068**	**2069**	**2070**	**2071**	**2072**	**2073**	**2074**	**2075**	**2076**	**2077**	**2078**	**2079**	**2080**
161																
162	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
163	2	MCS O&M and Emissions Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
164	3	***Total Avoided Costs***	**$ (100,285,483)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
165																
166																
167	4	Annual O&M Cost	$ 15,283,747	$ 5,460,044	$ 5,618,385	$ 5,781,318	$ 5,948,976	$ 6,121,497	$ 6,299,020	$ 6,481,692	$ 6,669,661	$ 6,863,081	$ 7,062,110	$ 7,266,911	$ 7,477,652	$ 7,694,504
168	5	***Total O&M Costs***	**$ 15,283,747**	**$ 5,460,044**	**$ 5,618,385**	**$ 5,781,318**	**$ 5,948,976**	**$ 6,121,497**	**$ 6,299,020**	**$ 6,481,692**	**$ 6,669,661**	**$ 6,863,081**	**$ 7,062,110**	**$ 7,266,911**	**$ 7,477,652**	**$ 7,694,504**
169																
170	H2	***Alternative Energy (Smaller-Scale Battery)***														
171			**PV**	**2068**	**2069**	**2070**	**2071**	**2072**	**2073**	**2074**	**2075**	**2076**	**2077**	**2078**	**2079**	**2080**
172																
173	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
174	2	MCS O&M and Emissions Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
175	3	***Total Avoided Costs***	**$ (100,285,483)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
176																
177																
178	4	Annual O&M Cost	$ 15,283,747	$ 5,460,044	$ 5,618,385	$ 5,781,318	$ 5,948,976	$ 6,121,497	$ 6,299,020	$ 6,481,692	$ 6,669,661	$ 6,863,081	$ 7,062,110	$ 7,266,911	$ 7,477,652	$ 7,694,504
179	5	***Total O&M Costs***	**$ 15,283,747**	**$ 5,460,044**	**$ 5,618,385**	**$ 5,781,318**	**$ 5,948,976**	**$ 6,121,497**	**$ 6,299,020**	**$ 6,481,692**	**$ 6,669,661**	**$ 6,863,081**	**$ 7,062,110**	**$ 7,266,911**	**$ 7,477,652**	**$ 7,694,504**
180																
181	I	***Off-shore Route***														
182			**PV**	**2068**	**2069**	**2070**	**2071**	**2072**	**2073**	**2074**	**2075**	**2076**	**2077**	**2078**	**2079**	**2080**
183																
184	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
185	2	MCS O&M and Emissions Cost	$ (59,240,789)	$ (26,693,320)	$ (27,467,427)	$ (28,263,982)	$ (29,083,638)	$ (29,927,063)	$ (30,794,948)	$ (31,688,001)	$ (32,606,953)	$ (33,552,555)	$ (34,525,579)	$ (35,526,821)	$ (36,557,099)	$ (37,617,255)
186	3	***Total Avoided Costs***	**$ (159,526,272)**	**$ (26,693,320)**	**$ (27,467,427)**	**$ (28,263,982)**	**$ (29,083,638)**	**$ (29,927,063)**	**$ (30,794,948)**	**$ (31,688,001)**	**$ (32,606,953)**	**$ (33,552,555)**	**$ (34,525,579)**	**$ (35,526,821)**	**$ (36,557,099)**	**$ (37,617,255)**
187																
188																
189	4	Annual O&M Cost	$ 4,544,076	$ 2,047,516	$ 2,106,894	$ 2,167,994	$ 2,230,866	$ 2,295,561	$ 2,362,132	$ 2,430,634	$ 2,501,123	$ 2,573,655	$ 2,648,291	$ 2,725,092	$ 2,804,119	$ 2,885,439
190	5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE
191	6	TIMP Cost	$ 595,634	$ -	$ -	$ -	$ -	$ 2,550,624	$ -	$ -	$ -	$ -	$ -	$ 3,115,688	$ -	$ -
192	7	***Total O&M Costs***	**$ 5,139,710**	**$ 2,047,516**	**$ 2,106,894**	**$ 2,167,994**	**$ 2,230,866**	**$ 4,846,185**	**$ 2,362,132**	**$ 2,430,634**	**$ 2,501,123**	**$ 2,573,655**	**$ 2,648,291**	**$ 2,725,092**	**$ 5,919,808**	**$ 2,885,439**
193																
194	J1	***Blythe to Santee Alternative 1***														
195			**PV**	**2068**	**2069**	**2070**	**2071**	**2072**	**2073**	**2074**	**2075**	**2076**	**2077**	**2078**	**2079**	**2080**
196																
197	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
198	2	MCS O&M and Emissions Cost	$ (74,719,907)	$ (26,693,320)	$ (27,467,427)	$ (28,263,982)	$ (29,083,638)	$ (29,927,063)	$ (30,794,948)	$ (31,688,001)	$ (32,606,953)	$ (33,552,555)	$ (34,525,579)	$ (35,526,821)	$ (36,557,099)	$ (37,617,255)
199	3	***Total Avoided Costs***	**$ (175,005,390)**	**$ (26,693,320)**	**$ (27,467,427)**	**$ (28,263,982)**	**$ (29,083,638)**	**$ (29,927,063)**	**$ (30,794,948)**	**$ (31,688,001)**	**$ (32,606,953)**	**$ (33,552,555)**	**$ (34,525,579)**	**$ (35,526,821)**	**$ (36,557,099)**	**$ (37,617,255)**
200																
201																
202	4	Annual O&M Cost	$ 14,495,118	$ 5,178,310	$ 5,328,481	$ 5,483,007	$ 5,642,014	$ 5,805,632	$ 5,973,996	$ 6,147,242	$ 6,325,512	$ 6,508,951	$ 6,697,711	$ 6,891,945	$ 7,091,811	$ 7,297,474
203	5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
204	6	TIMP Cost	$ 2,253,804	$ -	$ -	$ -	$ -	$ -	$ -	$ 8,102,114	$ -	$ -	$ -	$ -	$ -	$ -
205	7	***Total O&M Costs***	**$ 16,748,922**	**$ 5,178,310**	**$ 5,328,481**	**$ 5,483,007**	**$ 5,642,014**	**$ 5,805,632**	**$ 5,973,996**	**$ 14,249,356**	**$ 6,325,512**	**$ 6,508,951**	**$ 6,697,711**	**$ 6,891,945**	**$ 7,091,811**	**$ 7,297,474**
206																
207	J2	***Blythe to Santee Alternative 2***														

WORK PAPER TABLE - AVOIDED COST MODEL - COSTS OVER 100 YEARS (AC 1.2)

ANNUAL COSTS BY PROJECT ALTERNATE, FOR AVOIDED COSTS AND O&M COSTS

A.15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2(

Line No.			PV (X years after operational)	66	67	68	69	70	71	72	73	74	75	76	77	78
1			100													
2																
98	C6	*Alternative Diameter Pipeline (30")*														
99			PV	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093
100																
101	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
102	2	MCS O&M and Emissions Cost	$ (62,977,694)	$ (27,095,708)	$ (27,881,484)	$ (28,690,047)	$ (29,522,058)	$ (30,378,198)	$ (31,259,166)	$ (32,165,682)	$ (33,098,486)	$ (34,058,343)	$ (35,046,034)	$ (36,062,369)	$ (37,108,178)	$ (38,184,315)
103	3	***Total Avoided Costs***	**$ (163,263,177)**	**$ (27,095,708)**	**$ (27,881,484)**	**$ (28,690,047)**	**$ (29,522,058)**	**$ (30,378,198)**	**$ (31,259,166)**	**$ (32,165,682)**	**$ (33,098,486)**	**$ (34,058,343)**	**$ (35,046,034)**	**$ (36,062,369)**	**$ (37,108,178)**	**$ (38,184,315)**
104																
105																
106	4	Annual O&M Cost	$ 3,680,546	$ 1,583,529	$ 1,629,451	$ 1,676,705	$ 1,725,330	$ 1,775,364	$ 1,826,850	$ 1,879,828	$ 1,934,344	$ 1,990,439	$ 2,048,162	$ 2,107,559	$ 2,168,678	$ 2,231,570
107	5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE
108	6	TIMP Cost	$ 904,581	$ -	$ -	$ -	$ 3,594,437	$ -	$ -	$ -	$ -	$ -	$ -	$ 4,390,748	$ -	$ -
109	7	***Total O&M Costs***	**$ 4,585,126**	**$ 1,583,529**	**$ 1,629,451**	**$ 1,676,705**	**$ 5,319,767**	**$ 1,775,364**	**$ 1,826,850**	**$ 1,879,828**	**$ 1,934,344**	**$ 1,990,439**	**$ 2,048,162**	**$ 6,498,307**	**$ 2,168,678**	**$ 2,231,570**
110																
111	C7	*Alternative Diameter Pipeline (42")*														
112			PV	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093
113																
114	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
115	2	MCS O&M and Emissions Cost	$ (89,968,134)	$ (38,708,155)	$ (39,830,691)	$ (40,985,781)	$ (42,174,369)	$ (43,397,426)	$ (44,655,951)	$ (45,950,974)	$ (47,283,552)	$ (48,654,775)	$ (50,065,764)	$ (51,517,671)	$ (53,011,683)	$ (54,549,022)
116	3	***Total Avoided Costs***	**$ (190,253,617)**	**$ (38,708,155)**	**$ (39,830,691)**	**$ (40,985,781)**	**$ (42,174,369)**	**$ (43,397,426)**	**$ (44,655,951)**	**$ (45,950,974)**	**$ (47,283,552)**	**$ (48,654,775)**	**$ (50,065,764)**	**$ (51,517,671)**	**$ (53,011,683)**	**$ (54,549,022)**
117																
118																
119	4	Annual O&M Cost	$ 3,680,546	$ 1,583,529	$ 1,629,451	$ 1,676,705	$ 1,725,330	$ 1,775,364	$ 1,826,850	$ 1,879,828	$ 1,934,344	$ 1,990,439	$ 2,048,162	$ 2,107,559	$ 2,168,678	$ 2,231,570
120	5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE
121	6	TIMP Cost	$ 904,581	$ -	$ -	$ -	$ 3,594,437	$ -	$ -	$ -	$ -	$ -	$ -	$ 4,390,748	$ -	$ -
122	7	***Total O&M Costs***	**$ 4,585,126**	**$ 1,583,529**	**$ 1,629,451**	**$ 1,676,705**	**$ 5,319,767**	**$ 1,775,364**	**$ 1,826,850**	**$ 1,879,828**	**$ 1,934,344**	**$ 1,990,439**	**$ 2,048,162**	**$ 6,498,307**	**$ 2,168,678**	**$ 2,231,570**
123																
124	D	*Replace Line 1600 In-Place*														
125			PV	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093
126																
127	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
128	2	MCS O&M and Emissions Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
129	3	***Total Avoided Costs***	**$ (100,285,483)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
130																
131																
132	4	Annual O&M Cost	$ 3,647,596	$ 1,979,411	$ 2,036,814	$ 2,095,882	$ 2,156,662	$ 2,219,205	$ 2,283,562	$ 2,349,786	$ 2,417,929	$ 2,488,049	$ 2,560,203	$ 2,634,449	$ 2,710,848	$ 2,789,462
133	5	Pigging to Occur	N/A	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
134	6	TIMP Cost	$ 717,186	$ -	$ 3,394,690	$ -	$ -	$ -	$ -	$ -	$ -	$ 4,146,749	$ -	$ -	$ -	$ -
135	7	***Total O&M Costs***	**$ 4,364,782**	**$ 1,979,411**	**$ 5,431,504**	**$ 2,095,882**	**$ 2,156,662**	**$ 2,219,205**	**$ 2,283,562**	**$ 2,349,786**	**$ 2,417,929**	**$ 6,634,798**	**$ 2,560,203**	**$ 2,634,449**	**$ 2,710,848**	**$ 2,789,462**
136																
137	E/F	*Otay Mesa Alternative*														
138			PV	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093
139																
140	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
141	2	MCS O&M and Emissions Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
142	3	***Total Avoided Costs***	**$ (100,285,483)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
143																
144																
145	4	Annual O&M Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
146	5	***Total O&M Costs***	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
147																
148	G	*LNG Storage (Peak-Shaver)*														
149			PV	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093
150																
151	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
152	2	MCS O&M and Emissions Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
153	3	***Total Avoided Costs***	**$ (100,285,483)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
154																
155																
156	4	Annual O&M Cost	$ 15,283,747	$ 7,917,644	$ 8,147,256	$ 8,383,526	$ 8,626,649	$ 8,876,821	$ 9,134,249	$ 9,399,142	$ 9,671,718	$ 9,952,197	$ 10,240,811	$ 10,537,795	$ 10,843,391	$ 11,157,849
157	5	***Total O&M Costs***	**$ 15,283,747**	**$ 7,917,644**	**$ 8,147,256**	**$ 8,383,526**	**$ 8,626,649**	**$ 8,876,821**	**$ 9,134,249**	**$ 9,399,142**	**$ 9,671,718**	**$ 9,952,197**	**$ 10,240,811**	**$ 10,537,795**	**$ 10,843,391**	**$ 11,157,849**
158																
159	H1	*Alternative Energy (Grid-Scale Battery)*														
160			PV	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093
161																
162	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
163	2	MCS O&M and Emissions Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
164	3	***Total Avoided Costs***	**$ (100,285,483)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
165																
166																
167	4	Annual O&M Cost	$ 15,283,747	$ 7,917,644	$ 8,147,256	$ 8,383,526	$ 8,626,649	$ 8,876,821	$ 9,134,249	$ 9,399,142	$ 9,671,718	$ 9,952,197	$ 10,240,811	$ 10,537,795	$ 10,843,391	$ 11,157,849
168	5	***Total O&M Costs***	**$ 15,283,747**	**$ 7,917,644**	**$ 8,147,256**	**$ 8,383,526**	**$ 8,626,649**	**$ 8,876,821**	**$ 9,134,249**	**$ 9,399,142**	**$ 9,671,718**	**$ 9,952,197**	**$ 10,240,811**	**$ 10,537,795**	**$ 10,843,391**	**$ 11,157,849**
169																
170	H2	*Alternative Energy (Smaller-Scale Battery)*														
171			PV	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093
172																
173	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
174	2	MCS O&M and Emissions Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
175	3	***Total Avoided Costs***	**$ (100,285,483)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
176																
177																
178	4	Annual O&M Cost	$ 15,283,747	$ 7,917,644	$ 8,147,256	$ 8,383,526	$ 8,626,649	$ 8,876,821	$ 9,134,249	$ 9,399,142	$ 9,671,718	$ 9,952,197	$ 10,240,811	$ 10,537,795	$ 10,843,391	$ 11,157,849
179	5	***Total O&M Costs***	**$ 15,283,747**	**$ 7,917,644**	**$ 8,147,256**	**$ 8,383,526**	**$ 8,626,649**	**$ 8,876,821**	**$ 9,134,249**	**$ 9,399,142**	**$ 9,671,718**	**$ 9,952,197**	**$ 10,240,811**	**$ 10,537,795**	**$ 10,843,391**	**$ 11,157,849**
180																
181	I	*Off-shore Route*														
182			PV	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093
183																
184	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
185	2	MCS O&M and Emissions Cost	$ (59,240,789)	$ (38,708,155)	$ (39,830,691)	$ (40,985,781)	$ (42,174,369)	$ (43,397,426)	$ (44,655,951)	$ (45,950,974)	$ (47,283,552)	$ (48,654,775)	$ (50,065,764)	$ (51,517,671)	$ (53,011,683)	$ (54,549,022)
186	3	***Total Avoided Costs***	**$ (159,526,272)**	**$ (38,708,155)**	**$ (39,830,691)**	**$ (40,985,781)**	**$ (42,174,369)**	**$ (43,397,426)**	**$ (44,655,951)**	**$ (45,950,974)**	**$ (47,283,552)**	**$ (48,654,775)**	**$ (50,065,764)**	**$ (51,517,671)**	**$ (53,011,683)**	**$ (54,549,022)**
187																
188																
189	4	Annual O&M Cost	$ 4,544,076	$ 2,969,117	$ 3,055,221	$ 3,143,822	$ 3,234,993	$ 3,328,808	$ 3,425,343	$ 3,524,678	$ 3,626,894	$ 3,732,074	$ 3,840,304	$ 3,951,673	$ 4,066,271	$ 4,184,193
190	5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE
191	6	TIMP Cost	$ 595,634	$ -	$ -	$ -	$ -	$ -	$ 3,805,937	$ -	$ -	$ -	$ -	$ -	$ -	$ 4,649,104
192	7	***Total O&M Costs***	**$ 5,139,710**	**$ 2,969,117**	**$ 3,055,221**	**$ 3,143,822**	**$ 3,234,993**	**$ 3,328,808**	**$ 7,231,281**	**$ 3,524,678**	**$ 3,626,894**	**$ 3,732,074**	**$ 3,840,304**	**$ 3,951,673**	**$ 4,066,271**	**$ 8,833,297**
193																
194	J1	*Blythe to Santee Alternative 1*														
195			PV	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093
196																
197	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
198	2	MCS O&M and Emissions Cost	$ (74,719,907)	$ (38,708,155)	$ (39,830,691)	$ (40,985,781)	$ (42,174,369)	$ (43,397,426)	$ (44,655,951)	$ (45,950,974)	$ (47,283,552)	$ (48,654,775)	$ (50,065,764)	$ (51,517,671)	$ (53,011,683)	$ (54,549,022)
199	3	***Total Avoided Costs***	**$ (175,005,390)**	**$ (38,708,155)**	**$ (39,830,691)**	**$ (40,985,781)**	**$ (42,174,369)**	**$ (43,397,426)**	**$ (44,655,951)**	**$ (45,950,974)**	**$ (47,283,552)**	**$ (48,654,775)**	**$ (50,065,764)**	**$ (51,517,671)**	**$ (53,011,683)**	**$ (54,549,022)**
200																
201																
202	4	Annual O&M Cost	$ 14,495,118	$ 7,509,100	$ 7,726,864	$ 7,950,943	$ 8,181,521	$ 8,418,785	$ 8,662,930	$ 8,914,154	$ 9,172,665	$ 9,438,672	$ 9,712,394	$ 9,994,053	$ 10,283,881	$ 10,582,113
203	5	Pigging to Occur	N/A	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE
204	6	TIMP Cost	$ 2,253,804	$ 9,897,055	$ -	$ -	$ -	$ -	$ -	$ -	$ 12,089,647	$ -	$ -	$ -	$ -	$ -
205	7	***Total O&M Costs***	**$ 16,748,922**	**$ 17,406,156**	**$ 7,726,864**	**$ 7,950,943**	**$ 8,181,521**	**$ 8,418,785**	**$ 8,662,930**	**$ 8,914,154**	**$ 21,262,312**	**$ 9,438,672**	**$ 9,712,394**	**$ 9,994,053**	**$ 10,283,881**	**$ 10,582,113**
206																
207	J2	*Blythe to Santee Alternative 2*														

WORK PAPER TABLE - AVOIDED COST MODEL - COSTS OVER 100 YEARS (AC 1.2)

ANNUAL COSTS BY PROJECT ALTERNATE, FOR AVOIDED COSTS AND O&M COSTS

A.15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2(

Line No.			PV (X years after operational)	79	80	81	82	83	84	85	86	87	88	89	90	91
1			100													
2																
98	C6	***Alternative Diameter Pipeline (30")***														
99			**PV**	**2094**	**2095**	**2096**	**2097**	**2098**	**2099**	**2100**	**2101**	**2102**	**2103**	**2104**	**2105**	**2106**
100																
101	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
102	2	MCS O&M and Emissions Cost	$ (62,977,694)	$ (39,291,660)	$ (40,431,119)	$ (41,603,621)	$ (42,810,126)	$ (44,051,620)	$ (45,329,117)	$ (46,643,661)	$ (47,996,327)	$ (49,388,221)	$ (50,820,479)	$ (52,294,273)	$ (53,810,807)	$ (55,371,320)
103	3	***Total Avoided Costs***	**$ (163,263,177)**	**$ (39,291,660)**	**$ (40,431,119)**	**$ (41,603,621)**	**$ (42,810,126)**	**$ (44,051,620)**	**$ (45,329,117)**	**$ (46,643,661)**	**$ (47,996,327)**	**$ (49,388,221)**	**$ (50,820,479)**	**$ (52,294,273)**	**$ (53,810,807)**	**$ (55,371,320)**
104																
105																
106	4	Annual O&M Cost	$ 3,680,546	$ 2,296,285	$ 2,362,878	$ 2,431,401	$ 2,501,912	$ 2,574,467	$ 2,649,127	$ 2,725,951	$ 2,805,004	$ 2,886,349	$ 2,970,053	$ 3,056,185	$ 3,144,814	$ 3,236,014
107	5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE
108	6	TIMP Cost	$ 904,581	$ -	$ -	$ -	$ -	$ 5,363,473	$ -	$ -	$ -	$ -	$ -	$ -	$ 6,551,696	$ -
109	7	***Total O&M Costs***	**$ 4,585,126**	**$ 2,296,285**	**$ 2,362,878**	**$ 2,431,401**	**$ 2,501,912**	**$ 7,937,940**	**$ 2,649,127**	**$ 2,725,951**	**$ 2,805,004**	**$ 2,886,349**	**$ 2,970,053**	**$ 3,056,185**	**$ 9,696,510**	**$ 3,236,014**
110																
111	C7	***Alternative Diameter Pipeline (42")***														
112			**PV**	**2094**	**2095**	**2096**	**2097**	**2098**	**2099**	**2100**	**2101**	**2102**	**2103**	**2104**	**2105**	**2106**
113																
114	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
115	2	MCS O&M and Emissions Cost	$ (89,968,134)	$ (56,130,944)	$ (57,758,741)	$ (59,433,744)	$ (61,157,323)	$ (62,930,885)	$ (64,755,881)	$ (66,633,802)	$ (68,566,182)	$ (70,554,601)	$ (72,600,685)	$ (74,706,104)	$ (76,872,581)	$ (79,101,886)
116	3	***Total Avoided Costs***	**$ (190,253,617)**	**$ (56,130,944)**	**$ (57,758,741)**	**$ (59,433,744)**	**$ (61,157,323)**	**$ (62,930,885)**	**$ (64,755,881)**	**$ (66,633,802)**	**$ (68,566,182)**	**$ (70,554,601)**	**$ (72,600,685)**	**$ (74,706,104)**	**$ (76,872,581)**	**$ (79,101,886)**
117																
118																
119	4	Annual O&M Cost	$ 3,680,546	$ 2,296,285	$ 2,362,878	$ 2,431,401	$ 2,501,912	$ 2,574,467	$ 2,649,127	$ 2,725,951	$ 2,805,004	$ 2,886,349	$ 2,970,053	$ 3,056,185	$ 3,144,814	$ 3,236,014
120	5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE
121	6	TIMP Cost	$ 904,581	$ -	$ -	$ -	$ -	$ 5,363,473	$ -	$ -	$ -	$ -	$ -	$ -	$ 6,551,696	$ -
122	7	***Total O&M Costs***	**$ 4,585,126**	**$ 2,296,285**	**$ 2,362,878**	**$ 2,431,401**	**$ 2,501,912**	**$ 7,937,940**	**$ 2,649,127**	**$ 2,725,951**	**$ 2,805,004**	**$ 2,886,349**	**$ 2,970,053**	**$ 3,056,185**	**$ 9,696,510**	**$ 3,236,014**
123																
124	D	***Replace Line 1600 In-Place***														
125			**PV**	**2094**	**2095**	**2096**	**2097**	**2098**	**2099**	**2100**	**2101**	**2102**	**2103**	**2104**	**2105**	**2106**
126																
127	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
128	2	MCS O&M and Emissions Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
129	3	***Total Avoided Costs***	**$ (100,285,483)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
130																
131																
132	4	Annual O&M Cost	$ 3,647,596	$ 2,870,357	$ 2,953,597	$ 3,039,251	$ 3,127,390	$ 3,218,084	$ 3,311,408	$ 3,407,439	$ 3,506,255	$ 3,607,936	$ 3,712,566	$ 3,820,231	$ 3,931,018	$ 4,045,017
133	5	Pigging to Occur	N/A	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
134	6	TIMP Cost	$ 717,186	$ -	$ -	$ 5,065,419	$ -	$ -	$ -	$ -	$ -	$ -	$ 6,187,611	$ -	$ -	$ -
135	7	***Total O&M Costs***	**$ 4,364,782**	**$ 2,870,357**	**$ 2,953,597**	**$ 8,104,670**	**$ 3,127,390**	**$ 3,218,084**	**$ 3,311,408**	**$ 3,407,439**	**$ 3,506,255**	**$ 3,607,936**	**$ 9,900,177**	**$ 3,820,231**	**$ 3,931,018**	**$ 4,045,017**
136																
137	E/F	***Otay Mesa Alternative***														
138			**PV**	**2094**	**2095**	**2096**	**2097**	**2098**	**2099**	**2100**	**2101**	**2102**	**2103**	**2104**	**2105**	**2106**
139																
140	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
141	2	MCS O&M and Emissions Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
142	3	***Total Avoided Costs***	**$ (100,285,483)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
143																
144																
145	4	Annual O&M Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
146	5	***Total O&M Costs***	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
147																
148	G	***LNG Storage (Peak-Shaver)***														
149			**PV**	**2094**	**2095**	**2096**	**2097**	**2098**	**2099**	**2100**	**2101**	**2102**	**2103**	**2104**	**2105**	**2106**
150																
151	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
152	2	MCS O&M and Emissions Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
153	3	***Total Avoided Costs***	**$ (100,285,483)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
154																
155																
156	4	Annual O&M Cost	$ 15,283,747	$ 11,481,427	$ 11,814,388	$ 12,157,005	$ 12,509,558	$ 12,872,336	$ 13,245,633	$ 13,629,757	$ 14,025,020	$ 14,431,745	$ 14,850,266	$ 15,280,923	$ 15,724,070	$ 16,180,068
157	5	***Total O&M Costs***	**$ 15,283,747**	**$ 11,481,427**	**$ 11,814,388**	**$ 12,157,005**	**$ 12,509,558**	**$ 12,872,336**	**$ 13,245,633**	**$ 13,629,757**	**$ 14,025,020**	**$ 14,431,745**	**$ 14,850,266**	**$ 15,280,923**	**$ 15,724,070**	**$ 16,180,068**
158																
159	H1	***Alternative Energy (Grid-Scale Battery)***														
160			**PV**	**2094**	**2095**	**2096**	**2097**	**2098**	**2099**	**2100**	**2101**	**2102**	**2103**	**2104**	**2105**	**2106**
161																
162	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
163	2	MCS O&M and Emissions Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
164	3	***Total Avoided Costs***	**$ (100,285,483)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
165																
166																
167	4	Annual O&M Cost	$ 15,283,747	$ 11,481,427	$ 11,814,388	$ 12,157,005	$ 12,509,558	$ 12,872,336	$ 13,245,633	$ 13,629,757	$ 14,025,020	$ 14,431,745	$ 14,850,266	$ 15,280,923	$ 15,724,070	$ 16,180,068
168	5	***Total O&M Costs***	**$ 15,283,747**	**$ 11,481,427**	**$ 11,814,388**	**$ 12,157,005**	**$ 12,509,558**	**$ 12,872,336**	**$ 13,245,633**	**$ 13,629,757**	**$ 14,025,020**	**$ 14,431,745**	**$ 14,850,266**	**$ 15,280,923**	**$ 15,724,070**	**$ 16,180,068**
169																
170	H2	***Alternative Energy (Smaller-Scale Battery)***														
171			**PV**	**2094**	**2095**	**2096**	**2097**	**2098**	**2099**	**2100**	**2101**	**2102**	**2103**	**2104**	**2105**	**2106**
172																
173	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
174	2	MCS O&M and Emissions Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
175	3	***Total Avoided Costs***	**$ (100,285,483)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
176																
177																
178	4	Annual O&M Cost	$ 15,283,747	$ 11,481,427	$ 11,814,388	$ 12,157,005	$ 12,509,558	$ 12,872,336	$ 13,245,633	$ 13,629,757	$ 14,025,020	$ 14,431,745	$ 14,850,266	$ 15,280,923	$ 15,724,070	$ 16,180,068
179	5	***Total O&M Costs***	**$ 15,283,747**	**$ 11,481,427**	**$ 11,814,388**	**$ 12,157,005**	**$ 12,509,558**	**$ 12,872,336**	**$ 13,245,633**	**$ 13,629,757**	**$ 14,025,020**	**$ 14,431,745**	**$ 14,850,266**	**$ 15,280,923**	**$ 15,724,070**	**$ 16,180,068**
180																
181	I	***Off-shore Route***														
182			**PV**	**2094**	**2095**	**2096**	**2097**	**2098**	**2099**	**2100**	**2101**	**2102**	**2103**	**2104**	**2105**	**2106**
183																
184	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
185	2	MCS O&M and Emissions Cost	$ (59,240,789)	$ (56,130,944)	$ (57,758,741)	$ (59,433,744)	$ (61,157,323)	$ (62,930,885)	$ (64,755,881)	$ (66,633,802)	$ (68,566,182)	$ (70,554,601)	$ (72,600,685)	$ (74,706,104)	$ (76,872,581)	$ (79,101,886)
186	3	***Total Avoided Costs***	**$ (159,526,272)**	**$ (56,130,944)**	**$ (57,758,741)**	**$ (59,433,744)**	**$ (61,157,323)**	**$ (62,930,885)**	**$ (64,755,881)**	**$ (66,633,802)**	**$ (68,566,182)**	**$ (70,554,601)**	**$ (72,600,685)**	**$ (74,706,104)**	**$ (76,872,581)**	**$ (79,101,886)**
187																
188																
189	4	Annual O&M Cost	$ 4,544,076	$ 4,305,535	$ 4,430,395	$ 4,558,877	$ 4,691,084	$ 4,827,126	$ 4,967,112	$ 5,111,159	$ 5,259,382	$ 5,411,904	$ 5,568,850	$ 5,730,346	$ 5,896,526	$ 6,067,526
190	5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
191	6	TIMP Cost	$ 595,634	$ -	$ -	$ -	$ -	$ -	$ -	$ 5,679,065	$ -	$ -	$ -	$ -	$ -	$ -
192	7	***Total O&M Costs***	**$ 5,139,710**	**$ 4,305,535**	**$ 4,430,395**	**$ 4,558,877**	**$ 4,691,084**	**$ 4,827,126**	**$ 4,967,112**	**$ 10,790,224**	**$ 5,259,382**	**$ 5,411,904**	**$ 5,568,850**	**$ 5,730,346**	**$ 5,896,526**	**$ 6,067,526**
193																
194	J1	***Blythe to Santee Alternative 1***														
195			**PV**	**2094**	**2095**	**2096**	**2097**	**2098**	**2099**	**2100**	**2101**	**2102**	**2103**	**2104**	**2105**	**2106**
196																
197	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
198	2	MCS O&M and Emissions Cost	$ (74,719,907)	$ (56,130,944)	$ (57,758,741)	$ (59,433,744)	$ (61,157,323)	$ (62,930,885)	$ (64,755,881)	$ (66,633,802)	$ (68,566,182)	$ (70,554,601)	$ (72,600,685)	$ (74,706,104)	$ (76,872,581)	$ (79,101,886)
199	3	***Total Avoided Costs***	**$ (175,005,390)**	**$ (56,130,944)**	**$ (57,758,741)**	**$ (59,433,744)**	**$ (61,157,323)**	**$ (62,930,885)**	**$ (64,755,881)**	**$ (66,633,802)**	**$ (68,566,182)**	**$ (70,554,601)**	**$ (72,600,685)**	**$ (74,706,104)**	**$ (76,872,581)**	**$ (79,101,886)**
200																
201																
202	4	Annual O&M Cost	$ 14,495,118	$ 10,888,995	$ 11,204,775	$ 11,529,714	$ 11,864,076	$ 12,208,134	$ 12,562,170	$ 12,926,473	$ 13,301,340	$ 13,687,079	$ 14,084,004	$ 14,492,441	$ 14,912,721	$ 15,345,190
203	5	Pigging to Occur	N/A	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
204	6	TIMP Cost	$ 2,253,804	$ -	$ 14,767,985	$ -	$ -	$ -	$ -	$ -	$ -	$ 18,039,681	$ -	$ -	$ -	$ -
205	7	***Total O&M Costs***	**$ 16,748,922**	**$ 10,888,995**	**$ 25,972,760**	**$ 11,529,714**	**$ 11,864,076**	**$ 12,208,134**	**$ 12,562,170**	**$ 12,926,473**	**$ 13,301,340**	**$ 31,726,761**	**$ 14,084,004**	**$ 14,492,441**	**$ 14,912,721**	**$ 15,345,190**
206																
207	J2	***Blythe to Santee Alternative 2***														

WORK PAPER TABLE - AVOIDED COST MODEL - COSTS OVER 100 YEARS (AC 1.2)

ANNUAL COSTS BY PROJECT ALTERNATE, FOR AVOIDED COSTS AND O&M COSTS

A.15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2(

Line No.			PV (X years after operational)	92	93	94	95	96	97	98	99	100	101	102	103	104
1			100													
2																
98	C6	*Alternative Diameter Pipeline (30")*														
99			PV	2107	2108	2109	2110	2111	2112	2113	2114	2115	2116	2117	2118	2119
100																
101	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
102	2	MCS O&M and Emissions Cost	$ (62,977,694)	$ (56,977,089)	$ (58,629,424)	$ (60,329,678)	$ (62,079,238)	$ (63,879,536)	$ (65,732,043)	$ (67,638,272)	$ (69,599,782)	$ (71,618,175)	$ (73,695,103)	$ (75,832,261)	$ (78,031,396)	$ (80,294,307)
103	3	***Total Avoided Costs***	**$ (163,263,177)**	**$ (56,977,089)**	**$ (58,629,424)**	**$ (60,329,678)**	**$ (62,079,238)**	**$ (63,879,536)**	**$ (65,732,043)**	**$ (67,638,272)**	**$ (69,599,782)**	**$ (71,618,175)**	**$ (73,695,103)**	**$ (75,832,261)**	**$ (78,031,396)**	**$ (80,294,307)**
104																
105																
106	4	Annual O&M Cost	$ 3,680,546	$ 3,329,858	$ 3,426,424	$ 3,525,790	$ 3,628,038	$ 3,733,251	$ 3,841,516	$ 3,952,919	$ 4,067,554	$ 4,185,513	$ 4,306,893	$ 4,431,793	$ 4,560,315	$ 4,692,564
107	5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE
108	6	TIMP Cost	$ 904,581	$ -	$ -	$ -	$ -	$ -	$ 8,003,157	$ -	$ -	$ -	$ -	$ -	$ -	$ 9,776,175
109	7	***Total O&M Costs***	**$ 4,585,126**	**$ 3,329,858**	**$ 3,426,424**	**$ 3,525,790**	**$ 3,628,038**	**$ 3,733,251**	**$ 11,844,673**	**$ 3,952,919**	**$ 4,067,554**	**$ 4,185,513**	**$ 4,306,893**	**$ 4,431,793**	**$ 4,560,315**	**$ 14,468,739**
110																
111	C7	*Alternative Diameter Pipeline (42")*														
112			PV	2107	2108	2109	2110	2111	2112	2113	2114	2115	2116	2117	2118	2119
113																
114	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
115	2	MCS O&M and Emissions Cost	$ (89,968,134)	$ (81,395,841)	$ (83,756,320)	$ (86,185,254)	$ (88,684,626)	$ (91,256,480)	$ (93,902,918)	$ (96,626,103)	$ (99,428,260)	$ (102,311,679)	$ (105,278,718)	$ (108,331,801)	$ (111,473,423)	$ (114,706,152)
116	3	***Total Avoided Costs***	**$ (190,253,617)**	**$ (81,395,841)**	**$ (83,756,320)**	**$ (86,185,254)**	**$ (88,684,626)**	**$ (91,256,480)**	**$ (93,902,918)**	**$ (96,626,103)**	**$ (99,428,260)**	**$ (102,311,679)**	**$ (105,278,718)**	**$ (108,331,801)**	**$ (111,473,423)**	**$ (114,706,152)**
117																
118																
119	4	Annual O&M Cost	$ 3,680,546	$ 3,329,858	$ 3,426,424	$ 3,525,790	$ 3,628,038	$ 3,733,251	$ 3,841,516	$ 3,952,919	$ 4,067,554	$ 4,185,513	$ 4,306,893	$ 4,431,793	$ 4,560,315	$ 4,692,564
120	5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE
121	6	TIMP Cost	$ 904,581	$ -	$ -	$ -	$ -	$ -	$ 8,003,157	$ -	$ -	$ -	$ -	$ -	$ -	$ 9,776,175
122	7	***Total O&M Costs***	**$ 4,585,126**	**$ 3,329,858**	**$ 3,426,424**	**$ 3,525,790**	**$ 3,628,038**	**$ 3,733,251**	**$ 11,844,673**	**$ 3,952,919**	**$ 4,067,554**	**$ 4,185,513**	**$ 4,306,893**	**$ 4,431,793**	**$ 4,560,315**	**$ 14,468,739**
123																
124	D	*Replace Line 1600 In-Place*														
125			PV	2107	2108	2109	2110	2111	2112	2113	2114	2115	2116	2117	2118	2119
126																
127	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
128	2	MCS O&M and Emissions Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
129	3	***Total Avoided Costs***	**$ (100,285,483)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
130																
131																
132	4	Annual O&M Cost	$ 3,647,596	$ 4,162,323	$ 4,283,030	$ 4,407,238	$ 4,535,048	$ 4,666,564	$ 4,801,894	$ 4,941,149	$ 5,084,443	$ 5,231,892	$ 5,383,616	$ 5,539,741	$ 5,700,394	$ 5,865,705
133	5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE
134	6	TIMP Cost	$ 717,186	$ -	$ -	$ -	$ 7,558,413	$ -	$ -	$ -	$ -	$ -	$ -	$ 9,232,902	$ -	$ -
135	7	***Total O&M Costs***	**$ 4,364,782**	**$ 4,162,323**	**$ 4,283,030**	**$ 4,407,238**	**$ 12,093,460**	**$ 4,666,564**	**$ 4,801,894**	**$ 4,941,149**	**$ 5,084,443**	**$ 5,231,892**	**$ 5,383,616**	**$ 14,772,643**	**$ 5,700,394**	**$ 5,865,705**
136																
137	E/F	*Otay Mesa Alternative*														
138			PV	2107	2108	2109	2110	2111	2112	2113	2114	2115	2116	2117	2118	2119
139																
140	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
141	2	MCS O&M and Emissions Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
142	3	***Total Avoided Costs***	**$ (100,285,483)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
143																
144																
145	4	Annual O&M Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
146	5	***Total O&M Costs***	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
147																
148	G	*LNG Storage (Peak-Shaver)*														
149			PV	2107	2108	2109	2110	2111	2112	2113	2114	2115	2116	2117	2118	2119
150																
151	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
152	2	MCS O&M and Emissions Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
153	3	***Total Avoided Costs***	**$ (100,285,483)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
154																
155																
156	4	Annual O&M Cost	$ 15,283,747	$ 16,649,290	$ 17,132,120	$ 17,628,951	$ 18,140,191	$ 18,666,256	$ 19,207,578	$ 19,764,597	$ 20,337,771	$ 20,927,566	$ 21,534,466	$ 22,158,965	$ 22,801,575	$ 23,462,821
157	5	***Total O&M Costs***	**$ 15,283,747**	**$ 16,649,290**	**$ 17,132,120**	**$ 17,628,951**	**$ 18,140,191**	**$ 18,666,256**	**$ 19,207,578**	**$ 19,764,597**	**$ 20,337,771**	**$ 20,927,566**	**$ 21,534,466**	**$ 22,158,965**	**$ 22,801,575**	**$ 23,462,821**
158																
159	H1	*Alternative Energy (Grid-Scale Battery)*														
160			PV	2107	2108	2109	2110	2111	2112	2113	2114	2115	2116	2117	2118	2119
161																
162	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
163	2	MCS O&M and Emissions Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
164	3	***Total Avoided Costs***	**$ (100,285,483)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
165																
166																
167	4	Annual O&M Cost	$ 15,283,747	$ 16,649,290	$ 17,132,120	$ 17,628,951	$ 18,140,191	$ 18,666,256	$ 19,207,578	$ 19,764,597	$ 20,337,771	$ 20,927,566	$ 21,534,466	$ 22,158,965	$ 22,801,575	$ 23,462,821
168	5	***Total O&M Costs***	**$ 15,283,747**	**$ 16,649,290**	**$ 17,132,120**	**$ 17,628,951**	**$ 18,140,191**	**$ 18,666,256**	**$ 19,207,578**	**$ 19,764,597**	**$ 20,337,771**	**$ 20,927,566**	**$ 21,534,466**	**$ 22,158,965**	**$ 22,801,575**	**$ 23,462,821**
169																
170	H2	*Alternative Energy (Smaller-Scale Battery)*														
171			PV	2107	2108	2109	2110	2111	2112	2113	2114	2115	2116	2117	2118	2119
172																
173	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
174	2	MCS O&M and Emissions Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
175	3	***Total Avoided Costs***	**$ (100,285,483)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
176																
177																
178	4	Annual O&M Cost	$ 15,283,747	$ 16,649,290	$ 17,132,120	$ 17,628,951	$ 18,140,191	$ 18,666,256	$ 19,207,578	$ 19,764,597	$ 20,337,771	$ 20,927,566	$ 21,534,466	$ 22,158,965	$ 22,801,575	$ 23,462,821
179	5	***Total O&M Costs***	**$ 15,283,747**	**$ 16,649,290**	**$ 17,132,120**	**$ 17,628,951**	**$ 18,140,191**	**$ 18,666,256**	**$ 19,207,578**	**$ 19,764,597**	**$ 20,337,771**	**$ 20,927,566**	**$ 21,534,466**	**$ 22,158,965**	**$ 22,801,575**	**$ 23,462,821**
180																
181	I	*Off-shore Route*														
182			PV	2107	2108	2109	2110	2111	2112	2113	2114	2115	2116	2117	2118	2119
183																
184	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
185	2	MCS O&M and Emissions Cost	$ (59,240,789)	$ (81,395,841)	$ (83,756,320)	$ (86,185,254)	$ (88,684,626)	$ (91,256,480)	$ (93,902,918)	$ (96,626,103)	$ (99,428,260)	$ (102,311,679)	$ (105,278,718)	$ (108,331,801)	$ (111,473,423)	$ (114,706,152)
186	3	***Total Avoided Costs***	**$ (159,526,272)**	**$ (81,395,841)**	**$ (83,756,320)**	**$ (86,185,254)**	**$ (88,684,626)**	**$ (91,256,480)**	**$ (93,902,918)**	**$ (96,626,103)**	**$ (99,428,260)**	**$ (102,311,679)**	**$ (105,278,718)**	**$ (108,331,801)**	**$ (111,473,423)**	**$ (114,706,152)**
187																
188																
189	4	Annual O&M Cost	$ 4,544,076	$ 6,243,484	$ 6,424,545	$ 6,610,857	$ 6,802,572	$ 6,999,846	$ 7,202,842	$ 7,411,724	$ 7,626,664	$ 7,847,837	$ 8,075,425	$ 8,309,612	$ 8,550,591	$ 8,798,558
190	5	Pigging to Occur	N/A	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE
191	6	TIMP Cost	$ 595,634	$ 6,937,204	$ -	$ -	$ -	$ -	$ -	$ -	$ 8,474,071	$ -	$ -	$ -	$ -	$ -
192	7	***Total O&M Costs***	**$ 5,139,710**	**$ 13,180,688**	**$ 6,424,545**	**$ 6,610,857**	**$ 6,802,572**	**$ 6,999,846**	**$ 7,202,842**	**$ 7,411,724**	**$ 16,100,735**	**$ 7,847,837**	**$ 8,075,425**	**$ 8,309,612**	**$ 8,550,591**	**$ 8,798,558**
193																
194	J1	*Blythe to Santee Alternative 1*														
195			PV	2107	2108	2109	2110	2111	2112	2113	2114	2115	2116	2117	2118	2119
196																
197	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
198	2	MCS O&M and Emissions Cost	$ (74,719,907)	$ (81,395,841)	$ (83,756,320)	$ (86,185,254)	$ (88,684,626)	$ (91,256,480)	$ (93,902,918)	$ (96,626,103)	$ (99,428,260)	$ (102,311,679)	$ (105,278,718)	$ (108,331,801)	$ (111,473,423)	$ (114,706,152)
199	3	***Total Avoided Costs***	**$ (175,005,390)**	**$ (81,395,841)**	**$ (83,756,320)**	**$ (86,185,254)**	**$ (88,684,626)**	**$ (91,256,480)**	**$ (93,902,918)**	**$ (96,626,103)**	**$ (99,428,260)**	**$ (102,311,679)**	**$ (105,278,718)**	**$ (108,331,801)**	**$ (111,473,423)**	**$ (114,706,152)**
200																
201																
202	4	Annual O&M Cost	$ 14,495,118	$ 15,790,201	$ 16,248,117	$ 16,719,312	$ 17,204,172	$ 17,703,093	$ 18,216,483	$ 18,744,761	$ 19,288,359	$ 19,847,721	$ 20,423,305	$ 21,015,581	$ 21,625,033	$ 22,252,159
203	5	Pigging to Occur	N/A	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
204	6	TIMP Cost	$ 2,253,804	$ -	$ -	$ 22,036,189	$ -	$ -	$ -	$ -	$ -	$ -	$ 26,918,082	$ -	$ -	$ -
205	7	***Total O&M Costs***	**$ 16,748,922**	**$ 15,790,201**	**$ 16,248,117**	**$ 38,755,501**	**$ 17,204,172**	**$ 17,703,093**	**$ 18,216,483**	**$ 18,744,761**	**$ 19,288,359**	**$ 19,847,721**	**$ 47,341,387**	**$ 21,015,581**	**$ 21,625,033**	**$ 22,252,159**
206																
207	J2	*Blythe to Santee Alternative 2*														

WORK PAPER TABLE - AVOIDED COST MODEL - COSTS OVER 100 YEARS (AC 1.2)

ANNUAL COSTS BY PROJECT ALTERNATE, FOR AVOIDED COSTS AND O&M COSTS

A.15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2(

Line No.			PV (X years after operational)	105	106	107	108	109	110	111	112	113	114	115	116
1															
2			100												
98	C6	***Alternative Diameter Pipeline (30")***													
99			**PV**	**2120**	**2121**	**2122**	**2123**	**2124**	**2125**	**2126**	**2127**	**2128**	**2129**	**2130**	**2131**
100															
101	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
102	2	MCS O&M and Emissions Cost	$ (62,977,694)	$ (82,622,841)	$ (85,018,904)	$ (87,484,452)	$ (90,021,501)	$ (92,632,125)	$ (95,318,456)	$ (98,082,692)	$ (100,927,090)	$ (103,853,975)	$ (106,865,740)	$ (109,964,847)	$ (113,153,828)
103	3	***Total Avoided Costs***	**$ (163,263,177)**	**$ (82,622,841)**	**$ (85,018,904)**	**$ (87,484,452)**	**$ (90,021,501)**	**$ (92,632,125)**	**$ (95,318,456)**	**$ (98,082,692)**	**$ (100,927,090)**	**$ (103,853,975)**	**$ (106,865,740)**	**$ (109,964,847)**	**$ (113,153,828)**
104															
105															
106	4	Annual O&M Cost	$ 3,680,546	$ 4,828,648	$ 4,968,679	$ 5,112,771	$ 5,261,041	$ 5,413,612	$ 5,570,606	$ 5,732,154	$ 5,898,386	$ 6,069,440	$ 6,245,453	$ 6,426,571	$ 6,612,942
107	5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
108	6	TIMP Cost	$ 904,581	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
109	7	***Total O&M Costs***	**$ 4,585,126**	**$ 4,828,648**	**$ 4,968,679**	**$ 5,112,771**	**$ 5,261,041**	**$ 5,413,612**	**$ 5,570,606**	**$ 5,732,154**	**$ 5,898,386**	**$ 6,069,440**	**$ 6,245,453**	**$ 6,426,571**	**$ 6,612,942**
110															
111	C7	***Alternative Diameter Pipeline (42")***													
112			**PV**	**2120**	**2121**	**2122**	**2123**	**2124**	**2125**	**2126**	**2127**	**2128**	**2129**	**2130**	**2131**
113															
114	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
115	2	MCS O&M and Emissions Cost	$ (89,968,134)	$ (118,032,631)	$ (121,455,577)	$ (124,977,789)	$ (128,602,145)	$ (132,331,607)	$ (136,169,223)	$ (140,118,131)	$ (144,181,557)	$ (148,362,822)	$ (152,665,344)	$ (157,092,638)	$ (161,648,325)
116	3	***Total Avoided Costs***	**$ (190,253,617)**	**$ (118,032,631)**	**$ (121,455,577)**	**$ (124,977,789)**	**$ (128,602,145)**	**$ (132,331,607)**	**$ (136,169,223)**	**$ (140,118,131)**	**$ (144,181,557)**	**$ (148,362,822)**	**$ (152,665,344)**	**$ (157,092,638)**	**$ (161,648,325)**
117															
118															
119	4	Annual O&M Cost	$ 3,680,546	$ 4,828,648	$ 4,968,679	$ 5,112,771	$ 5,261,041	$ 5,413,612	$ 5,570,606	$ 5,732,154	$ 5,898,386	$ 6,069,440	$ 6,245,453	$ 6,426,571	$ 6,612,942
120	5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
121	6	TIMP Cost	$ 904,581	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
122	7	***Total O&M Costs***	**$ 4,585,126**	**$ 4,828,648**	**$ 4,968,679**	**$ 5,112,771**	**$ 5,261,041**	**$ 5,413,612**	**$ 5,570,606**	**$ 5,732,154**	**$ 5,898,386**	**$ 6,069,440**	**$ 6,245,453**	**$ 6,426,571**	**$ 6,612,942**
123															
124	D	***Replace Line 1600 In-Place***													
125			**PV**	**2120**	**2121**	**2122**	**2123**	**2124**	**2125**	**2126**	**2127**	**2128**	**2129**	**2130**	**2131**
126															
127	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
128	2	MCS O&M and Emissions Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
129	3	***Total Avoided Costs***	**$ (100,285,483)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
130															
131															
132	4	Annual O&M Cost	$ 3,647,596	$ 6,035,811	$ 6,210,849	$ 6,390,964	$ 6,576,302	$ 6,767,014	$ 6,963,258	$ 7,165,192	$ 7,372,983	$ 7,586,799	$ 7,806,817	$ 8,033,214	$ 8,266,178
133	5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
134	6	TIMP Cost	$ 717,186	$ -	$ -	$ -	$ -	$ 11,278,357	$ -	$ -	$ -	$ -	$ -	$ -	$ -
135	7	***Total O&M Costs***	**$ 4,364,782**	**$ 6,035,811**	**$ 6,210,849**	**$ 6,390,964**	**$ 6,576,302**	**$ 18,045,372**	**$ 6,963,258**	**$ 7,165,192**	**$ 7,372,983**	**$ 7,586,799**	**$ 7,806,817**	**$ 8,033,214**	**$ 8,266,178**
136															
137	E/F	***Otay Mesa Alternative***													
138			**PV**	**2120**	**2121**	**2122**	**2123**	**2124**	**2125**	**2126**	**2127**	**2128**	**2129**	**2130**	**2131**
139															
140	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
141	2	MCS O&M and Emissions Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
142	3	***Total Avoided Costs***	**$ (100,285,483)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
143															
144															
145	4	Annual O&M Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
146	5	***Total O&M Costs***	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
147															
148	G	***LNG Storage (Peak-Shaver)***													
149			**PV**	**2120**	**2121**	**2122**	**2123**	**2124**	**2125**	**2126**	**2127**	**2128**	**2129**	**2130**	**2131**
150															
151	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
152	2	MCS O&M and Emissions Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
153	3	***Total Avoided Costs***	**$ (100,285,483)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
154															
155															
156	4	Annual O&M Cost	$ 15,283,747	$ 24,143,242	$ 24,843,397	$ 25,563,855	$ 26,305,207	$ 27,068,058	$ 27,853,031	$ 28,660,769	$ 29,491,932	$ 30,347,198	$ 31,227,266	$ 32,132,857	$ 33,064,710
157	5	***Total O&M Costs***	**$ 15,283,747**	**$ 24,143,242**	**$ 24,843,397**	**$ 25,563,855**	**$ 26,305,207**	**$ 27,068,058**	**$ 27,853,031**	**$ 28,660,769**	**$ 29,491,932**	**$ 30,347,198**	**$ 31,227,266**	**$ 32,132,857**	**$ 33,064,710**
158															
159	H1	***Alternative Energy (Grid-Scale Battery)***													
160			**PV**	**2120**	**2121**	**2122**	**2123**	**2124**	**2125**	**2126**	**2127**	**2128**	**2129**	**2130**	**2131**
161															
162	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
163	2	MCS O&M and Emissions Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
164	3	***Total Avoided Costs***	**$ (100,285,483)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
165															
166															
167	4	Annual O&M Cost	$ 15,283,747	$ 24,143,242	$ 24,843,397	$ 25,563,855	$ 26,305,207	$ 27,068,058	$ 27,853,031	$ 28,660,769	$ 29,491,932	$ 30,347,198	$ 31,227,266	$ 32,132,857	$ 33,064,710
168	5	***Total O&M Costs***	**$ 15,283,747**	**$ 24,143,242**	**$ 24,843,397**	**$ 25,563,855**	**$ 26,305,207**	**$ 27,068,058**	**$ 27,853,031**	**$ 28,660,769**	**$ 29,491,932**	**$ 30,347,198**	**$ 31,227,266**	**$ 32,132,857**	**$ 33,064,710**
169															
170	H2	***Alternative Energy (Smaller-Scale Battery)***													
171			**PV**	**2120**	**2121**	**2122**	**2123**	**2124**	**2125**	**2126**	**2127**	**2128**	**2129**	**2130**	**2131**
172															
173	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
174	2	MCS O&M and Emissions Cost	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
175	3	***Total Avoided Costs***	**$ (100,285,483)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
176															
177															
178	4	Annual O&M Cost	$ 15,283,747	$ 24,143,242	$ 24,843,397	$ 25,563,855	$ 26,305,207	$ 27,068,058	$ 27,853,031	$ 28,660,769	$ 29,491,932	$ 30,347,198	$ 31,227,266	$ 32,132,857	$ 33,064,710
179	5	***Total O&M Costs***	**$ 15,283,747**	**$ 24,143,242**	**$ 24,843,397**	**$ 25,563,855**	**$ 26,305,207**	**$ 27,068,058**	**$ 27,853,031**	**$ 28,660,769**	**$ 29,491,932**	**$ 30,347,198**	**$ 31,227,266**	**$ 32,132,857**	**$ 33,064,710**
180															
181	I	***Off-shore Route***													
182			**PV**	**2120**	**2121**	**2122**	**2123**	**2124**	**2125**	**2126**	**2127**	**2128**	**2129**	**2130**	**2131**
183															
184	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
185	2	MCS O&M and Emissions Cost	$ (59,240,789)	$ (118,032,631)	$ (121,455,577)	$ (124,977,789)	$ (128,602,145)	$ (132,331,607)	$ (136,169,223)	$ (140,118,131)	$ (144,181,557)	$ (148,362,822)	$ (152,665,344)	$ (157,092,638)	$ (161,648,325)
186	3	***Total Avoided Costs***	**$ (159,526,272)**	**$ (118,032,631)**	**$ (121,455,577)**	**$ (124,977,789)**	**$ (128,602,145)**	**$ (132,331,607)**	**$ (136,169,223)**	**$ (140,118,131)**	**$ (144,181,557)**	**$ (148,362,822)**	**$ (152,665,344)**	**$ (157,092,638)**	**$ (161,648,325)**
187															
188															
189	4	Annual O&M Cost	$ 4,544,076	$ 9,053,716	$ 9,316,274	$ 9,586,446	$ 9,864,453	$ 10,150,522	$ 10,444,887	$ 10,747,789	$ 11,059,474	$ 11,380,199	$ 11,710,225	$ 12,049,821	$ 12,399,266
190	5	Pigging to Occur	N/A	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
191	6	TIMP Cost	$ 595,634	$ -	$ 10,351,415	$ -	$ -	$ -	$ -	$ -	$ -	$ 12,644,666	$ -	$ -	$ -
192	7	***Total O&M Costs***	**$ 5,139,710**	**$ 9,053,716**	**$ 19,667,689**	**$ 9,586,446**	**$ 9,864,453**	**$ 10,150,522**	**$ 10,444,887**	**$ 10,747,789**	**$ 11,059,474**	**$ 24,024,865**	**$ 11,710,225**	**$ 12,049,821**	**$ 12,399,266**
193															
194	J1	***Blythe to Santee Alternative 1***													
195			**PV**	**2120**	**2121**	**2122**	**2123**	**2124**	**2125**	**2126**	**2127**	**2128**	**2129**	**2130**	**2131**
196															
197	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
198	2	MCS O&M and Emissions Cost	$ (74,719,907)	$ (118,032,631)	$ (121,455,577)	$ (124,977,789)	$ (128,602,145)	$ (132,331,607)	$ (136,169,223)	$ (140,118,131)	$ (144,181,557)	$ (148,362,822)	$ (152,665,344)	$ (157,092,638)	$ (161,648,325)
199	3	***Total Avoided Costs***	**$ (175,005,390)**	**$ (118,032,631)**	**$ (121,455,577)**	**$ (124,977,789)**	**$ (128,602,145)**	**$ (132,331,607)**	**$ (136,169,223)**	**$ (140,118,131)**	**$ (144,181,557)**	**$ (148,362,822)**	**$ (152,665,344)**	**$ (157,092,638)**	**$ (161,648,325)**
200															
201															
202	4	Annual O&M Cost	$ 14,495,118	$ 22,897,471	$ 23,561,498	$ 24,244,781	$ 24,947,880	$ 25,671,369	$ 26,415,838	$ 27,181,898	$ 27,970,173	$ 28,781,308	$ 29,615,966	$ 30,474,829	$ 31,358,599
203	5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
204	6	TIMP Cost	$ 2,253,804	$ -	$ -	$ -	$ 32,881,509	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
205	7	***Total O&M Costs***	**$ 16,748,922**	**$ 22,897,471**	**$ 23,561,498**	**$ 24,244,781**	**$ 57,829,389**	**$ 25,671,369**	**$ 26,415,838**	**$ 27,181,898**	**$ 27,970,173**	**$ 28,781,308**	**$ 29,615,966**	**$ 30,474,829**	**$ 31,358,599**
206															
207	J2	***Blythe to Santee Alternative 2***													

WORK PAPER TABLE - AVOIDED COST MODEL - COSTS OVER 100 YEARS (AC 1.2)

ANNUAL COSTS BY PROJECT ALTERNATE, FOR AVOIDED COSTS AND O&M COSTS

A.15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.			PV (X years after operational)	0	1	2	3	4	5	6	7	8	9	10	11	12	13
1																	
2			100														
208			PV	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
209														Operational Year			
210	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
211	2	MCS O&M and Emissions Cost	$ (74,719,907)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ (7,808,030)	$ (8,034,463)	$ (8,267,462)	$ (8,507,219)
212	3	***Total Avoided Costs***	**$ (175,005,390)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ (7,808,030)**	**$ (8,034,463)**	**$ (8,267,462)**	**$ (8,507,219)**
213																	
214																	
215	4	Annual O&M Cost	$ 14,508,148	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,516,063	$ 1,560,028	$ 1,605,269	$ 1,651,822
216	5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
217	6	TIMP Cost	$ 2,253,804	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
218	7	***Total O&M Costs***	**$ 16,761,952**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 1,516,063**	**$ 1,560,028**	**$ 1,605,269**	**$ 1,651,822**
219																	
220	J3	***Cactus City to San Diego Alternative***															
221			PV	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
222														Operational Year			
223	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
224	2	MCS O&M and Emissions Cost	$ (74,719,907)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ (7,808,030)	$ (8,034,463)	$ (8,267,462)	$ (8,507,219)
225	3	***Total Avoided Costs***	**$ (175,005,390)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ (7,808,030)**	**$ (8,034,463)**	**$ (8,267,462)**	**$ (8,507,219)**
226																	
227																	
228	4	Annual O&M Cost	$ 10,434,660	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,090,394	$ 1,122,015	$ 1,154,554	$ 1,188,036
229	5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
230	6	TIMP Cost	$ 2,253,804	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
231	7	***Total O&M Costs***	**$ 12,688,464**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 1,090,394**	**$ 1,122,015**	**$ 1,154,554**	**$ 1,188,036**
232																	
233	K	***Second Pipeline Along Line 3010***															
234			PV	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
235															Operational Year		
236	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
237	2	MCS O&M and Emissions Cost	$ (71,330,165)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ (8,034,463)	$ (8,267,462)	$ (8,507,219)
238	3	***Total Avoided Costs***	**$ (171,615,648)**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ (8,034,463)**	**$ (8,267,462)**	**$ (8,507,219)**
239																	
240																	
241	4	Annual O&M Cost	$ 2,799,858	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 315,369	$ 324,515	$ 333,926
242	5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
243	6	TIMP Cost	$ 717,186	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
244	7	***Total O&M Costs***	**$ 3,517,044**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 315,369**	**$ 324,515**	**$ 333,926**

WORK PAPER TABLE - AVOIDED COST MODEL - COSTS OVER 100 YEARS (AC 1.2)

ANNUAL COSTS BY PROJECT ALTERNATE, FOR AVOIDED COSTS AND O&M COSTS

A.15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2(

Line No.			PV (X years after operational)	14	15	16	17	18	19	20	21	22	23	24	25	26
1			100													
2			PV	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041
208																
209																
210	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ (334,683,589)	$ (344,389,413)	$ -
211	2	MCS O&M and Emissions Cost	$ (74,719,907)	$ (8,753,928)	$ (9,007,792)	$ (9,269,018)	$ (9,537,820)	$ (9,814,416)	$ (10,099,035)	$ (10,391,907)	$ (10,693,272)	$ (11,003,377)	$ (11,322,475)	$ (11,650,826)	$ (11,988,700)	$ (12,336,373)
212	3	***Total Avoided Costs***	**$ (175,005,390)**	**$ (8,753,928)**	**$ (9,007,792)**	**$ (9,269,018)**	**$ (9,537,820)**	**$ (9,814,416)**	**$ (10,099,035)**	**$ (10,391,907)**	**$ (10,693,272)**	**$ (11,003,377)**	**$ (11,322,475)**	**$ (346,334,415)**	**$ (356,378,113)**	**$ (12,336,373)**
213																
214																
215	4	Annual O&M Cost	$ 14,508,148	$ 1,699,725	$ 1,749,017	$ 1,799,738	$ 1,851,931	$ 1,905,637	$ 1,960,900	$ 2,017,766	$ 2,076,282	$ 2,136,494	$ 2,198,452	$ 2,262,207	$ 2,327,811	$ 2,395,318
216	5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE
217	6	TIMP Cost	$ 2,253,804	$ -	$ -	$ -	$ 2,438,668	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,978,930	$ -	$ -
218	7	***Total O&M Costs***	**$ 16,761,952**	**$ 1,699,725**	**$ 1,749,017**	**$ 1,799,738**	**$ 4,290,598**	**$ 1,905,637**	**$ 1,960,900**	**$ 2,017,766**	**$ 2,076,282**	**$ 2,136,494**	**$ 2,198,452**	**$ 5,241,137**	**$ 2,327,811**	**$ 2,395,318**
219																
220	J3	***Cactus City to San Diego Alternative***														
221			PV	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041
222																
223	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ (334,683,589)	$ (344,389,413)	$ -
224	2	MCS O&M and Emissions Cost	$ (74,719,907)	$ (8,753,928)	$ (9,007,792)	$ (9,269,018)	$ (9,537,820)	$ (9,814,416)	$ (10,099,035)	$ (10,391,907)	$ (10,693,272)	$ (11,003,377)	$ (11,322,475)	$ (11,650,826)	$ (11,988,700)	$ (12,336,373)
225	3	***Total Avoided Costs***	**$ (175,005,390)**	**$ (8,753,928)**	**$ (9,007,792)**	**$ (9,269,018)**	**$ (9,537,820)**	**$ (9,814,416)**	**$ (10,099,035)**	**$ (10,391,907)**	**$ (10,693,272)**	**$ (11,003,377)**	**$ (11,322,475)**	**$ (346,334,415)**	**$ (356,378,113)**	**$ (12,336,373)**
226																
227																
228	4	Annual O&M Cost	$ 10,434,660	$ 1,222,489	$ 1,257,941	$ 1,294,421	$ 1,331,960	$ 1,370,586	$ 1,410,334	$ 1,451,233	$ 1,493,319	$ 1,536,625	$ 1,581,187	$ 1,627,042	$ 1,674,226	$ 1,722,779
229	5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE
230	6	TIMP Cost	$ 2,253,804	$ -	$ -	$ -	$ 2,438,668	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,978,930	$ -	$ -
231	7	***Total O&M Costs***	**$ 12,688,464**	**$ 1,222,489**	**$ 1,257,941**	**$ 1,294,421**	**$ 3,770,627**	**$ 1,370,586**	**$ 1,410,334**	**$ 1,451,233**	**$ 1,493,319**	**$ 1,536,625**	**$ 1,581,187**	**$ 4,605,971**	**$ 1,674,226**	**$ 1,722,779**
232																
233	K	***Second Pipeline Along Line 3010***														
234			PV	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041
235																
236	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ (334,683,589)	$ (344,389,413)	$ -
237	2	MCS O&M and Emissions Cost	$ (71,330,165)	$ (8,753,928)	$ (9,007,792)	$ (9,269,018)	$ (9,537,820)	$ (9,814,416)	$ (10,099,035)	$ (10,391,907)	$ (10,693,272)	$ (11,003,377)	$ (11,322,475)	$ (11,650,826)	$ (11,988,700)	$ (12,336,373)
238	3	***Total Avoided Costs***	**$ (171,615,648)**	**$ (8,753,928)**	**$ (9,007,792)**	**$ (9,269,018)**	**$ (9,537,820)**	**$ (9,814,416)**	**$ (10,099,035)**	**$ (10,391,907)**	**$ (10,693,272)**	**$ (11,003,377)**	**$ (11,322,475)**	**$ (346,334,415)**	**$ (356,378,113)**	**$ (12,336,373)**
239																
240																
241	4	Annual O&M Cost	$ 2,799,858	$ 343,610	$ 353,575	$ 363,828	$ 374,379	$ 385,236	$ 396,408	$ 407,904	$ 419,733	$ 431,906	$ 444,431	$ 457,319	$ 470,582	$ 484,228
242	5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE
243	6	TIMP Cost	$ 717,186	$ -	$ -	$ -	$ -	$ 836,463	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,021,773	$ -
244	7	***Total O&M Costs***	**$ 3,517,044**	**$ 343,610**	**$ 353,575**	**$ 363,828**	**$ 374,379**	**$ 1,221,699**	**$ 396,408**	**$ 407,904**	**$ 419,733**	**$ 431,906**	**$ 444,431**	**$ 457,319**	**$ 1,492,354**	**$ 484,228**

WORK PAPER TABLE - AVOIDED COST MODEL - COSTS OVER 100 YEARS (AC 1.2)

ANNUAL COSTS BY PROJECT ALTERNATE, FOR AVOIDED COSTS AND O&M COSTS

A.15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2(

Line No.			PV (X years after operational)	27	28	29	30	31	32	33	34	35	36	37	38	39
1			100													
2			PV	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054
208																
209																
210	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
211	2	MCS O&M and Emissions Cost	$ (74,719,907)	$ (12,694,127)	$ (13,062,257)	$ (13,441,063)	$ (13,830,853)	$ (14,231,948)	$ (14,644,675)	$ (15,069,370)	$ (15,506,382)	$ (15,956,067)	$ (16,418,793)	$ (16,894,938)	$ (17,384,891)	$ (17,889,053)
212	3	***Total Avoided Costs***	**$ (175,005,390)**	**$ (12,694,127)**	**$ (13,062,257)**	**$ (13,441,063)**	**$ (13,830,853)**	**$ (14,231,948)**	**$ (14,644,675)**	**$ (15,069,370)**	**$ (15,506,382)**	**$ (15,956,067)**	**$ (16,418,793)**	**$ (16,894,938)**	**$ (17,384,891)**	**$ (17,889,053)**
213																
214																
215	4	Annual O&M Cost	$ 14,508,148	$ 2,464,782	$ 2,536,261	$ 2,609,812	$ 2,685,497	$ 2,763,376	$ 2,843,514	$ 2,925,976	$ 3,010,829	$ 3,098,143	$ 3,187,989	$ 3,280,441	$ 3,375,574	$ 3,473,466
216	5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE
217	6	TIMP Cost	$ 2,253,804	$ -	$ -	$ -	$ -	$ 3,638,881	$ -	$ -	$ -	$ -	$ -	$ -	$ 4,445,038	$ -
218	7	***Total O&M Costs***	**$ 16,761,952**	**$ 2,464,782**	**$ 2,536,261**	**$ 2,609,812**	**$ 2,685,497**	**$ 6,402,257**	**$ 2,843,514**	**$ 2,925,976**	**$ 3,010,829**	**$ 3,098,143**	**$ 3,187,989**	**$ 3,280,441**	**$ 7,820,612**	**$ 3,473,466**
219																
220	J3	***Cactus City to San Diego Alternative***														
221			PV	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054
222																
223	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
224	2	MCS O&M and Emissions Cost	$ (74,719,907)	$ (12,694,127)	$ (13,062,257)	$ (13,441,063)	$ (13,830,853)	$ (14,231,948)	$ (14,644,675)	$ (15,069,370)	$ (15,506,382)	$ (15,956,067)	$ (16,418,793)	$ (16,894,938)	$ (17,384,891)	$ (17,889,053)
225	3	***Total Avoided Costs***	**$ (175,005,390)**	**$ (12,694,127)**	**$ (13,062,257)**	**$ (13,441,063)**	**$ (13,830,853)**	**$ (14,231,948)**	**$ (14,644,675)**	**$ (15,069,370)**	**$ (15,506,382)**	**$ (15,956,067)**	**$ (16,418,793)**	**$ (16,894,938)**	**$ (17,384,891)**	**$ (17,889,053)**
226																
227																
228	4	Annual O&M Cost	$ 10,434,660	$ 1,772,739	$ 1,824,149	$ 1,877,049	$ 1,931,483	$ 1,987,496	$ 2,045,134	$ 2,104,443	$ 2,165,471	$ 2,228,270	$ 2,292,890	$ 2,359,384	$ 2,427,806	$ 2,498,212
229	5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE
230	6	TIMP Cost	$ 2,253,804	$ -	$ -	$ -	$ -	$ 3,638,881	$ -	$ -	$ -	$ -	$ -	$ -	$ 4,445,038	$ -
231	7	***Total O&M Costs***	**$ 12,688,464**	**$ 1,772,739**	**$ 1,824,149**	**$ 1,877,049**	**$ 1,931,483**	**$ 5,626,377**	**$ 2,045,134**	**$ 2,104,443**	**$ 2,165,471**	**$ 2,228,270**	**$ 2,292,890**	**$ 2,359,384**	**$ 6,872,844**	**$ 2,498,212**
232																
233	K	***Second Pipeline Along Line 3010***														
234			PV	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054
235																
236	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
237	2	MCS O&M and Emissions Cost	$ (71,330,165)	$ (12,694,127)	$ (13,062,257)	$ (13,441,063)	$ (13,830,853)	$ (14,231,948)	$ (14,644,675)	$ (15,069,370)	$ (15,506,382)	$ (15,956,067)	$ (16,418,793)	$ (16,894,938)	$ (17,384,891)	$ (17,889,053)
238	3	***Total Avoided Costs***	**$ (171,615,648)**	**$ (12,694,127)**	**$ (13,062,257)**	**$ (13,441,063)**	**$ (13,830,853)**	**$ (14,231,948)**	**$ (14,644,675)**	**$ (15,069,370)**	**$ (15,506,382)**	**$ (15,956,067)**	**$ (16,418,793)**	**$ (16,894,938)**	**$ (17,384,891)**	**$ (17,889,053)**
239																
240																
241	4	Annual O&M Cost	$ 2,799,858	$ 498,271	$ 512,721	$ 527,590	$ 542,890	$ 558,634	$ 574,834	$ 591,504	$ 608,658	$ 626,309	$ 644,472	$ 663,162	$ 682,393	$ 702,183
242	5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE
243	6	TIMP Cost	$ 717,186	$ -	$ -	$ -	$ -	$ -	$ 1,248,136	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,524,648
244	7	***Total O&M Costs***	**$ 3,517,044**	**$ 498,271**	**$ 512,721**	**$ 527,590**	**$ 542,890**	**$ 558,634**	**$ 1,822,970**	**$ 591,504**	**$ 608,658**	**$ 626,309**	**$ 644,472**	**$ 663,162**	**$ 682,393**	**$ 2,226,831**

WORK PAPER TABLE - AVOIDED COST MODEL - COSTS OVER 100 YEARS (AC 1.2)

ANNUAL COSTS BY PROJECT ALTERNATE, FOR AVOIDED COSTS AND O&M COSTS

A.15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2(

Line No.			PV (X years after operational)	40	41	42	43	44	45	46	47	48	49	50	51	52
1			100													
2			PV	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067
208																
209																
210	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
211	2	MCS O&M and Emissions Cost	$ (74,719,907)	$ (18,407,836)	$ (18,941,663)	$ (19,490,971)	$ (20,056,209)	$ (20,637,839)	$ (21,236,337)	$ (21,852,190)	$ (22,485,904)	$ (23,137,995)	$ (23,808,997)	$ (24,499,458)	$ (25,209,942)	$ (25,941,030)
212	3	***Total Avoided Costs***	**$ (175,005,390)**	**$ (18,407,836)**	**$ (18,941,663)**	**$ (19,490,971)**	**$ (20,056,209)**	**$ (20,637,839)**	**$ (21,236,337)**	**$ (21,852,190)**	**$ (22,485,904)**	**$ (23,137,995)**	**$ (23,808,997)**	**$ (24,499,458)**	**$ (25,209,942)**	**$ (25,941,030)**
213																
214																
215	4	Annual O&M Cost	$ 14,508,148	$ 3,574,196	$ 3,677,848	$ 3,784,505	$ 3,894,256	$ 4,007,189	$ 4,123,398	$ 4,242,976	$ 4,366,023	$ 4,492,637	$ 4,622,924	$ 4,756,989	$ 4,894,941	$ 5,036,895
216	5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE
217	6	TIMP Cost	$ 2,253,804	$ -	$ -	$ -	$ -	$ -	$ 5,429,791	$ -	$ -	$ -	$ -	$ -	$ -	$ 6,632,706
218	7	***Total O&M Costs***	**$ 16,761,952**	**$ 3,574,196**	**$ 3,677,848**	**$ 3,784,505**	**$ 3,894,256**	**$ 4,007,189**	**$ 9,553,189**	**$ 4,242,976**	**$ 4,366,023**	**$ 4,492,637**	**$ 4,622,924**	**$ 4,756,989**	**$ 4,894,941**	**$ 11,669,601**
219																
220	J3	***Cactus City to San Diego Alternative***														
221			PV	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067
222																
223	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
224	2	MCS O&M and Emissions Cost	$ (74,719,907)	$ (18,407,836)	$ (18,941,663)	$ (19,490,971)	$ (20,056,209)	$ (20,637,839)	$ (21,236,337)	$ (21,852,190)	$ (22,485,904)	$ (23,137,995)	$ (23,808,997)	$ (24,499,458)	$ (25,209,942)	$ (25,941,030)
225	3	***Total Avoided Costs***	**$ (175,005,390)**	**$ (18,407,836)**	**$ (18,941,663)**	**$ (19,490,971)**	**$ (20,056,209)**	**$ (20,637,839)**	**$ (21,236,337)**	**$ (21,852,190)**	**$ (22,485,904)**	**$ (23,137,995)**	**$ (23,808,997)**	**$ (24,499,458)**	**$ (25,209,942)**	**$ (25,941,030)**
226																
227																
228	4	Annual O&M Cost	$ 10,434,660	$ 2,570,660	$ 2,645,209	$ 2,721,921	$ 2,800,856	$ 2,882,081	$ 2,965,661	$ 3,051,666	$ 3,140,164	$ 3,231,229	$ 3,324,934	$ 3,421,357	$ 3,520,577	$ 3,622,673
229	5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE
230	6	TIMP Cost	$ 2,253,804	$ -	$ -	$ -	$ -	$ -	$ 5,429,791	$ -	$ -	$ -	$ -	$ -	$ -	$ 6,632,706
231	7	***Total O&M Costs***	**$ 12,688,464**	**$ 2,570,660**	**$ 2,645,209**	**$ 2,721,921**	**$ 2,800,856**	**$ 2,882,081**	**$ 8,395,453**	**$ 3,051,666**	**$ 3,140,164**	**$ 3,231,229**	**$ 3,324,934**	**$ 3,421,357**	**$ 3,520,577**	**$ 10,255,379**
232																
233	K	***Second Pipeline Along Line 3010***														
234			PV	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067
235																
236	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
237	2	MCS O&M and Emissions Cost	$ (71,330,165)	$ (18,407,836)	$ (18,941,663)	$ (19,490,971)	$ (20,056,209)	$ (20,637,839)	$ (21,236,337)	$ (21,852,190)	$ (22,485,904)	$ (23,137,995)	$ (23,808,997)	$ (24,499,458)	$ (25,209,942)	$ (25,941,030)
238	3	***Total Avoided Costs***	**$ (171,615,648)**	**$ (18,407,836)**	**$ (18,941,663)**	**$ (19,490,971)**	**$ (20,056,209)**	**$ (20,637,839)**	**$ (21,236,337)**	**$ (21,852,190)**	**$ (22,485,904)**	**$ (23,137,995)**	**$ (23,808,997)**	**$ (24,499,458)**	**$ (25,209,942)**	**$ (25,941,030)**
239																
240																
241	4	Annual O&M Cost	$ 2,799,858	$ 722,546	$ 743,500	$ 765,061	$ 787,248	$ 810,078	$ 833,571	$ 857,744	$ 882,619	$ 908,215	$ 934,553	$ 961,655	$ 989,543	$ 1,018,240
242	5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
243	6	TIMP Cost	$ 717,186	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,862,418	$ -	$ -	$ -	$ -	$ -	$ -
244	7	***Total O&M Costs***	**$ 3,517,044**	**$ 722,546**	**$ 743,500**	**$ 765,061**	**$ 787,248**	**$ 810,078**	**$ 833,571**	**$ 2,720,163**	**$ 882,619**	**$ 908,215**	**$ 934,553**	**$ 961,655**	**$ 989,543**	**$ 1,018,240**

WORK PAPER TABLE - AVOIDED COST MODEL - COSTS OVER 100 YEARS (AC 1.2)

ANNUAL COSTS BY PROJECT ALTERNATE, FOR AVOIDED COSTS AND O&M COSTS

A.15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2(

Line No.			PV (X years after operational)	53	54	55	56	57	58	59	60	61	62	63	64	65
1			100													
2			PV	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080
208																
209																
210	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
211	2	MCS O&M and Emissions Cost	$ (74,719,907)	$ (26,693,320)	$ (27,467,427)	$ (28,263,982)	$ (29,083,638)	$ (29,927,063)	$ (30,794,948)	$ (31,688,001)	$ (32,606,953)	$ (33,552,555)	$ (34,525,579)	$ (35,526,821)	$ (36,557,099)	$ (37,617,255)
212	3	***Total Avoided Costs***	**$ (175,005,390)**	**$ (26,693,320)**	**$ (27,467,427)**	**$ (28,263,982)**	**$ (29,083,638)**	**$ (29,927,063)**	**$ (30,794,948)**	**$ (31,688,001)**	**$ (32,606,953)**	**$ (33,552,555)**	**$ (34,525,579)**	**$ (35,526,821)**	**$ (36,557,099)**	**$ (37,617,255)**
213																
214																
215	4	Annual O&M Cost	$ 14,508,148	$ 5,182,965	$ 5,333,271	$ 5,487,935	$ 5,647,086	$ 5,810,851	$ 5,979,366	$ 6,152,767	$ 6,331,198	$ 6,514,802	$ 6,703,732	$ 6,898,140	$ 7,098,186	$ 7,304,033
216	5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
217	6	TIMP Cost	$ 2,253,804	$ -	$ -	$ -	$ -	$ -	$ -	$ 8,102,114	$ -	$ -	$ -	$ -	$ -	$ -
218	7	***Total O&M Costs***	**$ 16,761,952**	**$ 5,182,965**	**$ 5,333,271**	**$ 5,487,935**	**$ 5,647,086**	**$ 5,810,851**	**$ 5,979,366**	**$ 14,254,882**	**$ 6,331,198**	**$ 6,514,802**	**$ 6,703,732**	**$ 6,898,140**	**$ 7,098,186**	**$ 7,304,033**
219																
220	J3	***Cactus City to San Diego Alternative***														
221			PV	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080
222																
223	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
224	2	MCS O&M and Emissions Cost	$ (74,719,907)	$ (26,693,320)	$ (27,467,427)	$ (28,263,982)	$ (29,083,638)	$ (29,927,063)	$ (30,794,948)	$ (31,688,001)	$ (32,606,953)	$ (33,552,555)	$ (34,525,579)	$ (35,526,821)	$ (36,557,099)	$ (37,617,255)
225	3	***Total Avoided Costs***	**$ (175,005,390)**	**$ (26,693,320)**	**$ (27,467,427)**	**$ (28,263,982)**	**$ (29,083,638)**	**$ (29,927,063)**	**$ (30,794,948)**	**$ (31,688,001)**	**$ (32,606,953)**	**$ (33,552,555)**	**$ (34,525,579)**	**$ (35,526,821)**	**$ (36,557,099)**	**$ (37,617,255)**
226																
227																
228	4	Annual O&M Cost	$ 10,434,660	$ 3,727,731	$ 3,835,835	$ 3,947,074	$ 4,061,540	$ 4,179,324	$ 4,300,525	$ 4,425,240	$ 4,553,572	$ 4,685,625	$ 4,821,509	$ 4,961,332	$ 5,105,211	$ 5,253,262
229	5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
230	6	TIMP Cost	$ 2,253,804	$ -	$ -	$ -	$ -	$ -	$ -	$ 8,102,114	$ -	$ -	$ -	$ -	$ -	$ -
231	7	***Total O&M Costs***	**$ 12,688,464**	**$ 3,727,731**	**$ 3,835,835**	**$ 3,947,074**	**$ 4,061,540**	**$ 4,179,324**	**$ 4,300,525**	**$ 12,527,354**	**$ 4,553,572**	**$ 4,685,625**	**$ 4,821,509**	**$ 4,961,332**	**$ 5,105,211**	**$ 5,253,262**
232																
233	K	***Second Pipeline Along Line 3010***														
234			PV	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080
235																
236	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
237	2	MCS O&M and Emissions Cost	$ (71,330,165)	$ (26,693,320)	$ (27,467,427)	$ (28,263,982)	$ (29,083,638)	$ (29,927,063)	$ (30,794,948)	$ (31,688,001)	$ (32,606,953)	$ (33,552,555)	$ (34,525,579)	$ (35,526,821)	$ (36,557,099)	$ (37,617,255)
238	3	***Total Avoided Costs***	**$ (171,615,648)**	**$ (26,693,320)**	**$ (27,467,427)**	**$ (28,263,982)**	**$ (29,083,638)**	**$ (29,927,063)**	**$ (30,794,948)**	**$ (31,688,001)**	**$ (32,606,953)**	**$ (33,552,555)**	**$ (34,525,579)**	**$ (35,526,821)**	**$ (36,557,099)**	**$ (37,617,255)**
239																
240																
241	4	Annual O&M Cost	$ 2,799,858	$ 1,047,769	$ 1,078,154	$ 1,109,420	$ 1,141,594	$ 1,174,700	$ 1,208,766	$ 1,243,820	$ 1,279,891	$ 1,317,008	$ 1,355,201	$ 1,394,502	$ 1,434,943	$ 1,476,556
242	5	Pigging to Occur	N/A	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE
243	6	TIMP Cost	$ 717,186	$ 2,275,018	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,779,025	$ -	$ -	$ -	$ -	$ -
244	7	***Total O&M Costs***	**$ 3,517,044**	**$ 3,322,787**	**$ 1,078,154**	**$ 1,109,420**	**$ 1,141,594**	**$ 1,174,700**	**$ 1,208,766**	**$ 1,243,820**	**$ 4,058,916**	**$ 1,317,008**	**$ 1,355,201**	**$ 1,394,502**	**$ 1,434,943**	**$ 1,476,556**

WORK PAPER TABLE - AVOIDED COST MODEL - COSTS OVER 100 YEARS (AC 1.2)

ANNUAL COSTS BY PROJECT ALTERNATE, FOR AVOIDED COSTS AND O&M COSTS

A.15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2(

Line No.			PV (X years after operational)	66	67	68	69	70	71	72	73	74	75	76	77	78
1			100													
2			PV	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093
208																
209																
210	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
211	2	MCS O&M and Emissions Cost	$ (74,719,907)	$ (38,708,155)	$ (39,830,691)	$ (40,985,781)	$ (42,174,369)	$ (43,397,426)	$ (44,655,951)	$ (45,950,974)	$ (47,283,552)	$ (48,654,775)	$ (50,065,764)	$ (51,517,671)	$ (53,011,683)	$ (54,549,022)
212	3	***Total Avoided Costs***	**$ (175,005,390)**	**$ (38,708,155)**	**$ (39,830,691)**	**$ (40,985,781)**	**$ (42,174,369)**	**$ (43,397,426)**	**$ (44,655,951)**	**$ (45,950,974)**	**$ (47,283,552)**	**$ (48,654,775)**	**$ (50,065,764)**	**$ (51,517,671)**	**$ (53,011,683)**	**$ (54,549,022)**
213																
214																
215	4	Annual O&M Cost	$ 14,508,148	$ 7,515,850	$ 7,733,810	$ 7,958,090	$ 8,188,875	$ 8,426,352	$ 8,670,716	$ 8,922,167	$ 9,180,910	$ 9,447,156	$ 9,721,124	$ 10,003,037	$ 10,293,125	$ 10,591,625
216	5	Pigging to Occur	N/A	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE
217	6	TIMP Cost	$ 2,253,804	$ 9,897,055	$ -	$ -	$ -	$ -	$ -	$ -	$ 12,089,647	$ -	$ -	$ -	$ -	$ -
218	7	***Total O&M Costs***	**$ 16,761,952**	**$ 17,412,905**	**$ 7,733,810**	**$ 7,958,090**	**$ 8,188,875**	**$ 8,426,352**	**$ 8,670,716**	**$ 8,922,167**	**$ 21,270,557**	**$ 9,447,156**	**$ 9,721,124**	**$ 10,003,037**	**$ 10,293,125**	**$ 10,591,625**
219																
220	J3	***Cactus City to San Diego Alternative***														
221			PV	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093
222																
223	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
224	2	MCS O&M and Emissions Cost	$ (74,719,907)	$ (38,708,155)	$ (39,830,691)	$ (40,985,781)	$ (42,174,369)	$ (43,397,426)	$ (44,655,951)	$ (45,950,974)	$ (47,283,552)	$ (48,654,775)	$ (50,065,764)	$ (51,517,671)	$ (53,011,683)	$ (54,549,022)
225	3	***Total Avoided Costs***	**$ (175,005,390)**	**$ (38,708,155)**	**$ (39,830,691)**	**$ (40,985,781)**	**$ (42,174,369)**	**$ (43,397,426)**	**$ (44,655,951)**	**$ (45,950,974)**	**$ (47,283,552)**	**$ (48,654,775)**	**$ (50,065,764)**	**$ (51,517,671)**	**$ (53,011,683)**	**$ (54,549,022)**
226																
227																
228	4	Annual O&M Cost	$ 10,434,660	$ 5,405,607	$ 5,562,369	$ 5,723,678	$ 5,889,665	$ 6,060,465	$ 6,236,218	$ 6,417,069	$ 6,603,164	$ 6,794,655	$ 6,991,700	$ 7,194,460	$ 7,403,099	$ 7,617,789
229	5	Pigging to Occur	N/A	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE
230	6	TIMP Cost	$ 2,253,804	$ 9,897,055	$ -	$ -	$ -	$ -	$ -	$ -	$ 12,089,647	$ -	$ -	$ -	$ -	$ -
231	7	***Total O&M Costs***	**$ 12,688,464**	**$ 15,302,662**	**$ 5,562,369**	**$ 5,723,678**	**$ 5,889,665**	**$ 6,060,465**	**$ 6,236,218**	**$ 6,417,069**	**$ 18,692,811**	**$ 6,794,655**	**$ 6,991,700**	**$ 7,194,460**	**$ 7,403,099**	**$ 7,617,789**
232																
233	K	***Second Pipeline Along Line 3010***														
234			PV	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093
235																
236	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
237	2	MCS O&M and Emissions Cost	$ (71,330,165)	$ (38,708,155)	$ (39,830,691)	$ (40,985,781)	$ (42,174,369)	$ (43,397,426)	$ (44,655,951)	$ (45,950,974)	$ (47,283,552)	$ (48,654,775)	$ (50,065,764)	$ (51,517,671)	$ (53,011,683)	$ (54,549,022)
238	3	***Total Avoided Costs***	**$ (171,615,648)**	**$ (38,708,155)**	**$ (39,830,691)**	**$ (40,985,781)**	**$ (42,174,369)**	**$ (43,397,426)**	**$ (44,655,951)**	**$ (45,950,974)**	**$ (47,283,552)**	**$ (48,654,775)**	**$ (50,065,764)**	**$ (51,517,671)**	**$ (53,011,683)**	**$ (54,549,022)**
239																
240																
241	4	Annual O&M Cost	$ 2,799,858	$ 1,519,376	$ 1,563,438	$ 1,608,778	$ 1,655,432	$ 1,703,440	$ 1,752,840	$ 1,803,672	$ 1,855,978	$ 1,909,802	$ 1,965,186	$ 2,022,176	$ 2,080,820	$ 2,141,163
242	5	Pigging to Occur	N/A	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
243	6	TIMP Cost	$ 717,186	$ -	$ 3,394,690	$ -	$ -	$ -	$ -	$ -	$ -	$ 4,146,749	$ -	$ -	$ -	$ -
244	7	***Total O&M Costs***	**$ 3,517,044**	**$ 1,519,376**	**$ 4,958,128**	**$ 1,608,778**	**$ 1,655,432**	**$ 1,703,440**	**$ 1,752,840**	**$ 1,803,672**	**$ 1,855,978**	**$ 6,056,551**	**$ 1,965,186**	**$ 2,022,176**	**$ 2,080,820**	**$ 2,141,163**

WORK PAPER TABLE - AVOIDED COST MODEL - COSTS OVER 100 YEARS (AC 1.2)

ANNUAL COSTS BY PROJECT ALTERNATE, FOR AVOIDED COSTS AND O&M COSTS

A.15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2(

Line No.			PV (X years after operational)	79	80	81	82	83	84	85	86	87	88	89	90	91
1																
2			100													
208			PV	2094	2095	2096	2097	2098	2099	2100	2101	2102	2103	2104	2105	2106
209																
210	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
211	2	MCS O&M and Emissions Cost	$ (74,719,907)	$ (56,130,944)	$ (57,758,741)	$ (59,433,744)	$ (61,157,323)	$ (62,930,885)	$ (64,755,881)	$ (66,633,802)	$ (68,566,182)	$ (70,554,601)	$ (72,600,685)	$ (74,706,104)	$ (76,872,581)	$ (79,101,886)
212	3	***Total Avoided Costs***	**$ (175,005,390)**	**$ (56,130,944)**	**$ (57,758,741)**	**$ (59,433,744)**	**$ (61,157,323)**	**$ (62,930,885)**	**$ (64,755,881)**	**$ (66,633,802)**	**$ (68,566,182)**	**$ (70,554,601)**	**$ (72,600,685)**	**$ (74,706,104)**	**$ (76,872,581)**	**$ (79,101,886)**
213																
214																
215	4	Annual O&M Cost	$ 14,508,148	$ 10,898,782	$ 11,214,847	$ 11,540,078	$ 11,874,740	$ 12,219,107	$ 12,573,462	$ 12,938,092	$ 13,313,297	$ 13,699,382	$ 14,096,664	$ 14,505,468	$ 14,926,126	$ 15,358,984
216	5	Pigging to Occur	N/A	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
217	6	TIMP Cost	$ 2,253,804	$ -	$ 14,767,985	$ -	$ -	$ -	$ -	$ -	$ -	$ 18,039,681	$ -	$ -	$ -	$ -
218	7	***Total O&M Costs***	**$ 16,761,952**	**$ 10,898,782**	**$ 25,982,832**	**$ 11,540,078**	**$ 11,874,740**	**$ 12,219,107**	**$ 12,573,462**	**$ 12,938,092**	**$ 13,313,297**	**$ 31,739,064**	**$ 14,096,664**	**$ 14,505,468**	**$ 14,926,126**	**$ 15,358,984**
219																
220	J3	***Cactus City to San Diego Alternative***														
221			PV	2094	2095	2096	2097	2098	2099	2100	2101	2102	2103	2104	2105	2106
222																
223	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
224	2	MCS O&M and Emissions Cost	$ (74,719,907)	$ (56,130,944)	$ (57,758,741)	$ (59,433,744)	$ (61,157,323)	$ (62,930,885)	$ (64,755,881)	$ (66,633,802)	$ (68,566,182)	$ (70,554,601)	$ (72,600,685)	$ (74,706,104)	$ (76,872,581)	$ (79,101,886)
225	3	***Total Avoided Costs***	**$ (175,005,390)**	**$ (56,130,944)**	**$ (57,758,741)**	**$ (59,433,744)**	**$ (61,157,323)**	**$ (62,930,885)**	**$ (64,755,881)**	**$ (66,633,802)**	**$ (68,566,182)**	**$ (70,554,601)**	**$ (72,600,685)**	**$ (74,706,104)**	**$ (76,872,581)**	**$ (79,101,886)**
226																
227																
228	4	Annual O&M Cost	$ 10,434,660	$ 7,838,705	$ 8,066,027	$ 8,299,942	$ 8,540,640	$ 8,788,319	$ 9,043,180	$ 9,305,432	$ 9,575,290	$ 9,852,973	$ 10,138,710	$ 10,432,732	$ 10,735,281	$ 11,046,605
229	5	Pigging to Occur	N/A	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE
230	6	TIMP Cost	$ 2,253,804	$ -	$ 14,767,985	$ -	$ -	$ -	$ -	$ -	$ -	$ 18,039,681	$ -	$ -	$ -	$ -
231	7	***Total O&M Costs***	**$ 12,688,464**	**$ 7,838,705**	**$ 22,834,012**	**$ 8,299,942**	**$ 8,540,640**	**$ 8,788,319**	**$ 9,043,180**	**$ 9,305,432**	**$ 9,575,290**	**$ 27,892,655**	**$ 10,138,710**	**$ 10,432,732**	**$ 10,735,281**	**$ 11,046,605**
232																
233	K	***Second Pipeline Along Line 3010***														
234			PV	2094	2095	2096	2097	2098	2099	2100	2101	2102	2103	2104	2105	2106
235																
236	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
237	2	MCS O&M and Emissions Cost	$ (71,330,165)	$ (56,130,944)	$ (57,758,741)	$ (59,433,744)	$ (61,157,323)	$ (62,930,885)	$ (64,755,881)	$ (66,633,802)	$ (68,566,182)	$ (70,554,601)	$ (72,600,685)	$ (74,706,104)	$ (76,872,581)	$ (79,101,886)
238	3	***Total Avoided Costs***	**$ (171,615,648)**	**$ (56,130,944)**	**$ (57,758,741)**	**$ (59,433,744)**	**$ (61,157,323)**	**$ (62,930,885)**	**$ (64,755,881)**	**$ (66,633,802)**	**$ (68,566,182)**	**$ (70,554,601)**	**$ (72,600,685)**	**$ (74,706,104)**	**$ (76,872,581)**	**$ (79,101,886)**
239																
240																
241	4	Annual O&M Cost	$ 2,799,858	$ 2,203,257	$ 2,267,152	$ 2,332,899	$ 2,400,553	$ 2,470,169	$ 2,541,804	$ 2,615,516	$ 2,691,366	$ 2,769,416	$ 2,849,729	$ 2,932,371	$ 3,017,410	$ 3,104,915
242	5	Pigging to Occur	N/A	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
243	6	TIMP Cost	$ 717,186	$ -	$ -	$ 5,065,419	$ -	$ -	$ -	$ -	$ -	$ -	$ 6,187,611	$ -	$ -	$ -
244	7	***Total O&M Costs***	**$ 3,517,044**	**$ 2,203,257**	**$ 2,267,152**	**$ 7,398,318**	**$ 2,400,553**	**$ 2,470,169**	**$ 2,541,804**	**$ 2,615,516**	**$ 2,691,366**	**$ 2,769,416**	**$ 9,037,340**	**$ 2,932,371**	**$ 3,017,410**	**$ 3,104,915**

WORK PAPER TABLE - AVOIDED COST MODEL - COSTS OVER 100 YEARS (AC 1.2)

ANNUAL COSTS BY PROJECT ALTERNATE, FOR AVOIDED COSTS AND O&M COSTS

A.15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2(

Line No.			PV (X years after operational)	92	93	94	95	96	97	98	99	100	101	102	103	104
1			100													
2			PV	2107	2108	2109	2110	2111	2112	2113	2114	2115	2116	2117	2118	2119
208																
209																
210	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
211	2	MCS O&M and Emissions Cost	$ (74,719,907)	$ (81,395,841)	$ (83,756,320)	$ (86,185,254)	$ (88,684,626)	$ (91,256,480)	$ (93,902,918)	$ (96,626,103)	$ (99,428,260)	$ (102,311,679)	$ (105,278,718)	$ (108,331,801)	$ (111,473,423)	$ (114,706,152)
212	3	***Total Avoided Costs***	**$ (175,005,390)**	**$ (81,395,841)**	**$ (83,756,320)**	**$ (86,185,254)**	**$ (88,684,626)**	**$ (91,256,480)**	**$ (93,902,918)**	**$ (96,626,103)**	**$ (99,428,260)**	**$ (102,311,679)**	**$ (105,278,718)**	**$ (108,331,801)**	**$ (111,473,423)**	**$ (114,706,152)**
213																
214																
215	4	Annual O&M Cost	$ 14,508,148	$ 15,804,394	$ 16,262,722	$ 16,734,341	$ 17,219,636	$ 17,719,006	$ 18,232,857	$ 18,761,610	$ 19,305,697	$ 19,865,562	$ 20,441,663	$ 21,034,471	$ 21,644,471	$ 22,272,161
216	5	Pigging to Occur	N/A	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
217	6	TIMP Cost	$ 2,253,804	$ -	$ -	$ 22,036,189	$ -	$ -	$ -	$ -	$ -	$ -	$ 26,918,082	$ -	$ -	$ -
218	7	***Total O&M Costs***	**$ 16,761,952**	**$ 15,804,394**	**$ 16,262,722**	**$ 38,770,530**	**$ 17,219,636**	**$ 17,719,006**	**$ 18,232,857**	**$ 18,761,610**	**$ 19,305,697**	**$ 19,865,562**	**$ 47,359,745**	**$ 21,034,471**	**$ 21,644,471**	**$ 22,272,161**
219																
220	J3	***Cactus City to San Diego Alternative***														
221			PV	2107	2108	2109	2110	2111	2112	2113	2114	2115	2116	2117	2118	2119
222																
223	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
224	2	MCS O&M and Emissions Cost	$ (74,719,907)	$ (81,395,841)	$ (83,756,320)	$ (86,185,254)	$ (88,684,626)	$ (91,256,480)	$ (93,902,918)	$ (96,626,103)	$ (99,428,260)	$ (102,311,679)	$ (105,278,718)	$ (108,331,801)	$ (111,473,423)	$ (114,706,152)
225	3	***Total Avoided Costs***	**$ (175,005,390)**	**$ (81,395,841)**	**$ (83,756,320)**	**$ (86,185,254)**	**$ (88,684,626)**	**$ (91,256,480)**	**$ (93,902,918)**	**$ (96,626,103)**	**$ (99,428,260)**	**$ (102,311,679)**	**$ (105,278,718)**	**$ (108,331,801)**	**$ (111,473,423)**	**$ (114,706,152)**
226																
227																
228	4	Annual O&M Cost	$ 10,434,660	$ 11,366,956	$ 11,696,598	$ 12,035,799	$ 12,384,837	$ 12,743,998	$ 13,113,573	$ 13,493,867	$ 13,885,189	$ 14,287,860	$ 14,702,208	$ 15,128,572	$ 15,567,300	$ 16,018,752
229	5	Pigging to Occur	N/A	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE
230	6	TIMP Cost	$ 2,253,804	$ -	$ -	$ 22,036,189	$ -	$ -	$ -	$ -	$ -	$ -	$ 26,918,082	$ -	$ -	$ -
231	7	***Total O&M Costs***	**$ 12,688,464**	**$ 11,366,956**	**$ 11,696,598**	**$ 34,071,988**	**$ 12,384,837**	**$ 12,743,998**	**$ 13,113,573**	**$ 13,493,867**	**$ 13,885,189**	**$ 14,287,860**	**$ 41,620,290**	**$ 15,128,572**	**$ 15,567,300**	**$ 16,018,752**
232																
233	K	***Second Pipeline Along Line 3010***														
234			PV	2107	2108	2109	2110	2111	2112	2113	2114	2115	2116	2117	2118	2119
235																
236	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
237	2	MCS O&M and Emissions Cost	$ (71,330,165)	$ (81,395,841)	$ (83,756,320)	$ (86,185,254)	$ (88,684,626)	$ (91,256,480)	$ (93,902,918)	$ (96,626,103)	$ (99,428,260)	$ (102,311,679)	$ (105,278,718)	$ (108,331,801)	$ (111,473,423)	$ (114,706,152)
238	3	***Total Avoided Costs***	**$ (171,615,648)**	**$ (81,395,841)**	**$ (83,756,320)**	**$ (86,185,254)**	**$ (88,684,626)**	**$ (91,256,480)**	**$ (93,902,918)**	**$ (96,626,103)**	**$ (99,428,260)**	**$ (102,311,679)**	**$ (105,278,718)**	**$ (108,331,801)**	**$ (111,473,423)**	**$ (114,706,152)**
239																
240																
241	4	Annual O&M Cost	$ 2,799,858	$ 3,194,957	$ 3,287,611	$ 3,382,952	$ 3,481,057	$ 3,582,008	$ 3,685,886	$ 3,792,777	$ 3,902,767	$ 4,015,948	$ 4,132,410	$ 4,252,250	$ 4,375,565	$ 4,502,457
242	5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE
243	6	TIMP Cost	$ 717,186	$ -	$ -	$ -	$ 7,558,413	$ -	$ -	$ -	$ -	$ -	$ -	$ 9,232,902	$ -	$ -
244	7	***Total O&M Costs***	**$ 3,517,044**	**$ 3,194,957**	**$ 3,287,611**	**$ 3,382,952**	**$ 11,039,470**	**$ 3,582,008**	**$ 3,685,886**	**$ 3,792,777**	**$ 3,902,767**	**$ 4,015,948**	**$ 4,132,410**	**$ 13,485,152**	**$ 4,375,565**	**$ 4,502,457**

WORK PAPER TABLE - AVOIDED COST MODEL - COSTS OVER 100 YEARS (AC 1.2)

ANNUAL COSTS BY PROJECT ALTERNATE, FOR AVOIDED COSTS AND O&M COSTS

A.15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2(

Line No.			PV (X years after operational)	105	106	107	108	109	110	111	112	113	114	115	116
1															
2			100												
208			PV	2120	2121	2122	2123	2124	2125	2126	2127	2128	2129	2130	2131
209															
210	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
211	2	MCS O&M and Emissions Cost	$ (74,719,907)	$ (118,032,631)	$ (121,455,577)	$ (124,977,789)	$ (128,602,145)	$ (132,331,607)	$ (136,169,223)	$ (140,118,131)	$ (144,181,557)	$ (148,362,822)	$ (152,665,344)	$ (157,092,638)	$ (161,648,325)
212	3	***Total Avoided Costs***	**$ (175,005,390)**	**$ (118,032,631)**	**$ (121,455,577)**	**$ (124,977,789)**	**$ (128,602,145)**	**$ (132,331,607)**	**$ (136,169,223)**	**$ (140,118,131)**	**$ (144,181,557)**	**$ (148,362,822)**	**$ (152,665,344)**	**$ (157,092,638)**	**$ (161,648,325)**
213															
214															
215	4	Annual O&M Cost	$ 14,508,148	$ 22,918,053	$ 23,582,677	$ 24,266,575	$ 24,970,305	$ 25,694,444	$ 26,439,583	$ 27,206,331	$ 27,995,314	$ 28,807,179	$ 29,642,587	$ 30,502,222	$ 31,386,786
216	5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
217	6	TIMP Cost	$ 2,253,804	$ -	$ -	$ -	$ 32,881,509	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
218	7	***Total O&M Costs***	**$ 16,761,952**	**$ 22,918,053**	**$ 23,582,677**	**$ 24,266,575**	**$ 57,851,814**	**$ 25,694,444**	**$ 26,439,583**	**$ 27,206,331**	**$ 27,995,314**	**$ 28,807,179**	**$ 29,642,587**	**$ 30,502,222**	**$ 31,386,786**
219															
220	J3	***Cactus City to San Diego Alternative***													
221			PV	2120	2121	2122	2123	2124	2125	2126	2127	2128	2129	2130	2131
222															
223	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
224	2	MCS O&M and Emissions Cost	$ (74,719,907)	$ (118,032,631)	$ (121,455,577)	$ (124,977,789)	$ (128,602,145)	$ (132,331,607)	$ (136,169,223)	$ (140,118,131)	$ (144,181,557)	$ (148,362,822)	$ (152,665,344)	$ (157,092,638)	$ (161,648,325)
225	3	***Total Avoided Costs***	**$ (175,005,390)**	**$ (118,032,631)**	**$ (121,455,577)**	**$ (124,977,789)**	**$ (128,602,145)**	**$ (132,331,607)**	**$ (136,169,223)**	**$ (140,118,131)**	**$ (144,181,557)**	**$ (148,362,822)**	**$ (152,665,344)**	**$ (157,092,638)**	**$ (161,648,325)**
226															
227															
228	4	Annual O&M Cost	$ 10,434,660	$ 16,483,296	$ 16,961,311	$ 17,453,189	$ 17,959,332	$ 18,480,153	$ 19,016,077	$ 19,567,543	$ 20,135,002	$ 20,718,917	$ 21,319,766	$ 21,938,039	$ 22,574,242
229	5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
230	6	TIMP Cost	$ 2,253,804	$ -	$ -	$ -	$ 32,881,509	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
231	7	***Total O&M Costs***	**$ 12,688,464**	**$ 16,483,296**	**$ 16,961,311**	**$ 17,453,189**	**$ 50,840,840**	**$ 18,480,153**	**$ 19,016,077**	**$ 19,567,543**	**$ 20,135,002**	**$ 20,718,917**	**$ 21,319,766**	**$ 21,938,039**	**$ 22,574,242**
232															
233	K	***Second Pipeline Along Line 3010***													
234			PV	2120	2121	2122	2123	2124	2125	2126	2127	2128	2129	2130	2131
235															
236	1	Future L1600 Replacement Cost	$ (100,285,483)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
237	2	MCS O&M and Emissions Cost	$ (71,330,165)	$ (118,032,631)	$ (121,455,577)	$ (124,977,789)	$ (128,602,145)	$ (132,331,607)	$ (136,169,223)	$ (140,118,131)	$ (144,181,557)	$ (148,362,822)	$ (152,665,344)	$ (157,092,638)	$ (161,648,325)
238	3	***Total Avoided Costs***	**$ (171,615,648)**	**$ (118,032,631)**	**$ (121,455,577)**	**$ (124,977,789)**	**$ (128,602,145)**	**$ (132,331,607)**	**$ (136,169,223)**	**$ (140,118,131)**	**$ (144,181,557)**	**$ (148,362,822)**	**$ (152,665,344)**	**$ (157,092,638)**	**$ (161,648,325)**
239															
240															
241	4	Annual O&M Cost	$ 2,799,858	$ 4,633,028	$ 4,767,386	$ 4,905,640	$ 5,047,903	$ 5,194,293	$ 5,344,927	$ 5,499,930	$ 5,659,428	$ 5,823,551	$ 5,992,434	$ 6,166,215	$ 6,345,035
242	5	Pigging to Occur	N/A	FALSE	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
243	6	TIMP Cost	$ 717,186	$ -	$ -	$ -	$ -	$ 11,278,357	$ -	$ -	$ -	$ -	$ -	$ -	$ -
244	7	***Total O&M Costs***	**$ 3,517,044**	**$ 4,633,028**	**$ 4,767,386**	**$ 4,905,640**	**$ 5,047,903**	**$ 16,472,650**	**$ 5,344,927**	**$ 5,499,930**	**$ 5,659,428**	**$ 5,823,551**	**$ 5,992,434**	**$ 6,166,215**	**$ 6,345,035**

WORK PAPER TABLE - AVOIDED COST MODEL OUTPUTS (AC 1.3)

TOTAL O&M COSTS, TOTAL AVOIDED COSTS, AND NET COSTS BY PROJECT ALTERNATE **OVER 100 YRS**

APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.																		
1									*A*	*B*	*C*	*D*	*E = (B+C+D)*	*F*	*G*	*H = (F+G)*	*I = (A+E+H)*
2				Total O&M			Avoided Cost				Total O&M ($M)				Avoided Cost ($M)			
3																		
4	Alt No.	Project Name	Fixed Cost	Gas Import	O&M	TIMP	L1600 Replacement	MCS O&M and Emissions	Net Cost	Fixed Cost ($M)[1]	Gas Import	O&M	TIMP	Total O&M Cost ($M)	L1600 Replacement	MCS O&M and Emissions	Total Avoided Cost ($M)	Net Cost ($M)
5	A	Proposed Project (Line 3602	$441.9 M	$.0 M	$3.7 M	$.9 M	-$100.3 M	-$90.0 M	$256.2 M	$441.9	$0.0	$3.7	$0.9	$4.6	($100.3)	($90.0)	($190.3)	$256.2
6	B	Hydrotest Alternative (Line 1600	$112.9 M	$.0 M	$4.2 M	$1.6 M	$.0 M	$.0 M	$118.7 M	$112.9	$0.0	$4.2	$1.6	$5.8	$0.0	$0.0	$0.0	$118.7
7	C1	Alt Diameter Pipeline 10	$297.6 M	$100.8 M	$3.7 M	$.9 M	-$100.3 M	$.0 M	$302.7 M	$297.6	$100.8	$3.7	$0.9	$105.3	($100.3)	$0.0	($100.3)	$302.7
8	C2	Alt Diameter Pipeline 12	$320.1 M	$67.2 M	$3.7 M	$.9 M	-$100.3 M	$.0 M	$291.6 M	$320.1	$67.2	$3.7	$0.9	$71.8	($100.3)	$0.0	($100.3)	$291.6
9	C3	Alt Diameter Pipeline 16	$337.1 M	$.0 M	$3.7 M	$.9 M	-$100.3 M	$.0 M	$241.4 M	$337.1	$0.0	$3.7	$0.9	$4.6	($100.3)	$0.0	($100.3)	$241.4
10	C4	Alt Diameter Pipeline 20	$352.9 M	$.0 M	$3.7 M	$.9 M	-$100.3 M	-$18.0 M	$239.2 M	$352.9	$0.0	$3.7	$0.9	$4.6	($100.3)	($18.0)	($118.3)	$239.2
11	C5	Alt Diameter Pipeline 24	$361.2 M	$.0 M	$3.7 M	$.9 M	-$100.3 M	-$36.0 M	$229.6 M	$361.2	$0.0	$3.7	$0.9	$4.6	($100.3)	($36.0)	($136.3)	$229.6
12	C6	Alt Diameter Pipeline 30	$392.2 M	$.0 M	$3.7 M	$.9 M	-$100.3 M	-$63.0 M	$233.5 M	$392.2	$0.0	$3.7	$0.9	$4.6	($100.3)	($63.0)	($163.3)	$233.5
13	C7	Alt Diameter Pipeline 42	$527.5 M	$.0 M	$3.7 M	$.9 M	-$100.3 M	-$90.0 M	$341.9 M	$527.5	$0.0	$3.7	$0.9	$4.6	($100.3)	($90.0)	($190.3)	$341.9
14	D	Replace Line 1600 In-Place	$556.1 M	$.0 M	$3.6 M	$.7 M	-$100.3 M	$.0 M	$460.1 M	$556.1	$0.0	$3.6	$0.7	$4.4	($100.3)	$0.0	($100.3)	$460.1
15	E/F	Otay Mesa Alternative	$977.1 M	$.0 M	$.0 M	$.0 M	-$100.3 M	$.0 M	$876.8 M	$977.1	$0.0	$0.0	$0.0	$0.0	($100.3)	$0.0	($100.3)	$876.8
16	G	LNG Storage (Peak-Shaver) Alternativ	$2669.7 M	$.0 M	$15.3 M	$.0 M	-$100.3 M	$.0 M	$2584.7 M	$2,669.7	$0.0	$15.3	$0.0	$15.3	($100.3)	$0.0	($100.3)	$2,584.7
17	H1	Alternate Energy Alternative: Grid-Scale Batterie	$8415.1 M	$.0 M	$15.3 M	$.0 M	-$100.3 M	$.0 M	$8330.1 M	$8,415.1	$0.0	$15.3	$0.0	$15.3	($100.3)	$0.0	($100.3)	$8,330.1
18	H2	Alternate Energy Alternative: Small-Scale Batterie	$10095.1 M	$.0 M	$15.3 M	$.0 M	-$100.3 M	$.0 M	$10010.1 M	$10,095.1	$0.0	$15.3	$0.0	$15.3	($100.3)	$0.0	($100.3)	$10,010.1
19	I	Offshore Route Alternative	$1449.9 M	$.0 M	$4.5 M	$.6 M	-$100.3 M	-$59.2 M	$1295.5 M	$1,449.9	$0.0	$4.5	$0.6	$5.1	($100.3)	($59.2)	($159.5)	$1,295.5
20	J1	Blythe to Santee Alternative 1	$1377.5 M	$.0 M	$14.5 M	$2.3 M	-$100.3 M	-$74.7 M	$1219.3 M	$1,377.5	$0.0	$14.5	$2.3	$16.7	($100.3)	($74.7)	($175.0)	$1,219.3
21	J2	Blythe to Santee Alternative 2	$1315.5 M	$.0 M	$14.5 M	$2.3 M	-$100.3 M	-$74.7 M	$1157.3 M	$1,315.5	$0.0	$14.5	$2.3	$16.8	($100.3)	($74.7)	($175.0)	$1,157.3
22	J3	Cactus City to San Diego Alternativ	$1143.4 M	$.0 M	$10.4 M	$2.3 M	-$100.3 M	-$74.7 M	$981.1 M	$1,143.4	$0.0	$10.4	$2.3	$12.7	($100.3)	($74.7)	($175.0)	$981.1
23	K	Second Pipeline Along Line 3010 Alternativ	$595.2 M	$.0 M	$2.8 M	$.7 M	-$100.3 M	-$71.3 M	$427.1 M	$595.2	$0.0	$2.8	$0.7	$3.5	($100.3)	($71.3)	($171.6)	$427.1
24																		
25	**Footnotes**																	
26	1. See Prepared Direct Testimony of Neil Navin (March 21, 2016), page 31, workpaper Estimated Fixed and Operating Costs for Proposed Project and Alterna																	

A.15-09-013 Cost-Effectiveness Analysis Workpaper - Scenario Analysis corrected February 2017

WORK PAPER TABLE - SCENARIO ANALYSIS GAS DEMAND AND SUPPLY (SA 1.1

EXAMPLE DAY OF GAS DEMAND AND SUPPLY FOR CUSTOMER CLASSES DURING SEASONAL VARIATIONS FOR ANALYSIS OF CURTAILMENT AND CUSTOMERS AFFECTED FOR EACH PROJECT ALTERNATE

APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.			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
1								
2	A	B	C	D	E	F	G	H
3								
4	***Model Inputs***							
5								
6	***Natural Gas Demand (MMcfd)***							
7		Core Demand	100	100	310	350	170	180
8		Electric Generation (EG) Demand	100	300	165	165	220	270
9		Non-Core, Non-EG Demand	75	75	62	62	75	75
10		**Total Demand**	**275**	**475**	**537**	**577**	**465**	**525**
11								
12	***Natural Gas Supply Combinations (MMcfd)***							
13		***Project Alternatives Capacity (MMcfd)***						
14		Line 1600 (Pre/Post Hydrotesting)	150	150	150	150	150	150
15		Line 1600 (During Hydrotesting)	0	0	0	0	0	0
16		Line 3602 (Proposed Project)	680	680	680	680	680	680
17		Alternate Diameter Pipeline 10"	50	50	50	50	50	50
18		Alternate Diameter Pipeline 12"	70	70	70	70	70	70
19		Alternate Diameter Pipeline 16"	160	160	160	160	160	160
20		Alternate Diameter Pipeline 20"	250	250	250	250	250	250
21		Alternate Diameter Pipeline 24"	400	400	400	400	400	400
22		Alternate Diameter Pipeline 30"	600	600	600	600	600	600
23		Alternate Diameter Pipeline 42"	710	710	710	710	710	710
24		L1600 In-Kind Replacement	160	160	160	160	160	160
25		Otay Mesa Alternate	0	0	0	0	0	0
26		LNG Storage Alternate	0	0	0	0	0	0
27		Alt Energy Alternate (Grid-Scale)	0	0	0	0	0	0
28		Alt Energy Alternate (Smaller-Scale)	0	0	0	0	0	0
29		Offshore Route	680	680	680	680	680	680
30		Blythe to Santee Alternate 1	680	680	680	680	680	680
31		Blythe to Santee Alternate 2	680	680	680	680	680	680
32		Cactus City to San Diego Alternate	680	680	680	680	680	680
33		Second Pipeline Along L3010 Alternate	680	680	680	680	680	680
34		***Line 3010 Parameters (MMcfd)***						
35		Line 3010 Complete Outage	0	0	0	0	0	0
36		Line 3010 at 80% Supply	380	380	380	380	380	380
37		***Otay Mesa Supply Variables (MMcfd)***						
38		Otay Mesa Full Supply	295	86	313	313	329	324
39		Otay Mesa Medium Supply	156	60	230	230	244	247
40		Otay Mesa Low Supply	33	33	148	148	130	168
41		Otay Mesa No Supply	0	0	0	0	0	0
42								

Notes:

1. Conversion rate from MMcfd NG to MWh Electric (consistent with LNG Storage Facility Alternative Cost Analysis prepared by SDG&E/SoCalGas):
Using approx. 7,600 btu/kWh and 1,025,000 btu per 1,000 cubic feet of natural gas, 1 MW = 7,415 cf of natural gas per hour
Heat rate of approx. 7,600 btu/kWh is based on data obtained from the U.S. Energy Information Administration website (https://www.eia.gov/tools/faqs/faq.cfm?id=667&t=6).

MMcfd	1		CF	7,415	1,000,000
MMBTU	1025		BTU	7,600,375	1,025,000,000
MWh	135		MWh	1.00	134.87

2. Count of Total SDG&E Gas Core Customers (source: SDG&E Gas Engineering Department)

Count (#)	868,838

3. NG demand provided by customer class, and pipeline capacities provided for operation during outage on L3010 (source: SoCalGas / SDG&E Gas Transmission Planning Department)

4. Otay Mesa supply provided over various seasonal conditions (source: SoCalGas / SDG&E Gas Transmission Planning Department)

5. Curtailment sequences are based on *SDG&E's Rule 14,* as defined in the Prepare Direct Testimony of Ms. Gwen Marelli (March 21, 2016), page 2
First to be curtailed: Non-Core, Non-EG (Referenced as Customer Class Non-Core in SDG&E Rule 14, 2007)
Second to be curtailed: Electric Generation (EG) (Referenced as Customer Class P2-A in SDG&E Rule 14, 2007)
Last to be curtailed: Core Customers (Referenced as Customer Class P1 in SDG&E Rule 14, 2007)

6. Line 25
The Otay Mesa Alternate strives to achieve a firm supply of 400 MMcfd, but for the purposes of this analysis, the supply is assumed to be variable as is consistent with the Prepared Direct Testimony of Ms. Gwen Marelli (March 21, 2016)

7. Line 26
LNG Storage Alternate supply is zero (0) as it will provide gas supply to electric generation sites only and not into the gas network

8. Line 27
Alt Energy Alternate (Grid-Scale) supply is zero (0) as will not provide additional supply to the gas network

9. Line 28
Alt Energy Alternate (Small-Scale) supply is zero (0) as will not provide additional supply to the gas network

10. Line 38 - Column D
Otay Mesa Full Supply determined as Summer minimum OAC on Gasoducto Rosarito + 1 Standard Deviation of data set

11. Line 40 - Column D
Otay Mesa Low Supply determined as Summer minimum OAC on Gasoducto Rosarito

WORK PAPER TABLE - SCENARIO ANALYSIS GAS DEMAND AND SUPPLY (SA 1.1

EXAMPLE DAY OF GAS DEMAND AND SUPPLY FOR CUSTOMER CLASSES DURING SEASONAL VARIATIONS FOR ANALYSIS OF CURTAILMENT AND CUSTOMERS AFFECTED FOR EACH PROJECT ALTERNATE

APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.			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
1								
2	A	B	C	D	E	F	G	H
73								
74	***Dynamic Model Outputs (For Use in Working Model Only)***							
75								
76	***Select Parameters Below***							
77	Line 1600 (Pre/Post Hydrotesting)		150	150	150	150	150	150
78	Line 3010 Complete Outage		0	0	0	0	0	0
79	Otay Mesa Full Supply		295	86	313	313	329	324
80	**Total Supply**		**445**	**236**	**463**	**463**	**479**	**474**
81	**Total MMcfd Shortfall**		**0**	**239**	**74**	**114**	**0**	**51**
82	**Immediate Curtailment to EG Stations?**		**No**	**Yes**	**Yes**	**Yes**	**No**	**No**
83	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
84		Gas EG [%]	**0%**	**55%**	**7%**	**32%**	**0%**	**0%**
85		Gas Non-Core Non-EG [%]	**0%**	**100%**	**100%**	**100%**	**0%**	**68%**
86	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
87		Gas EG [MWh/d]	**0**	**22,091**	**1,647**	**7,042**	**0**	**0**
88		Gas EG [MW]	**0**	**920**	**69**	**293**	**0**	**0**
89		Gas Non-Core Non-EG [MMcfd]	**0**	**75**	**62**	**62**	**0**	**51**
90	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
91		Gas EG [# Affected]	**0**	**N/A**	**N/A**	**N/A**	**0**	**0**
92		Gas Non-Core Non-EG [# Affected]	**0**	**N/A**	**N/A**	**N/A**	**0**	**N/A**

WORK PAPER TABLE - SCENARIO ANALYSIS GAS DEMAND AND SUPPLY (SA 1.1
EXAMPLE DAY OF GAS DEMAND AND SUPPLY FOR CUSTOMER CLASSES DURING SEASONAL VARIATIONS FOR ANALYSIS OF CURTAILMENT AND CUSTOMERS AFFECTED FOR EACH PROJECT ALTERNATE
APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.			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
1								
2	A	B	C	D	E	F	G	H
93								
94	***Line 1600 (Pre/Post Hydrotesting)***							
95								
96	***L1600 / Otay Full / L3010 80%***		*1.1.1.1*	*1.1.1.2*	*1.1.1.3*	*1.1.1.4*	*1.1.1.5*	*1.1.1.6*
97	Line 1600 (Pre/Post Hydrotesting)		150	150	150	150	150	150
98	Line 3010 at 80% Supply		380	380	380	380	380	380
99	Otay Mesa Full Supply		295	86	313	313	329	324
100	**Total Supply**		**825**	**616**	**843**	**843**	**859**	**854**
101	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
102	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
103	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
104		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
105		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
106	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
107		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
108		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
109		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
110	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
111		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
112		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
113								
114	***L1600 / Otay Full / L3010 Out***		*1.2.1.1*	*1.2.1.2*	*1.2.1.3*	*1.2.1.4*	*1.2.1.5*	*1.2.1.6*
115	Line 1600 (Pre/Post Hydrotesting)		150	150	150	150	150	150
116	Line 3010 Complete Outage		0	0	0	0	0	0
117	Otay Mesa Full Supply		295	86	313	313	329	324
118	**Total Supply**		**445**	**236**	**463**	**463**	**479**	**474**
119	**Total MMcfd Shortfall**		**0**	**239**	**74**	**114**	**0**	**51**
120	**Immediate Curtailment to EG Stations?**		**No**	**Yes**	**Yes**	**Yes**	**No**	**No**
121	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
122		Gas EG [%]	**0%**	**55%**	**7%**	**32%**	**0%**	**0%**
123		Gas Non-Core Non-EG [%]	**0%**	**100%**	**100%**	**100%**	**0%**	**68%**
124	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
125		Gas EG [MWh/d]	**0**	**22,091**	**1,647**	**7,042**	**0**	**0**
126		Gas EG [MW]	**0**	**920**	**69**	**293**	**0**	**0**
127		Gas Non-Core Non-EG [MMcfd]	**0**	**75**	**62**	**62**	**0**	**51**
128	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
129		Gas EG [# Affected]	**0**	**N/A**	**N/A**	**N/A**	**0**	**0**
130		Gas Non-Core Non-EG [# Affected]	**0**	**N/A**	**N/A**	**N/A**	**0**	**N/A**
131								
132	***L1600 / Otay Medium / L3010 80%***		*1.1.2.1*	*1.1.2.2*	*1.1.2.3*	*1.1.2.4*	*1.1.2.5*	*1.1.2.6*
133	Line 1600 (Pre/Post Hydrotesting)		150	150	150	150	150	150
134	Line 3010 at 80% Supply		380	380	380	380	380	380
135	Otay Mesa Medium Supply		156	60	230	230	244	247
136	**Total Supply**		**686**	**590**	**760**	**760**	**774**	**777**
137	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
138	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
139	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
140		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
141		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
142	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
143		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
144		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
145		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
146	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
147		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
148		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
149								
150	***L1600 / Otay Medium / L3010 Out***		*1.2.2.1*	*1.2.2.2*	*1.2.2.3*	*1.2.2.4*	*1.2.2.5*	*1.2.2.6*
151	Line 1600 (Pre/Post Hydrotesting)		150	150	150	150	150	150
152	Line 3010 Complete Outage		0	0	0	0	0	0
153	Otay Mesa Medium Supply		156	60	230	230	244	247
154	**Total Supply**		**306**	**210**	**380**	**380**	**394**	**397**
155	**Total MMcfd Shortfall**		**0**	**265**	**157**	**197**	**71**	**128**
156	**Immediate Curtailment to EG Stations?**		**No**	**Yes**	**Yes**	**Yes**	**No**	**Yes**
157	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
158		Gas EG [%]	**0%**	**63%**	**58%**	**82%**	**0%**	**20%**
159		Gas Non-Core Non-EG [%]	**0%**	**100%**	**100%**	**100%**	**94%**	**100%**
160	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
161		Gas EG [MWh/d]	**0**	**25,658**	**12,824**	**18,219**	**0**	**7,125**
162		Gas EG [MW]	**0**	**1,069**	**534**	**759**	**0**	**297**
163		Gas Non-Core Non-EG [MMcfd]	**0**	**75**	**62**	**62**	**71**	**75**
164	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
165		Gas EG [# Affected]	**0**	**N/A**	**N/A**	**N/A**	**0**	**N/A**
166		Gas Non-Core Non-EG [# Affected]	**0**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**

WORK PAPER TABLE - SCENARIO ANALYSIS GAS DEMAND AND SUPPLY (SA 1.1

EXAMPLE DAY OF GAS DEMAND AND SUPPLY FOR CUSTOMER CLASSES DURING SEASONAL VARIATIONS FOR ANALYSIS OF CURTAILMENT AND CUSTOMERS AFFECTED FOR EACH PROJECT ALTERNATE

APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.			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
1								
2	A	B	C	D	E	F	G	H
167								
168	***L1600 / Otay Low / L3010 80%***		***1.1.3.1***	***1.1.3.2***	***1.1.3.3***	***1.1.3.4***	***1.1.3.5***	***1.1.3.6***
169	Line 1600 (Pre/Post Hydrotesting)		150	150	150	150	150	150
170	Line 3010 at 80% Supply		380	380	380	380	380	380
171	Otay Mesa Low Supply		33	33	148	148	130	168
172	**Total Supply**		**563**	**563**	**678**	**678**	**660**	**698**
173	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
174	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
175	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
176		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
177		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
178	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
179		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
180		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
181		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
182	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
183		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
184		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
185								
186	***L1600 / Otay Low / L3010 Out***		***1.2.3.1***	***1.2.3.2***	***1.2.3.3***	***1.2.3.4***	***1.2.3.5***	***1.2.3.6***
187	Line 1600 (Pre/Post Hydrotesting)		150	150	150	150	150	150
188	Line 3010 Complete Outage		0	0	0	0	0	0
189	Otay Mesa Low Supply		33	33	148	148	130	168
190	**Total Supply**		**183**	**183**	**298**	**298**	**280**	**318**
191	**Total MMcfd Shortfall**		**92**	**292**	**239**	**279**	**185**	**207**
192	**Immediate Curtailment to EG Stations?**		**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
193	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**4%**	**15%**	**0%**	**0%**
194		Gas EG [%]	**17%**	**72%**	**100%**	**100%**	**50%**	**49%**
195		Gas Non-Core Non-EG [%]	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
196	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**12**	**52**	**0**	**0**
197		Gas EG [MWh/d]	**2,251**	**29,225**	**22,253**	**22,253**	**14,822**	**17,864**
198		Gas EG [MW]	**94**	**1,218**	**927**	**927**	**618**	**744**
199		Gas Non-Core Non-EG [MMcfd]	**75**	**75**	**62**	**62**	**75**	**75**
200	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**33,352**	**128,836**	**0**	**0**
201		Gas EG [# Affected]	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
202		Gas Non-Core Non-EG [# Affected]	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
203								
204	***L1600 / Otay Out / L3010 80%***		***1.1.4.1***	***1.1.4.2***	***1.1.4.3***	***1.1.4.4***	***1.1.4.5***	***1.1.4.6***
205	Line 1600 (Pre/Post Hydrotesting)		150	150	150	150	150	150
206	Line 3010 at 80% Supply		380	380	380	380	380	380
207	Otay Mesa No Supply		0	0	0	0	0	0
208	**Total Supply**		**530**	**530**	**530**	**530**	**530**	**530**
209	**Total MMcfd Shortfall**		**0**	**0**	**7**	**47**	**0**	**0**
210	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
211	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
212		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
213		Gas Non-Core Non-EG [%]	**0%**	**0%**	**11%**	**76%**	**0%**	**0%**
214	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
215		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
216		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
217		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**7**	**47**	**0**	**0**
218	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
219		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
220		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**N/A**	**N/A**	**0**	**0**
221								
222	***L1600 / Otay Out / L3010 Out***		***1.2.4.1***	***1.2.4.2***	***1.2.4.3***	***1.2.4.4***	***1.2.4.5***	***1.2.4.6***
223	Line 1600 (Pre/Post Hydrotesting)		150	150	150	150	150	150
224	Line 3010 Complete Outage		0	0	0	0	0	0
225	Otay Mesa No Supply		0	0	0	0	0	0
226	**Total Supply**		**150**	**150**	**150**	**150**	**150**	**150**
227	**Total MMcfd Shortfall**		**125**	**325**	**387**	**427**	**315**	**375**
228	**Immediate Curtailment to EG Stations?**		**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
229	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**52%**	**57%**	**12%**	**17%**
230		Gas EG [%]	**50%**	**83%**	**100%**	**100%**	**100%**	**100%**
231		Gas Non-Core Non-EG [%]	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
232	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**160**	**200**	**20**	**30**
233		Gas EG [MWh/d]	**6,743**	**33,717**	**22,253**	**22,253**	**29,671**	**36,414**
234		Gas EG [MW]	**281**	**1,405**	**927**	**927**	**1,236**	**1,517**
235		Gas Non-Core Non-EG [MMcfd]	**75**	**75**	**62**	**62**	**75**	**75**
236	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**448,433**	**496,479**	**102,216**	**144,806**
237		Gas EG [# Affected]	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
238		Gas Non-Core Non-EG [# Affected]	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**

WORK PAPER TABLE - SCENARIO ANALYSIS GAS DEMAND AND SUPPLY (SA 1.1
EXAMPLE DAY OF GAS DEMAND AND SUPPLY FOR CUSTOMER CLASSES DURING SEASONAL VARIATIONS FOR ANALYSIS OF CURTAILMENT AND CUSTOMERS AFFECTED FOR EACH PROJECT ALTERNATE
APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.			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
1								
2	A	B	C	D	E	F	G	H
239								
240	***Line 3602 (Proposed Project)***							
241								
242	***L3602 / Otay Full / L3010 80%***		***2.1.1.1***	***2.1.1.2***	***2.1.1.3***	***2.1.1.4***	***2.1.1.5***	***2.1.1.6***
243	Line 3602 (Proposed Project)		680	680	680	680	680	680
244	Line 3010 at 80% Supply		380	380	380	380	380	380
245	Otay Mesa Full Supply		295	86	313	313	329	324
246	**Total Supply**		**1355**	**1146**	**1373**	**1373**	**1389**	**1384**
247	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
248	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
249	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
250		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
251		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
252	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
253		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
254		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
255		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
256	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
257		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
258		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
259								
260	***L3602 / Otay Full / L3010 Out***		***2.2.1.1***	***2.2.1.2***	***2.2.1.3***	***2.2.1.4***	***2.2.1.5***	***2.2.1.6***
261	Line 3602 (Proposed Project)		680	680	680	680	680	680
262	Line 3010 Complete Outage		0	0	0	0	0	0
263	Otay Mesa Full Supply		295	86	313	313	329	324
264	**Total Supply**		**975**	**766**	**993**	**993**	**1009**	**1004**
265	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
266	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
267	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
268		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
269		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
270	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
271		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
272		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
273		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
274	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
275		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
276		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
277								
278	***L3602 / Otay Medium / L3010 80%***		***2.1.2.1***	***2.1.2.2***	***2.1.2.3***	***2.1.2.4***	***2.1.2.5***	***2.1.2.6***
279	Line 3602 (Proposed Project)		680	680	680	680	680	680
280	Line 3010 at 80% Supply		380	380	380	380	380	380
281	Otay Mesa Medium Supply		156	60	230	230	244	247
282	**Total Supply**		**1216**	**1120**	**1290**	**1290**	**1304**	**1307**
283	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
284	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
285	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
286		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
287		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
288	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
289		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
290		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
291		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
292	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
293		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
294		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
295								
296	***L3602 / Otay Medium / L3010 Out***		***2.2.2.1***	***2.2.2.2***	***2.2.2.3***	***2.2.2.4***	***2.2.2.5***	***2.2.2.6***
297	Line 3602 (Proposed Project)		680	680	680	680	680	680
298	Line 3010 Complete Outage		0	0	0	0	0	0
299	Otay Mesa Medium Supply		156	60	230	230	244	247
300	**Total Supply**		**836**	**740**	**910**	**910**	**924**	**927**
301	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
302	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
303	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
304		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
305		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
306	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
307		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
308		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
309		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
310	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
311		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
312		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**

WORK PAPER TABLE - SCENARIO ANALYSIS GAS DEMAND AND SUPPLY (SA 1.1

EXAMPLE DAY OF GAS DEMAND AND SUPPLY FOR CUSTOMER CLASSES DURING SEASONAL VARIATIONS FOR ANALYSIS OF CURTAILMENT AND CUSTOMERS AFFECTED FOR EACH PROJECT ALTERNATE

APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.			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
1								
2	A	B	C	D	E	F	G	H
313								
314	*L3602 / Otay Low / L3010 80%*		*2.1.3.1*	*2.1.3.2*	*2.1.3.3*	*2.1.3.4*	*2.1.3.5*	*2.1.3.6*
315	Line 3602 (Proposed Project)		680	680	680	680	680	680
316	Line 3010 at 80% Supply		380	380	380	380	380	380
317	Otay Mesa Low Supply		33	33	148	148	130	168
318	**Total Supply**		**1093**	**1093**	**1208**	**1208**	**1190**	**1228**
319	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
320	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
321	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
322		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
323		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
324	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
325		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
326		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
327		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
328	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
329		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
330		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
331								
332	*L3602 / Otay Low / L3010 Out*		*2.2.3.1*	*2.2.3.2*	*2.2.3.3*	*2.2.3.4*	*2.2.3.5*	*2.2.3.6*
333	Line 3602 (Proposed Project)		680	680	680	680	680	680
334	Line 3010 Complete Outage		0	0	0	0	0	0
335	Otay Mesa Low Supply		33	33	148	148	130	168
336	**Total Supply**		**713**	**713**	**828**	**828**	**810**	**848**
337	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
338	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
339	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
340		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
341		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
342	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
343		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
344		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
345		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
346	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
347		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
348		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
349								
350	*L3602 / Otay Out / L3010 80%*		*2.1.4.1*	*2.1.4.2*	*2.1.4.3*	*2.1.4.4*	*2.1.4.5*	*2.1.4.6*
351	Line 3602 (Proposed Project)		680	680	680	680	680	680
352	Line 3010 at 80% Supply		380	380	380	380	380	380
353	Otay Mesa No Supply		0	0	0	0	0	0
354	**Total Supply**		**1060**	**1060**	**1060**	**1060**	**1060**	**1060**
355	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
356	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
357	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
358		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
359		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
360	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
361		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
362		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
363		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
364	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
365		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
366		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
367								
368	*L3602 / Otay Out / L3010 Out*		*2.2.4.1*	*2.2.4.2*	*2.2.4.3*	*2.2.4.4*	*2.2.4.5*	*2.2.4.6*
369	Line 3602 (Proposed Project)		680	680	680	680	680	680
370	Line 3010 Complete Outage		0	0	0	0	0	0
371	Otay Mesa No Supply		0	0	0	0	0	0
372	**Total Supply**		**680**	**680**	**680**	**680**	**680**	**680**
373	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
374	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
375	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
376		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
377		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
378	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
379		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
380		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
381		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
382	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
383		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
384		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**

WORK PAPER TABLE - SCENARIO ANALYSIS GAS DEMAND AND SUPPLY (SA 1.1
EXAMPLE DAY OF GAS DEMAND AND SUPPLY FOR CUSTOMER CLASSES DURING SEASONAL VARIATIONS FOR ANALYSIS OF CURTAILMENT AND CUSTOMERS AFFECTED FOR EACH PROJECT ALTERNATE
APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.			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
1								
2	A	B	C	D	E	F	G	H
385								
386	***Line 1600 (During Hydrotesting)***							
387								
388	***Hydrotesting / Otay Full / L3010 80%***		*3.1.1.1*	*3.1.1.2*	*3.1.1.3*	*3.1.1.4*	*3.1.1.5*	*3.1.1.6*
389	Line 1600 (During Hydrotesting)		0	0	0	0	0	0
390	Line 3010 at 80% Supply		380	380	380	380	380	380
391	Otay Mesa Full Supply		295	86	313	313	329	324
392	**Total Supply**		**675**	**466**	**693**	**693**	**709**	**704**
393	**Total MMcfd Shortfall**		**0**	**9**	**0**	**0**	**0**	**0**
394	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
395	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
396		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
397		Gas Non-Core Non-EG [%]	**0%**	**12%**	**0%**	**0%**	**0%**	**0%**
398	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
399		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
400		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
401		Gas Non-Core Non-EG [MMcfd]	**0**	**9**	**0**	**0**	**0**	**0**
402	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
403		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
404		Gas Non-Core Non-EG [# Affected]	**0**	**N/A**	**0**	**0**	**0**	**0**
405								
406	***Hydrotesting / Otay Full / L3010 Out***		*3.2.1.1*	*3.2.1.2*	*3.2.1.3*	*3.2.1.4*	*3.2.1.5*	*3.2.1.6*
407	Line 1600 (During Hydrotesting)		0	0	0	0	0	0
408	Line 3010 Complete Outage		0	0	0	0	0	0
409	Otay Mesa Full Supply		295	86	313	313	329	324
410	**Total Supply**		**295**	**86**	**313**	**313**	**329**	**324**
411	**Total MMcfd Shortfall**		**0**	**389**	**224**	**264**	**136**	**201**
412	**Immediate Curtailment to EG Stations?**		**No**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
413	**Curtailment (%)**	Gas Core [%]	**0%**	**14%**	**0%**	**11%**	**0%**	**0%**
414		Gas EG [%]	**0%**	**100%**	**98%**	**100%**	**28%**	**47%**
415		Gas Non-Core Non-EG [%]	**0%**	**100%**	**100%**	**100%**	**100%**	**100%**
416	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**14**	**0**	**37**	**0**	**0**
417		Gas EG [MWh/d]	**0**	**40,461**	**21,877**	**22,253**	**8,240**	**17,039**
418		Gas EG [MW]	**0**	**1,686**	**912**	**927**	**343**	**710**
419		Gas Non-Core Non-EG [MMcfd]	**0**	**75**	**62**	**62**	**75**	**75**
420	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**119,839**	**0**	**92,375**	**0**	**0**
421		Gas EG [# Affected]	**0**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
422		Gas Non-Core Non-EG [# Affected]	**0**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
423								
424	***Hydrotesting / Otay Medium / L3010 80%***		*3.1.2.1*	*3.1.2.2*	*3.1.2.3*	*3.1.2.4*	*3.1.2.5*	*3.1.2.6*
425	Line 1600 (During Hydrotesting)		0	0	0	0	0	0
426	Line 3010 at 80% Supply		380	380	380	380	380	380
427	Otay Mesa Medium Supply		156	60	230	230	244	247
428	**Total Supply**		**536**	**440**	**610**	**610**	**624**	**627**
429	**Total MMcfd Shortfall**		**0**	**35**	**0**	**0**	**0**	**0**
430	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
431	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
432		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
433		Gas Non-Core Non-EG [%]	**0%**	**47%**	**0%**	**0%**	**0%**	**0%**
434	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
435		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
436		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
437		Gas Non-Core Non-EG [MMcfd]	**0**	**35**	**0**	**0**	**0**	**0**
438	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
439		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
440		Gas Non-Core Non-EG [# Affected]	**0**	**N/A**	**0**	**0**	**0**	**0**
441								
442	***Hydrotesting / Otay Medium / L3010 Out***		*3.2.2.1*	*3.2.2.2*	*3.2.2.3*	*3.2.2.4*	*3.2.2.5*	*3.2.2.6*
443	Line 1600 (During Hydrotesting)		0	0	0	0	0	0
444	Line 3010 Complete Outage		0	0	0	0	0	0
445	Otay Mesa Medium Supply		156	60	230	230	244	247
446	**Total Supply**		**156**	**60**	**230**	**230**	**244**	**247**
447	**Total MMcfd Shortfall**		**119**	**415**	**307**	**347**	**221**	**278**
448	**Immediate Curtailment to EG Stations?**		**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
449	**Curtailment (%)**	Gas Core [%]	**0%**	**40%**	**26%**	**34%**	**0%**	**0%**
450		Gas EG [%]	**44%**	**100%**	**100%**	**100%**	**66%**	**75%**
451		Gas Non-Core Non-EG [%]	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
452	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**40**	**80**	**120**	**0**	**0**
453		Gas EG [MWh/d]	**5,978**	**40,461**	**22,253**	**22,253**	**19,672**	**27,355**
454		Gas EG [MW]	**249**	**1,686**	**927**	**927**	**820**	**1,140**
455		Gas Non-Core Non-EG [MMcfd]	**75**	**75**	**62**	**62**	**75**	**75**
456	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**349,638**	**224,454**	**298,098**	**0**	**0**
457		Gas EG [# Affected]	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
458		Gas Non-Core Non-EG [# Affected]	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**

WORK PAPER TABLE - SCENARIO ANALYSIS GAS DEMAND AND SUPPLY (SA 1.1
EXAMPLE DAY OF GAS DEMAND AND SUPPLY FOR CUSTOMER CLASSES DURING SEASONAL VARIATIONS FOR ANALYSIS OF CURTAILMENT AND CUSTOMERS AFFECTED FOR EACH PROJECT ALTERNATE
APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.			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
1								
2	A	B	C	D	E	F	G	H
459								
460	***Hydrotesting / Otay Low / L3010 80%***		***3.1.3.1***	***3.1.3.2***	***3.1.3.3***	***3.1.3.4***	***3.1.3.5***	***3.1.3.6***
461	Line 1600 (During Hydrotesting)		0	0	0	0	0	0
462	Line 3010 at 80% Supply		380	380	380	380	380	380
463	Otay Mesa Low Supply		33	33	148	148	130	168
464	**Total Supply**		**413**	**413**	**528**	**528**	**510**	**548**
465	**Total MMcfd Shortfall**		**0**	**62**	**9**	**49**	**0**	**0**
466	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
467	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
468		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
469		Gas Non-Core Non-EG [%]	**0%**	**82%**	**14%**	**79%**	**0%**	**0%**
470	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
471		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
472		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
473		Gas Non-Core Non-EG [MMcfd]	**0**	**62**	**9**	**49**	**0**	**0**
474	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
475		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
476		Gas Non-Core Non-EG [# Affected]	**0**	**N/A**	**N/A**	**N/A**	**0**	**0**
477								
478	***Hydrotesting / Otay Low / L3010 Out***		***3.2.3.1***	***3.2.3.2***	***3.2.3.3***	***3.2.3.4***	***3.2.3.5***	***3.2.3.6***
479	Line 1600 (During Hydrotesting)		0	0	0	0	0	0
480	Line 3010 Complete Outage		0	0	0	0	0	0
481	Otay Mesa Low Supply		33	33	148	148	130	168
482	**Total Supply**		**33**	**33**	**148**	**148**	**130**	**168**
483	**Total MMcfd Shortfall**		**242**	**442**	**389**	**429**	**335**	**357**
484	**Immediate Curtailment to EG Stations?**		**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
485	**Curtailment (%)**	Gas Core [%]	**67%**	**67%**	**52%**	**58%**	**23%**	**7%**
486		Gas EG [%]	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
487		Gas Non-Core Non-EG [%]	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
488	**Curtailment (Capacity)**	Gas Core [MMcfd]	**67**	**67**	**162**	**202**	**40**	**12**
489		Gas EG [MWh/d]	**13,487**	**40,461**	**22,253**	**22,253**	**29,671**	**36,414**
490		Gas EG [MW]	**562**	**1,686**	**927**	**927**	**1,236**	**1,517**
491		Gas Non-Core Non-EG [MMcfd]	**75**	**75**	**62**	**62**	**75**	**75**
492	**Number of Customers Affected**	Gas Core [# Affected]	**579,437**	**579,437**	**453,758**	**501,195**	**203,921**	**60,119**
493		Gas EG [# Affected]	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
494		Gas Non-Core Non-EG [# Affected]	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
495								
496	***Hydrotesting / Otay Out / L3010 80%***		***3.1.4.1***	***3.1.4.2***	***3.1.4.3***	***3.1.4.4***	***3.1.4.5***	***3.1.4.6***
497	Line 1600 (During Hydrotesting)		0	0	0	0	0	0
498	Line 3010 at 80% Supply		380	380	380	380	380	380
499	Otay Mesa No Supply		0	0	0	0	0	0
500	**Total Supply**		**380**	**380**	**380**	**380**	**380**	**380**
501	**Total MMcfd Shortfall**		**0**	**95**	**157**	**197**	**85**	**145**
502	**Immediate Curtailment to EG Stations?**		**No**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
503	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
504		Gas EG [%]	**0%**	**7%**	**58%**	**82%**	**5%**	**26%**
505		Gas Non-Core Non-EG [%]	**0%**	**100%**	**100%**	**100%**	**100%**	**100%**
506	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
507		Gas EG [MWh/d]	**0**	**2,697**	**12,813**	**18,207**	**1,349**	**9,441**
508		Gas EG [MW]	**0**	**112**	**534**	**759**	**56**	**393**
509		Gas Non-Core Non-EG [MMcfd]	**0**	**75**	**62**	**62**	**75**	**75**
510	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
511		Gas EG [# Affected]	**0**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
512		Gas Non-Core Non-EG [# Affected]	**0**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
513								
514	***Hydrotesting / Otay Out / L3010 Out***		***3.2.4.1***	***3.2.4.2***	***3.2.4.3***	***3.2.4.4***	***3.2.4.5***	***3.2.4.6***
515	Line 1600 (During Hydrotesting)		0	0	0	0	0	0
516	Line 3010 Complete Outage		0	0	0	0	0	0
517	Otay Mesa No Supply		0	0	0	0	0	0
518	**Total Supply**		**0**	**0**	**0**	**0**	**0**	**0**
519	**Total MMcfd Shortfall**		**275**	**475**	**537**	**577**	**465**	**525**
520	**Immediate Curtailment to EG Stations?**		**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
521	**Curtailment (%)**	Gas Core [%]	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
522		Gas EG [%]	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
523		Gas Non-Core Non-EG [%]	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
524	**Curtailment (Capacity)**	Gas Core [MMcfd]	**100**	**100**	**310**	**350**	**170**	**180**
525		Gas EG [MWh/d]	**13,487**	**40,461**	**22,253**	**22,253**	**29,671**	**36,414**
526		Gas EG [MW]	**562**	**1,686**	**927**	**927**	**1,236**	**1,517**
527		Gas Non-Core Non-EG [MMcfd]	**75**	**75**	**62**	**62**	**75**	**75**
528	**Number of Customers Affected**	Gas Core [# Affected]	**868,838**	**868,838**	**868,838**	**868,838**	**868,838**	**868,838**
529		Gas EG [# Affected]	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
530		Gas Non-Core Non-EG [# Affected]	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**

WORK PAPER TABLE - SCENARIO ANALYSIS GAS DEMAND AND SUPPLY (SA 1.1
EXAMPLE DAY OF GAS DEMAND AND SUPPLY FOR CUSTOMER CLASSES DURING SEASONAL VARIATIONS FOR ANALYSIS OF CURTAILMENT AND CUSTOMERS AFFECTED FOR EACH PROJECT ALTERNATE
APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.			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
1								
2	A	B	C	D	E	F	G	H
531								
532	***Alternate Diameter Pipeline 10"***							
533								
534	***Alt Diameter 10" / Otay Full / L3010 80%***		***4.1.1.1***	***4.1.1.2***	***4.1.1.3***	***4.1.1.4***	***4.1.1.5***	***4.1.1.6***
535	Alternate Diameter Pipeline 10"		50	50	50	50	50	50
536	Line 3010 at 80% Supply		380	380	380	380	380	380
537	Otay Mesa Full Supply		295	86	313	313	329	324
538	**Total Supply**		**725**	**516**	**743**	**743**	**759**	**754**
539	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
540	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
541	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
542		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
543		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
544	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
545		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
546		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
547		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
548	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
549		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
550		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
551								
552	***Alt Diameter 10" / Otay Full / L3010 Out***		***4.2.1.1***	***4.2.1.2***	***4.2.1.3***	***4.2.1.4***	***4.2.1.5***	***4.2.1.6***
553	Alternate Diameter Pipeline 10"		50	50	50	50	50	50
554	Line 3010 Complete Outage		0	0	0	0	0	0
555	Otay Mesa Full Supply		295	86	313	313	329	324
556	**Total Supply**		**345**	**136**	**363**	**363**	**379**	**374**
557	**Total MMcfd Shortfall**		**0**	**339**	**174**	**214**	**86**	**151**
558	**Immediate Curtailment to EG Stations?**		**No**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
559	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
560		Gas EG [%]	**0%**	**88%**	**68%**	**92%**	**5%**	**28%**
561		Gas Non-Core Non-EG [%]	**0%**	**100%**	**100%**	**100%**	**100%**	**100%**
562	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
563		Gas EG [MWh/d]	**0**	**35,577**	**15,134**	**20,529**	**1,497**	**10,296**
564		Gas EG [MW]	**0**	**1,482**	**631**	**855**	**62**	**429**
565		Gas Non-Core Non-EG [MMcfd]	**0**	**75**	**62**	**62**	**75**	**75**
566	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
567		Gas EG [# Affected]	**0**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
568		Gas Non-Core Non-EG [# Affected]	**0**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
569								
570	***Alt Diameter 10" / Otay Medium / L3010 80%***		***4.1.2.1***	***4.1.2.2***	***4.1.2.3***	***4.1.2.4***	***4.1.2.5***	***4.1.2.6***
571	Alternate Diameter Pipeline 10"		50	50	50	50	50	50
572	Line 3010 at 80% Supply		380	380	380	380	380	380
573	Otay Mesa Medium Supply		156	60	230	230	244	247
574	**Total Supply**		**586**	**490**	**660**	**660**	**674**	**677**
575	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
576	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
577	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
578		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
579		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
580	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
581		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
582		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
583		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
584	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
585		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
586		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
587								
588	***Alt Diameter 10" / Otay Medium / L3010 Out***		***4.2.2.1***	***4.2.2.2***	***4.2.2.3***	***4.2.2.4***	***4.2.2.5***	***4.2.2.6***
589	Alternate Diameter Pipeline 10"		50	50	50	50	50	50
590	Line 3010 Complete Outage		0	0	0	0	0	0
591	Otay Mesa Medium Supply		156	60	230	230	244	247
592	**Total Supply**		**206**	**110**	**280**	**280**	**294**	**297**
593	**Total MMcfd Shortfall**		**69**	**365**	**257**	**297**	**171**	**228**
594	**Immediate Curtailment to EG Stations?**		**No**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
595	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**10%**	**20%**	**0%**	**0%**
596		Gas EG [%]	**0%**	**97%**	**100%**	**100%**	**44%**	**57%**
597		Gas Non-Core Non-EG [%]	**92%**	**100%**	**100%**	**100%**	**100%**	**100%**
598	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**30**	**70**	**0**	**0**
599		Gas EG [MWh/d]	**0**	**39,144**	**22,253**	**22,253**	**12,928**	**20,612**
600		Gas EG [MW]	**0**	**1,631**	**927**	**927**	**539**	**859**
601		Gas Non-Core Non-EG [MMcfd]	**69**	**75**	**62**	**62**	**75**	**75**
602	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**84,319**	**173,979**	**0**	**0**
603		Gas EG [# Affected]	**0**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
604		Gas Non-Core Non-EG [# Affected]	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**

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APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.			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
1								
2	A	B	C	D	E	F	G	H
605								
606	***Alt Diameter 10" / Otay Low / L3010 80%***		***4.1.3.1***	***4.1.3.2***	***4.1.3.3***	***4.1.3.4***	***4.1.3.5***	***4.1.3.6***
607	Alternate Diameter Pipeline 10"		50	50	50	50	50	50
608	Line 3010 at 80% Supply		380	380	380	380	380	380
609	Otay Mesa Low Supply		33	33	148	148	130	168
610	**Total Supply**		**463**	**463**	**578**	**578**	**560**	**598**
611	**Total MMcfd Shortfall**		**0**	**12**	**0**	**0**	**0**	**0**
612	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
613	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
614		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
615		Gas Non-Core Non-EG [%]	**0%**	**16%**	**0%**	**0%**	**0%**	**0%**
616	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
617		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
618		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
619		Gas Non-Core Non-EG [MMcfd]	**0**	**12**	**0**	**0**	**0**	**0**
620	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
621		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
622		Gas Non-Core Non-EG [# Affected]	**0**	**N/A**	**0**	**0**	**0**	**0**
623								
624	***Alt Diameter 10" / Otay Low / L3010 Out***		***4.2.3.1***	***4.2.3.2***	***4.2.3.3***	***4.2.3.4***	***4.2.3.5***	***4.2.3.6***
625	Alternate Diameter Pipeline 10"		50	50	50	50	50	50
626	Line 3010 Complete Outage		0	0	0	0	0	0
627	Otay Mesa Low Supply		33	33	148	148	130	168
628	**Total Supply**		**83**	**83**	**198**	**198**	**180**	**218**
629	**Total MMcfd Shortfall**		**192**	**392**	**339**	**379**	**285**	**307**
630	**Immediate Curtailment to EG Stations?**		**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
631	**Curtailment (%)**	Gas Core [%]	**17%**	**17%**	**36%**	**43%**	**0%**	**0%**
632		Gas EG [%]	**100%**	**100%**	**100%**	**100%**	**95%**	**86%**
633		Gas Non-Core Non-EG [%]	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
634	**Curtailment (Capacity)**	Gas Core [MMcfd]	**17**	**17**	**112**	**152**	**0**	**0**
635		Gas EG [MWh/d]	**13,487**	**40,461**	**22,253**	**22,253**	**28,309**	**31,351**
636		Gas EG [MW]	**562**	**1,686**	**927**	**927**	**1,180**	**1,306**
637		Gas Non-Core Non-EG [MMcfd]	**75**	**75**	**62**	**62**	**75**	**75**
638	**Number of Customers Affected**	Gas Core [# Affected]	**145,018**	**145,018**	**313,622**	**377,076**	**0**	**0**
639		Gas EG [# Affected]	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
640		Gas Non-Core Non-EG [# Affected]	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
641								
642	***Alt Diameter 10" / Otay Out / L3010 80%***		***4.1.4.1***	***4.1.4.2***	***4.1.4.3***	***4.1.4.4***	***4.1.4.5***	***4.1.4.6***
643	Alternate Diameter Pipeline 10"		50	50	50	50	50	50
644	Line 3010 at 80% Supply		380	380	380	380	380	380
645	Otay Mesa No Supply		0	0	0	0	0	0
646	**Total Supply**		**430**	**430**	**430**	**430**	**430**	**430**
647	**Total MMcfd Shortfall**		**0**	**45**	**107**	**147**	**35**	**95**
648	**Immediate Curtailment to EG Stations?**		**No**	**No**	**Yes**	**Yes**	**No**	**Yes**
649	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
650		Gas EG [%]	**0%**	**0%**	**27%**	**52%**	**0%**	**7%**
651		Gas Non-Core Non-EG [%]	**0%**	**60%**	**100%**	**100%**	**47%**	**100%**
652	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
653		Gas EG [MWh/d]	**0**	**0**	**6,069**	**11,464**	**0**	**2,697**
654		Gas EG [MW]	**0**	**0**	**253**	**478**	**0**	**112**
655		Gas Non-Core Non-EG [MMcfd]	**0**	**45**	**62**	**62**	**35**	**75**
656	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
657		Gas EG [# Affected]	**0**	**0**	**N/A**	**N/A**	**0**	**N/A**
658		Gas Non-Core Non-EG [# Affected]	**0**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
659								
660	***Alt Diameter 10" / Otay Out / L3010 Out***		***4.2.4.1***	***4.2.4.2***	***4.2.4.3***	***4.2.4.4***	***4.2.4.5***	***4.2.4.6***
661	Alternate Diameter Pipeline 10"		50	50	50	50	50	50
662	Line 3010 Complete Outage		0	0	0	0	0	0
663	Otay Mesa No Supply		0	0	0	0	0	0
664	**Total Supply**		**50**	**50**	**50**	**50**	**50**	**50**
665	**Total MMcfd Shortfall**		**225**	**425**	**487**	**527**	**415**	**475**
666	**Immediate Curtailment to EG Stations?**		**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
667	**Curtailment (%)**	Gas Core [%]	**50%**	**50%**	**84%**	**86%**	**71%**	**72%**
668		Gas EG [%]	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
669		Gas Non-Core Non-EG [%]	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
670	**Curtailment (Capacity)**	Gas Core [MMcfd]	**50**	**50**	**260**	**300**	**120**	**130**
671		Gas EG [MWh/d]	**13,487**	**40,461**	**22,253**	**22,253**	**29,671**	**36,414**
672		Gas EG [MW]	**562**	**1,686**	**927**	**927**	**1,236**	**1,517**
673		Gas Non-Core Non-EG [MMcfd]	**75**	**75**	**62**	**62**	**75**	**75**
674	**Number of Customers Affected**	Gas Core [# Affected]	**434,419**	**434,419**	**728,703**	**744,718**	**613,297**	**627,494**
675		Gas EG [# Affected]	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
676		Gas Non-Core Non-EG [# Affected]	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**

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APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.			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
1								
2	A	B	C	D	E	F	G	H
677								
678	***Alternate Diameter Pipeline 12"***							
679								
680	***Alt Diameter 12" / Otay Full / L3010 80%***		***5.1.1.1***	***5.1.1.2***	***5.1.1.3***	***5.1.1.4***	***5.1.1.5***	***5.1.1.6***
681	Alternate Diameter Pipeline 12"		70	70	70	70	70	70
682	Line 3010 at 80% Supply		380	380	380	380	380	380
683	Otay Mesa Full Supply		295	86	313	313	329	324
684	**Total Supply**		**745**	**536**	**763**	**763**	**779**	**774**
685	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
686	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
687	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
688		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
689		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
690	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
691		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
692		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
693		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
694	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
695		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
696		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
697								
698	***Alt Diameter 12" / Otay Full / L3010 Out***		***5.2.1.1***	***5.2.1.2***	***5.2.1.3***	***5.2.1.4***	***5.2.1.5***	***5.2.1.6***
699	Alternate Diameter Pipeline 12"		70	70	70	70	70	70
700	Line 3010 Complete Outage		0	0	0	0	0	0
701	Otay Mesa Full Supply		295	86	313	313	329	324
702	**Total Supply**		**365**	**156**	**383**	**383**	**399**	**394**
703	**Total MMcfd Shortfall**		**0**	**319**	**154**	**194**	**66**	**131**
704	**Immediate Curtailment to EG Stations?**		**No**	**Yes**	**Yes**	**Yes**	**No**	**Yes**
705	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
706		Gas EG [%]	**0%**	**81%**	**56%**	**80%**	**0%**	**21%**
707		Gas Non-Core Non-EG [%]	**0%**	**100%**	**100%**	**100%**	**88%**	**100%**
708	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
709		Gas EG [MWh/d]	**0**	**32,880**	**12,436**	**17,831**	**0**	**7,599**
710		Gas EG [MW]	**0**	**1,370**	**518**	**743**	**0**	**317**
711		Gas Non-Core Non-EG [MMcfd]	**0**	**75**	**62**	**62**	**66**	**75**
712	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
713		Gas EG [# Affected]	**0**	**N/A**	**N/A**	**N/A**	**0**	**N/A**
714		Gas Non-Core Non-EG [# Affected]	**0**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
715								
716	***Alt Diameter 12" / Otay Medium / L3010 80%***		***5.1.2.1***	***5.1.2.2***	***5.1.2.3***	***5.1.2.4***	***5.1.2.5***	***5.1.2.6***
717	Alternate Diameter Pipeline 12"		70	70	70	70	70	70
718	Line 3010 at 80% Supply		380	380	380	380	380	380
719	Otay Mesa Medium Supply		156	60	230	230	244	247
720	**Total Supply**		**606**	**510**	**680**	**680**	**694**	**697**
721	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
722	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
723	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
724		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
725		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
726	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
727		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
728		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
729		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
730	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
731		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
732		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
733								
734	***Alt Diameter 12" / Otay Medium / L3010 Out***		***5.2.2.1***	***5.2.2.2***	***5.2.2.3***	***5.2.2.4***	***5.2.2.5***	***5.2.2.6***
735	Alternate Diameter Pipeline 12"		70	70	70	70	70	70
736	Line 3010 Complete Outage		0	0	0	0	0	0
737	Otay Mesa Medium Supply		156	60	230	230	244	247
738	**Total Supply**		**226**	**130**	**300**	**300**	**314**	**317**
739	**Total MMcfd Shortfall**		**49**	**345**	**237**	**277**	**151**	**208**
740	**Immediate Curtailment to EG Stations?**		**No**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
741	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**3%**	**14%**	**0%**	**0%**
742		Gas EG [%]	**0%**	**90%**	**100%**	**100%**	**34%**	**49%**
743		Gas Non-Core Non-EG [%]	**66%**	**100%**	**100%**	**100%**	**100%**	**100%**
744	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**10**	**50**	**0**	**0**
745		Gas EG [MWh/d]	**0**	**36,447**	**22,253**	**22,253**	**10,231**	**17,915**
746		Gas EG [MW]	**0**	**1,519**	**927**	**927**	**426**	**746**
747		Gas Non-Core Non-EG [MMcfd]	**49**	**75**	**62**	**62**	**75**	**75**
748	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**28,265**	**124,331**	**0**	**0**
749		Gas EG [# Affected]	**0**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
750		Gas Non-Core Non-EG [# Affected]	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**

WORK PAPER TABLE - SCENARIO ANALYSIS GAS DEMAND AND SUPPLY (SA 1.1

EXAMPLE DAY OF GAS DEMAND AND SUPPLY FOR CUSTOMER CLASSES DURING SEASONAL VARIATIONS FOR ANALYSIS OF CURTAILMENT AND CUSTOMERS AFFECTED FOR EACH PROJECT ALTERNATE

APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.			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
1								
2	A	B	C	D	E	F	G	H
751								
752	***Alt Diameter 12" / Otay Low / L3010 80%***		***5.1.3.1***	***5.1.3.2***	***5.1.3.3***	***5.1.3.4***	***5.1.3.5***	***5.1.3.6***
753	Alternate Diameter Pipeline 12"		70	70	70	70	70	70
754	Line 3010 at 80% Supply		380	380	380	380	380	380
755	Otay Mesa Low Supply		33	33	148	148	130	168
756	**Total Supply**		**483**	**483**	**598**	**598**	**580**	**618**
757	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
758	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
759	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
760		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
761		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
762	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
763		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
764		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
765		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
766	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
767		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
768		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
769								
770	***Alt Diameter 12" / Otay Low / L3010 Out***		***5.2.3.1***	***5.2.3.2***	***5.2.3.3***	***5.2.3.4***	***5.2.3.5***	***5.2.3.6***
771	Alternate Diameter Pipeline 12"		70	70	70	70	70	70
772	Line 3010 Complete Outage		0	0	0	0	0	0
773	Otay Mesa Low Supply		33	33	148	148	130	168
774	**Total Supply**		**103**	**103**	**218**	**218**	**200**	**238**
775	**Total MMcfd Shortfall**		**172**	**372**	**319**	**359**	**265**	**287**
776	**Immediate Curtailment to EG Stations?**		**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
777	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**30%**	**38%**	**0%**	**0%**
778		Gas EG [%]	**97%**	**99%**	**100%**	**100%**	**86%**	**79%**
779		Gas Non-Core Non-EG [%]	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
780	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**92**	**132**	**0**	**0**
781		Gas EG [MWh/d]	**13,041**	**40,014**	**22,253**	**22,253**	**25,612**	**28,653**
782		Gas EG [MW]	**543**	**1,667**	**927**	**927**	**1,067**	**1,194**
783		Gas Non-Core Non-EG [MMcfd]	**75**	**75**	**62**	**62**	**75**	**75**
784	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**257,568**	**327,428**	**0**	**0**
785		Gas EG [# Affected]	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
786		Gas Non-Core Non-EG [# Affected]	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
787								
788	***Alt Diameter 12" / Otay Out / L3010 80%***		***5.1.4.1***	***5.1.4.2***	***5.1.4.3***	***5.1.4.4***	***5.1.4.5***	***5.1.4.6***
789	Alternate Diameter Pipeline 12"		70	70	70	70	70	70
790	Line 3010 at 80% Supply		380	380	380	380	380	380
791	Otay Mesa No Supply		0	0	0	0	0	0
792	**Total Supply**		**450**	**450**	**450**	**450**	**450**	**450**
793	**Total MMcfd Shortfall**		**0**	**25**	**87**	**127**	**15**	**75**
794	**Immediate Curtailment to EG Stations?**		**No**	**No**	**Yes**	**Yes**	**No**	**Yes**
795	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
796		Gas EG [%]	**0%**	**0%**	**15%**	**39%**	**0%**	**0%**
797		Gas Non-Core Non-EG [%]	**0%**	**33%**	**100%**	**100%**	**20%**	**100%**
798	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
799		Gas EG [MWh/d]	**0**	**0**	**3,372**	**8,766**	**0**	**0**
800		Gas EG [MW]	**0**	**0**	**140**	**365**	**0**	**0**
801		Gas Non-Core Non-EG [MMcfd]	**0**	**25**	**62**	**62**	**15**	**75**
802	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
803		Gas EG [# Affected]	**0**	**0**	**N/A**	**N/A**	**0**	**0**
804		Gas Non-Core Non-EG [# Affected]	**0**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
805								
806	***Alt Diameter 12" / Otay Out / L3010 Out***		***5.2.4.1***	***5.2.4.2***	***5.2.4.3***	***5.2.4.4***	***5.2.4.5***	***5.2.4.6***
807	Alternate Diameter Pipeline 12"		70	70	70	70	70	70
808	Line 3010 Complete Outage		0	0	0	0	0	0
809	Otay Mesa No Supply		0	0	0	0	0	0
810	**Total Supply**		**70**	**70**	**70**	**70**	**70**	**70**
811	**Total MMcfd Shortfall**		**205**	**405**	**467**	**507**	**395**	**455**
812	**Immediate Curtailment to EG Stations?**		**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
813	**Curtailment (%)**	Gas Core [%]	**30%**	**30%**	**77%**	**80%**	**59%**	**61%**
814		Gas EG [%]	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
815		Gas Non-Core Non-EG [%]	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
816	**Curtailment (Capacity)**	Gas Core [MMcfd]	**30**	**30**	**240**	**280**	**100**	**110**
817		Gas EG [MWh/d]	**13,487**	**40,461**	**22,253**	**22,253**	**29,671**	**36,414**
818		Gas EG [MW]	**562**	**1,686**	**927**	**927**	**1,236**	**1,517**
819		Gas Non-Core Non-EG [MMcfd]	**75**	**75**	**62**	**62**	**75**	**75**
820	**Number of Customers Affected**	Gas Core [# Affected]	**260,651**	**260,651**	**672,649**	**695,070**	**511,081**	**530,957**
821		Gas EG [# Affected]	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
822		Gas Non-Core Non-EG [# Affected]	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**

WORK PAPER TABLE - SCENARIO ANALYSIS GAS DEMAND AND SUPPLY (SA 1.1
EXAMPLE DAY OF GAS DEMAND AND SUPPLY FOR CUSTOMER CLASSES DURING SEASONAL VARIATIONS FOR ANALYSIS OF CURTAILMENT AND CUSTOMERS AFFECTED FOR EACH PROJECT ALTERNATE
APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.			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
1								
2	A	B	C	D	E	F	G	H
823								
824	***Alternate Diameter Pipeline 16"***							
825								
826	***Alt Diameter 16" / Otay Full / L3010 80%***		***6.1.1.1***	***6.1.1.2***	***6.1.1.3***	***6.1.1.4***	***6.1.1.5***	***6.1.1.6***
827	Alternate Diameter Pipeline 16"		160	160	160	160	160	160
828	Line 3010 at 80% Supply		380	380	380	380	380	380
829	Otay Mesa Full Supply		295	86	313	313	329	324
830	**Total Supply**		**835**	**626**	**853**	**853**	**869**	**864**
831	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
832	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
833	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
834		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
835		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
836	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
837		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
838		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
839		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
840	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
841		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
842		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
843								
844	***Alt Diameter 16" / Otay Full / L3010 Out***		***6.2.1.1***	***6.2.1.2***	***6.2.1.3***	***6.2.1.4***	***6.2.1.5***	***6.2.1.6***
845	Alternate Diameter Pipeline 16"		160	160	160	160	160	160
846	Line 3010 Complete Outage		0	0	0	0	0	0
847	Otay Mesa Full Supply		295	86	313	313	329	324
848	**Total Supply**		**455**	**246**	**473**	**473**	**489**	**484**
849	**Total MMcfd Shortfall**		**0**	**229**	**64**	**104**	**0**	**41**
850	**Immediate Curtailment to EG Stations?**		**No**	**Yes**	**Yes**	**Yes**	**No**	**No**
851	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
852		Gas EG [%]	**0%**	**51%**	**1%**	**26%**	**0%**	**0%**
853		Gas Non-Core Non-EG [%]	**0%**	**100%**	**100%**	**100%**	**0%**	**55%**
854	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
855		Gas EG [MWh/d]	**0**	**20,742**	**298**	**5,693**	**0**	**0**
856		Gas EG [MW]	**0**	**864**	**12**	**237**	**0**	**0**
857		Gas Non-Core Non-EG [MMcfd]	**0**	**75**	**62**	**62**	**0**	**41**
858	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
859		Gas EG [# Affected]	**0**	**N/A**	**N/A**	**N/A**	**0**	**0**
860		Gas Non-Core Non-EG [# Affected]	**0**	**N/A**	**N/A**	**N/A**	**0**	**N/A**
861								
862	***Alt Diameter 16" / Otay Medium / L3010 80%***		***6.1.2.1***	***6.1.2.2***	***6.1.2.3***	***6.1.2.4***	***6.1.2.5***	***6.1.2.6***
863	Alternate Diameter Pipeline 16"		160	160	160	160	160	160
864	Line 3010 at 80% Supply		380	380	380	380	380	380
865	Otay Mesa Medium Supply		156	60	230	230	244	247
866	**Total Supply**		**696**	**600**	**770**	**770**	**784**	**787**
867	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
868	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
869	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
870		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
871		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
872	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
873		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
874		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
875		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
876	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
877		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
878		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
879								
880	***Alt Diameter 16" / Otay Medium / L3010 Out***		***6.2.2.1***	***6.2.2.2***	***6.2.2.3***	***6.2.2.4***	***6.2.2.5***	***6.2.2.6***
881	Alternate Diameter Pipeline 16"		160	160	160	160	160	160
882	Line 3010 Complete Outage		0	0	0	0	0	0
883	Otay Mesa Medium Supply		156	60	230	230	244	247
884	**Total Supply**		**316**	**220**	**390**	**390**	**404**	**407**
885	**Total MMcfd Shortfall**		**0**	**255**	**147**	**187**	**61**	**118**
886	**Immediate Curtailment to EG Stations?**		**No**	**Yes**	**Yes**	**Yes**	**No**	**Yes**
887	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
888		Gas EG [%]	**0%**	**60%**	**52%**	**76%**	**0%**	**16%**
889		Gas Non-Core Non-EG [%]	**0%**	**100%**	**100%**	**100%**	**81%**	**100%**
890	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
891		Gas EG [MWh/d]	**0**	**24,309**	**11,475**	**16,870**	**0**	**5,777**
892		Gas EG [MW]	**0**	**1,013**	**478**	**703**	**0**	**241**
893		Gas Non-Core Non-EG [MMcfd]	**0**	**75**	**62**	**62**	**61**	**75**
894	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
895		Gas EG [# Affected]	**0**	**N/A**	**N/A**	**N/A**	**0**	**N/A**
896		Gas Non-Core Non-EG [# Affected]	**0**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**

WORK PAPER TABLE - SCENARIO ANALYSIS GAS DEMAND AND SUPPLY (SA 1.1

EXAMPLE DAY OF GAS DEMAND AND SUPPLY FOR CUSTOMER CLASSES DURING SEASONAL VARIATIONS FOR ANALYSIS OF CURTAILMENT AND CUSTOMERS AFFECTED FOR EACH PROJECT ALTERNATE

APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.			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
1								
2	A	B	C	D	E	F	G	H
897								
898	***Alt Diameter 16" / Otay Low / L3010 80%***		***6.1.3.1***	***6.1.3.2***	***6.1.3.3***	***6.1.3.4***	***6.1.3.5***	***6.1.3.6***
899	Alternate Diameter Pipeline 16"		160	160	160	160	160	160
900	Line 3010 at 80% Supply		380	380	380	380	380	380
901	Otay Mesa Low Supply		33	33	148	148	130	168
902	**Total Supply**		**573**	**573**	**688**	**688**	**670**	**708**
903	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
904	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
905	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
906		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
907		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
908	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
909		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
910		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
911		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
912	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
913		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
914		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
915								
916	***Alt Diameter 16" / Otay Low / L3010 Out***		***6.2.3.1***	***6.2.3.2***	***6.2.3.3***	***6.2.3.4***	***6.2.3.5***	***6.2.3.6***
917	Alternate Diameter Pipeline 16"		160	160	160	160	160	160
918	Line 3010 Complete Outage		0	0	0	0	0	0
919	Otay Mesa Low Supply		33	33	148	148	130	168
920	**Total Supply**		**193**	**193**	**308**	**308**	**290**	**328**
921	**Total MMcfd Shortfall**		**82**	**282**	**229**	**269**	**175**	**197**
922	**Immediate Curtailment to EG Stations?**		**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
923	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**1%**	**12%**	**0%**	**0%**
924		Gas EG [%]	**7%**	**69%**	**100%**	**100%**	**45%**	**45%**
925		Gas Non-Core Non-EG [%]	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
926	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**2**	**42**	**0**	**0**
927		Gas EG [MWh/d]	**902**	**27,876**	**22,253**	**22,253**	**13,473**	**16,515**
928		Gas EG [MW]	**38**	**1,162**	**927**	**927**	**561**	**688**
929		Gas Non-Core Non-EG [MMcfd]	**75**	**75**	**62**	**62**	**75**	**75**
930	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**5,325**	**104,012**	**0**	**0**
931		Gas EG [# Affected]	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
932		Gas Non-Core Non-EG [# Affected]	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
933								
934	***Alt Diameter 16" / Otay Out / L3010 80%***		***6.1.4.1***	***6.1.4.2***	***6.1.4.3***	***6.1.4.4***	***6.1.4.5***	***6.1.4.6***
935	Alternate Diameter Pipeline 16"		160	160	160	160	160	160
936	Line 3010 at 80% Supply		380	380	380	380	380	380
937	Otay Mesa No Supply		0	0	0	0	0	0
938	**Total Supply**		**540**	**540**	**540**	**540**	**540**	**540**
939	**Total MMcfd Shortfall**		**0**	**0**	**0**	**37**	**0**	**0**
940	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
941	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
942		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
943		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**60%**	**0%**	**0%**
944	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
945		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
946		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
947		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**37**	**0**	**0**
948	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
949		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
950		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**N/A**	**0**	**0**
951								
952	***Alt Diameter 16" / Otay Out / L3010 Out***		***6.2.4.1***	***6.2.4.2***	***6.2.4.3***	***6.2.4.4***	***6.2.4.5***	***6.2.4.6***
953	Alternate Diameter Pipeline 16"		160	160	160	160	160	160
954	Line 3010 Complete Outage		0	0	0	0	0	0
955	Otay Mesa No Supply		0	0	0	0	0	0
956	**Total Supply**		**160**	**160**	**160**	**160**	**160**	**160**
957	**Total MMcfd Shortfall**		**115**	**315**	**377**	**417**	**305**	**365**
958	**Immediate Curtailment to EG Stations?**		**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
959	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**48%**	**54%**	**6%**	**11%**
960		Gas EG [%]	**40%**	**80%**	**100%**	**100%**	**100%**	**100%**
961		Gas Non-Core Non-EG [%]	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
962	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**150**	**190**	**10**	**20**
963		Gas EG [MWh/d]	**5,395**	**32,368**	**22,253**	**22,253**	**29,671**	**36,414**
964		Gas EG [MW]	**225**	**1,349**	**927**	**927**	**1,236**	**1,517**
965		Gas Non-Core Non-EG [MMcfd]	**75**	**75**	**62**	**62**	**75**	**75**
966	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**420,405**	**471,655**	**51,108**	**96,538**
967		Gas EG [# Affected]	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
968		Gas Non-Core Non-EG [# Affected]	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**

WORK PAPER TABLE - SCENARIO ANALYSIS GAS DEMAND AND SUPPLY (SA 1.1
EXAMPLE DAY OF GAS DEMAND AND SUPPLY FOR CUSTOMER CLASSES DURING SEASONAL VARIATIONS FOR ANALYSIS OF CURTAILMENT AND CUSTOMERS AFFECTED FOR EACH PROJECT ALTERNATE
APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.			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
1								
2	A	B	C	D	E	F	G	H
969								
970	***Alternate Diameter Pipeline 20"***							
971								
972	***Alt Diameter 20" / Otay Full / L3010 80%***		***20.1.1.1***	***20.1.1.2***	***20.1.1.3***	***20.1.1.4***	***20.1.1.5***	***20.1.1.6***
973	Alternate Diameter Pipeline 20"		250	250	250	250	250	250
974	Line 3010 at 80% Supply		380	380	380	380	380	380
975	Otay Mesa Full Supply		295	86	313	313	329	324
976	**Total Supply**		**925**	**716**	**943**	**943**	**959**	**954**
977	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
978	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
979	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
980		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
981		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
982	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
983		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
984		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
985		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
986	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
987		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
988		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
989								
990	***Alt Diameter 20" / Otay Full / L3010 Out***		***20.2.1.1***	***20.2.1.2***	***20.2.1.3***	***20.2.1.4***	***20.2.1.5***	***20.2.1.6***
991	Alternate Diameter Pipeline 20"		250	250	250	250	250	250
992	Line 3010 Complete Outage		0	0	0	0	0	0
993	Otay Mesa Full Supply		295	86	313	313	329	324
994	**Total Supply**		**545**	**336**	**563**	**563**	**579**	**574**
995	**Total MMcfd Shortfall**		**0**	**139**	**0**	**14**	**0**	**0**
996	**Immediate Curtailment to EG Stations?**		**No**	**Yes**	**No**	**No**	**No**	**No**
997	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
998		Gas EG [%]	**0%**	**21%**	**0%**	**0%**	**0%**	**0%**
999		Gas Non-Core Non-EG [%]	**0%**	**100%**	**0%**	**23%**	**0%**	**0%**
1000	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
1001		Gas EG [MWh/d]	**0**	**8,604**	**0**	**0**	**0**	**0**
1002		Gas EG [MW]	**0**	**358**	**0**	**0**	**0**	**0**
1003		Gas Non-Core Non-EG [MMcfd]	**0**	**75**	**0**	**14**	**0**	**0**
1004	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1005		Gas EG [# Affected]	**0**	**N/A**	**0**	**0**	**0**	**0**
1006		Gas Non-Core Non-EG [# Affected]	**0**	**N/A**	**0**	**N/A**	**0**	**0**
1007								
1008	***Alt Diameter 20" / Otay Medium / L3010 80%***		***20.1.2.1***	***20.1.2.2***	***20.1.2.3***	***20.1.2.4***	***20.1.2.5***	***20.1.2.6***
1009	Alternate Diameter Pipeline 20"		250	250	250	250	250	250
1010	Line 3010 at 80% Supply		380	380	380	380	380	380
1011	Otay Mesa Medium Supply		156	60	230	230	244	247
1012	**Total Supply**		**786**	**690**	**860**	**860**	**874**	**877**
1013	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
1014	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
1015	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1016		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1017		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1018	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
1019		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
1020		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
1021		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
1022	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1023		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1024		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1025								
1026	***Alt Diameter 20" / Otay Medium / L3010 Out***		***20.2.2.1***	***20.2.2.2***	***20.2.2.3***	***20.2.2.4***	***20.2.2.5***	***20.2.2.6***
1027	Alternate Diameter Pipeline 20"		250	250	250	250	250	250
1028	Line 3010 Complete Outage		0	0	0	0	0	0
1029	Otay Mesa Medium Supply		156	60	230	230	244	247
1030	**Total Supply**		**406**	**310**	**480**	**480**	**494**	**497**
1031	**Total MMcfd Shortfall**		**0**	**165**	**57**	**97**	**0**	**28**
1032	**Immediate Curtailment to EG Stations?**		**No**	**Yes**	**No**	**Yes**	**No**	**No**
1033	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1034		Gas EG [%]	**0%**	**30%**	**0%**	**21%**	**0%**	**0%**
1035		Gas Non-Core Non-EG [%]	**0%**	**100%**	**92%**	**100%**	**0%**	**37%**
1036	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
1037		Gas EG [MWh/d]	**0**	**12,171**	**0**	**4,732**	**0**	**0**
1038		Gas EG [MW]	**0**	**507**	**0**	**197**	**0**	**0**
1039		Gas Non-Core Non-EG [MMcfd]	**0**	**75**	**57**	**62**	**0**	**28**
1040	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1041		Gas EG [# Affected]	**0**	**N/A**	**0**	**N/A**	**0**	**0**
1042		Gas Non-Core Non-EG [# Affected]	**0**	**N/A**	**N/A**	**N/A**	**0**	**N/A**

WORK PAPER TABLE - SCENARIO ANALYSIS GAS DEMAND AND SUPPLY (SA 1.1

EXAMPLE DAY OF GAS DEMAND AND SUPPLY FOR CUSTOMER CLASSES DURING SEASONAL VARIATIONS FOR ANALYSIS OF CURTAILMENT AND CUSTOMERS AFFECTED FOR EACH PROJECT ALTERNATE

APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.			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
1								
2	A	B	C	D	E	F	G	H
1043								
1044	***Alt Diameter 20" / Otay Low / L3010 80%***		***20.1.3.1***	***20.1.3.2***	***20.1.3.3***	***20.1.3.4***	***20.1.3.5***	***20.1.3.6***
1045	Alternate Diameter Pipeline 20"		250	250	250	250	250	250
1046	Line 3010 at 80% Supply		380	380	380	380	380	380
1047	Otay Mesa Low Supply		33	33	148	148	130	168
1048	**Total Supply**		**663**	**663**	**778**	**778**	**760**	**798**
1049	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
1050	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
1051	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1052		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1053		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1054	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
1055		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
1056		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
1057		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
1058	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1059		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1060		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1061								
1062	***Alt Diameter 20" / Otay Low / L3010 Out***		***20.2.3.1***	***20.2.3.2***	***20.2.3.3***	***20.2.3.4***	***20.2.3.5***	***20.2.3.6***
1063	Alternate Diameter Pipeline 20"		250	250	250	250	250	250
1064	Line 3010 Complete Outage		0	0	0	0	0	0
1065	Otay Mesa Low Supply		33	33	148	148	130	168
1066	**Total Supply**		**283**	**283**	**398**	**398**	**380**	**418**
1067	**Total MMcfd Shortfall**		**0**	**192**	**139**	**179**	**85**	**107**
1068	**Immediate Curtailment to EG Stations?**		**No**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
1069	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1070		Gas EG [%]	**0%**	**39%**	**47%**	**71%**	**4%**	**12%**
1071		Gas Non-Core Non-EG [%]	**0%**	**100%**	**100%**	**100%**	**100%**	**100%**
1072	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
1073		Gas EG [MWh/d]	**0**	**15,738**	**10,371**	**15,766**	**1,335**	**4,377**
1074		Gas EG [MW]	**0**	**656**	**432**	**657**	**56**	**182**
1075		Gas Non-Core Non-EG [MMcfd]	**0**	**75**	**62**	**62**	**75**	**75**
1076	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1077		Gas EG [# Affected]	**0**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
1078		Gas Non-Core Non-EG [# Affected]	**0**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
1079								
1080	***Alt Diameter 20" / Otay Out / L3010 80%***		***20.1.4.1***	***20.1.4.2***	***20.1.4.3***	***20.1.4.4***	***20.1.4.5***	***20.1.4.6***
1081	Alternate Diameter Pipeline 20"		250	250	250	250	250	250
1082	Line 3010 at 80% Supply		380	380	380	380	380	380
1083	Otay Mesa No Supply		0	0	0	0	0	0
1084	**Total Supply**		**630**	**630**	**630**	**630**	**630**	**630**
1085	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
1086	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
1087	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1088		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1089		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1090	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
1091		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
1092		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
1093		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
1094	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1095		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1096		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1097								
1098	***Alt Diameter 20" / Otay Out / L3010 Out***		***20.2.4.1***	***20.2.4.2***	***20.2.4.3***	***20.2.4.4***	***20.2.4.5***	***20.2.4.6***
1099	Alternate Diameter Pipeline 20"		250	250	250	250	250	250
1100	Line 3010 Complete Outage		0	0	0	0	0	0
1101	Otay Mesa No Supply		0	0	0	0	0	0
1102	**Total Supply**		**250**	**250**	**250**	**250**	**250**	**250**
1103	**Total MMcfd Shortfall**		**25**	**225**	**287**	**327**	**215**	**275**
1104	**Immediate Curtailment to EG Stations?**		**No**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
1105	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**19%**	**29%**	**0%**	**0%**
1106		Gas EG [%]	**0%**	**50%**	**100%**	**100%**	**64%**	**74%**
1107		Gas Non-Core Non-EG [%]	**33%**	**100%**	**100%**	**100%**	**100%**	**100%**
1108	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**60**	**100**	**0**	**0**
1109		Gas EG [MWh/d]	**0**	**20,230**	**22,253**	**22,253**	**18,882**	**26,974**
1110		Gas EG [MW]	**0**	**843**	**927**	**927**	**787**	**1,124**
1111		Gas Non-Core Non-EG [MMcfd]	**25**	**75**	**62**	**62**	**75**	**75**
1112	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**168,162**	**248,239**	**0**	**0**
1113		Gas EG [# Affected]	**0**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
1114		Gas Non-Core Non-EG [# Affected]	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**

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EXAMPLE DAY OF GAS DEMAND AND SUPPLY FOR CUSTOMER CLASSES DURING SEASONAL VARIATIONS FOR ANALYSIS OF CURTAILMENT AND CUSTOMERS AFFECTED FOR EACH PROJECT ALTERNATE
APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.			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
1								
2	A	B	C	D	E	F	G	H
1115								
1116	***Alternate Diameter Pipeline 24"***							
1117								
1118	***Alt Diameter 24" / Otay Full / L3010 80%***		***7.1.1.1***	***7.1.1.2***	***7.1.1.3***	***7.1.1.4***	***7.1.1.5***	***7.1.1.6***
1119	Alternate Diameter Pipeline 24"		400	400	400	400	400	400
1120	Line 3010 at 80% Supply		380	380	380	380	380	380
1121	Otay Mesa Full Supply		295	86	313	313	329	324
1122	**Total Supply**		**1075**	**866**	**1093**	**1093**	**1109**	**1104**
1123	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
1124	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
1125	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1126		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1127		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1128	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
1129		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
1130		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
1131		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
1132	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1133		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1134		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1135								
1136	***Alt Diameter 24" / Otay Full / L3010 Out***		***7.2.1.1***	***7.2.1.2***	***7.2.1.3***	***7.2.1.4***	***7.2.1.5***	***7.2.1.6***
1137	Alternate Diameter Pipeline 24"		400	400	400	400	400	400
1138	Line 3010 Complete Outage		0	0	0	0	0	0
1139	Otay Mesa Full Supply		295	86	313	313	329	324
1140	**Total Supply**		**695**	**486**	**713**	**713**	**729**	**724**
1141	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
1142	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
1143	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1144		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1145		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1146	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
1147		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
1148		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
1149		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
1150	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1151		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1152		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1153								
1154	***Alt Diameter 24" / Otay Medium / L3010 80%***		***7.1.2.1***	***7.1.2.2***	***7.1.2.3***	***7.1.2.4***	***7.1.2.5***	***7.1.2.6***
1155	Alternate Diameter Pipeline 24"		400	400	400	400	400	400
1156	Line 3010 at 80% Supply		380	380	380	380	380	380
1157	Otay Mesa Medium Supply		156	60	230	230	244	247
1158	**Total Supply**		**936**	**840**	**1010**	**1010**	**1024**	**1027**
1159	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
1160	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
1161	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1162		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1163		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1164	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
1165		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
1166		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
1167		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
1168	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1169		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1170		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1171								
1172	***Alt Diameter 24" / Otay Medium / L3010 Out***		***7.2.2.1***	***7.2.2.2***	***7.2.2.3***	***7.2.2.4***	***7.2.2.5***	***7.2.2.6***
1173	Alternate Diameter Pipeline 24"		400	400	400	400	400	400
1174	Line 3010 Complete Outage		0	0	0	0	0	0
1175	Otay Mesa Medium Supply		156	60	230	230	244	247
1176	**Total Supply**		**556**	**460**	**630**	**630**	**644**	**647**
1177	**Total MMcfd Shortfall**		**0**	**15**	**0**	**0**	**0**	**0**
1178	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
1179	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1180		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1181		Gas Non-Core Non-EG [%]	**0%**	**20%**	**0%**	**0%**	**0%**	**0%**
1182	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
1183		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
1184		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
1185		Gas Non-Core Non-EG [MMcfd]	**0**	**15**	**0**	**0**	**0**	**0**
1186	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1187		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1188		Gas Non-Core Non-EG [# Affected]	**0**	**N/A**	**0**	**0**	**0**	**0**

WORK PAPER TABLE - SCENARIO ANALYSIS GAS DEMAND AND SUPPLY (SA 1.1
EXAMPLE DAY OF GAS DEMAND AND SUPPLY FOR CUSTOMER CLASSES DURING SEASONAL VARIATIONS FOR ANALYSIS OF CURTAILMENT AND CUSTOMERS AFFECTED FOR EACH PROJECT ALTERNATE
APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.			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
1								
2	A	B	C	D	E	F	G	H
1189								
1190	*Alt Diameter 24" / Otay Low / L3010 80%*		*7.1.3.1*	*7.1.3.2*	*7.1.3.3*	*7.1.3.4*	*7.1.3.5*	*7.1.3.6*
1191	Alternate Diameter Pipeline 24"		400	400	400	400	400	400
1192	Line 3010 at 80% Supply		380	380	380	380	380	380
1193	Otay Mesa Low Supply		33	33	148	148	130	168
1194	**Total Supply**		**813**	**813**	**928**	**928**	**910**	**948**
1195	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
1196	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
1197	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1198		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1199		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1200	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
1201		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
1202		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
1203		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
1204	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1205		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1206		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1207								
1208	*Alt Diameter 24" / Otay Low / L3010 Out*		*7.2.3.1*	*7.2.3.2*	*7.2.3.3*	*7.2.3.4*	*7.2.3.5*	*7.2.3.6*
1209	Alternate Diameter Pipeline 24"		400	400	400	400	400	400
1210	Line 3010 Complete Outage		0	0	0	0	0	0
1211	Otay Mesa Low Supply		33	33	148	148	130	168
1212	**Total Supply**		**433**	**433**	**548**	**548**	**530**	**568**
1213	**Total MMcfd Shortfall**		**0**	**42**	**0**	**29**	**0**	**0**
1214	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
1215	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1216		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1217		Gas Non-Core Non-EG [%]	**0%**	**56%**	**0%**	**47%**	**0%**	**0%**
1218	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
1219		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
1220		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
1221		Gas Non-Core Non-EG [MMcfd]	**0**	**42**	**0**	**29**	**0**	**0**
1222	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1223		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1224		Gas Non-Core Non-EG [# Affected]	**0**	**N/A**	**0**	**N/A**	**0**	**0**
1225								
1226	*Alt Diameter 24" / Otay Out / L3010 80%*		*7.1.4.1*	*7.1.4.2*	*7.1.4.3*	*7.1.4.4*	*7.1.4.5*	*7.1.4.6*
1227	Alternate Diameter Pipeline 24"		400	400	400	400	400	400
1228	Line 3010 at 80% Supply		380	380	380	380	380	380
1229	Otay Mesa No Supply		0	0	0	0	0	0
1230	**Total Supply**		**780**	**780**	**780**	**780**	**780**	**780**
1231	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
1232	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
1233	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1234		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1235		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1236	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
1237		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
1238		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
1239		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
1240	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1241		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1242		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1243								
1244	*Alt Diameter 24" / Otay Out / L3010 Out*		*7.2.4.1*	*7.2.4.2*	*7.2.4.3*	*7.2.4.4*	*7.2.4.5*	*7.2.4.6*
1245	Alternate Diameter Pipeline 24"		400	400	400	400	400	400
1246	Line 3010 Complete Outage		0	0	0	0	0	0
1247	Otay Mesa No Supply		0	0	0	0	0	0
1248	**Total Supply**		**400**	**400**	**400**	**400**	**400**	**400**
1249	**Total MMcfd Shortfall**		**0**	**75**	**137**	**177**	**65**	**125**
1250	**Immediate Curtailment to EG Stations?**		**No**	**Yes**	**Yes**	**Yes**	**No**	**Yes**
1251	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1252		Gas EG [%]	**0%**	**0%**	**45%**	**70%**	**0%**	**19%**
1253		Gas Non-Core Non-EG [%]	**0%**	**100%**	**100%**	**100%**	**87%**	**100%**
1254	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
1255		Gas EG [MWh/d]	**0**	**0**	**10,115**	**15,510**	**0**	**6,743**
1256		Gas EG [MW]	**0**	**0**	**421**	**646**	**0**	**281**
1257		Gas Non-Core Non-EG [MMcfd]	**0**	**75**	**62**	**62**	**65**	**75**
1258	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1259		Gas EG [# Affected]	**0**	**0**	**N/A**	**N/A**	**0**	**N/A**
1260		Gas Non-Core Non-EG [# Affected]	**0**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**

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APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.			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
1								
2	A	B	C	D	E	F	G	H
1261								
1262	***Alternate Diameter Pipeline 30"***							
1263								
1264	***Alt Diameter 30" / Otay Full / L3010 80%***		***8.1.1.1***	***8.1.1.2***	***8.1.1.3***	***8.1.1.4***	***8.1.1.5***	***8.1.1.6***
1265	Alternate Diameter Pipeline 30"		600	600	600	600	600	600
1266	Line 3010 at 80% Supply		380	380	380	380	380	380
1267	Otay Mesa Full Supply		295	86	313	313	329	324
1268	**Total Supply**		**1275**	**1066**	**1293**	**1293**	**1309**	**1304**
1269	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
1270	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
1271	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1272		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1273		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1274	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
1275		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
1276		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
1277		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
1278	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1279		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1280		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1281								
1282	***Alt Diameter 30" / Otay Full / L3010 Out***		***8.2.1.1***	***8.2.1.2***	***8.2.1.3***	***8.2.1.4***	***8.2.1.5***	***8.2.1.6***
1283	Alternate Diameter Pipeline 30"		600	600	600	600	600	600
1284	Line 3010 Complete Outage		0	0	0	0	0	0
1285	Otay Mesa Full Supply		295	86	313	313	329	324
1286	**Total Supply**		**895**	**686**	**913**	**913**	**929**	**924**
1287	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
1288	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
1289	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1290		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1291		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1292	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
1293		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
1294		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
1295		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
1296	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1297		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1298		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1299								
1300	***Alt Diameter 30" / Otay Medium / L3010 80%***		***8.1.2.1***	***8.1.2.2***	***8.1.2.3***	***8.1.2.4***	***8.1.2.5***	***8.1.2.6***
1301	Alternate Diameter Pipeline 30"		600	600	600	600	600	600
1302	Line 3010 at 80% Supply		380	380	380	380	380	380
1303	Otay Mesa Medium Supply		156	60	230	230	244	247
1304	**Total Supply**		**1136**	**1040**	**1210**	**1210**	**1224**	**1227**
1305	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
1306	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
1307	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1308		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1309		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1310	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
1311		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
1312		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
1313		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
1314	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1315		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1316		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1317								
1318	***Alt Diameter 30" / Otay Medium / L3010 Out***		***8.2.2.1***	***8.2.2.2***	***8.2.2.3***	***8.2.2.4***	***8.2.2.5***	***8.2.2.6***
1319	Alternate Diameter Pipeline 30"		600	600	600	600	600	600
1320	Line 3010 Complete Outage		0	0	0	0	0	0
1321	Otay Mesa Medium Supply		156	60	230	230	244	247
1322	**Total Supply**		**756**	**660**	**830**	**830**	**844**	**847**
1323	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
1324	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
1325	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1326		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1327		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1328	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
1329		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
1330		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
1331		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
1332	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1333		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1334		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**

WORK PAPER TABLE - SCENARIO ANALYSIS GAS DEMAND AND SUPPLY (SA 1.1
EXAMPLE DAY OF GAS DEMAND AND SUPPLY FOR CUSTOMER CLASSES DURING SEASONAL VARIATIONS FOR ANALYSIS OF CURTAILMENT AND CUSTOMERS AFFECTED FOR EACH PROJECT ALTERNATE
APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.			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
1								
2	A	B	C	D	E	F	G	H
1335								
1336	***Alt Diameter 30" / Otay Low / L3010 80%***		***8.1.3.1***	***8.1.3.2***	***8.1.3.3***	***8.1.3.4***	***8.1.3.5***	***8.1.3.6***
1337	Alternate Diameter Pipeline 30"		600	600	600	600	600	600
1338	Line 3010 at 80% Supply		380	380	380	380	380	380
1339	Otay Mesa Low Supply		33	33	148	148	130	168
1340	**Total Supply**		**1013**	**1013**	**1128**	**1128**	**1110**	**1148**
1341	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
1342	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
1343	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1344		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1345		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1346	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
1347		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
1348		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
1349		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
1350	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1351		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1352		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1353								
1354	***Alt Diameter 30" / Otay Low / L3010 Out***		***8.2.3.1***	***8.2.3.2***	***8.2.3.3***	***8.2.3.4***	***8.2.3.5***	***8.2.3.6***
1355	Alternate Diameter Pipeline 30"		600	600	600	600	600	600
1356	Line 3010 Complete Outage		0	0	0	0	0	0
1357	Otay Mesa Low Supply		33	33	148	148	130	168
1358	**Total Supply**		**633**	**633**	**748**	**748**	**730**	**768**
1359	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
1360	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
1361	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1362		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1363		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1364	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
1365		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
1366		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
1367		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
1368	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1369		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1370		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1371								
1372	***Alt Diameter 30" / Otay Out / L3010 80%***		***8.1.4.1***	***8.1.4.2***	***8.1.4.3***	***8.1.4.4***	***8.1.4.5***	***8.1.4.6***
1373	Alternate Diameter Pipeline 30"		600	600	600	600	600	600
1374	Line 3010 at 80% Supply		380	380	380	380	380	380
1375	Otay Mesa No Supply		0	0	0	0	0	0
1376	**Total Supply**		**980**	**980**	**980**	**980**	**980**	**980**
1377	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
1378	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
1379	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1380		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1381		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1382	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
1383		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
1384		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
1385		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
1386	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1387		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1388		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1389								
1390	***Alt Diameter 30" / Otay Out / L3010 Out***		***8.2.4.1***	***8.2.4.2***	***8.2.4.3***	***8.2.4.4***	***8.2.4.5***	***8.2.4.6***
1391	Alternate Diameter Pipeline 30"		600	600	600	600	600	600
1392	Line 3010 Complete Outage		0	0	0	0	0	0
1393	Otay Mesa No Supply		0	0	0	0	0	0
1394	**Total Supply**		**600**	**600**	**600**	**600**	**600**	**600**
1395	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
1396	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
1397	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1398		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1399		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1400	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
1401		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
1402		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
1403		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
1404	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1405		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1406		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**

WORK PAPER TABLE - SCENARIO ANALYSIS GAS DEMAND AND SUPPLY (SA 1.1
EXAMPLE DAY OF GAS DEMAND AND SUPPLY FOR CUSTOMER CLASSES DURING SEASONAL VARIATIONS FOR ANALYSIS OF CURTAILMENT AND CUSTOMERS AFFECTED FOR EACH PROJECT ALTERNATE
APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.			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
1								
2	A	B	C	D	E	F	G	H
1407								
1408	***Alternate Diameter Pipeline 42"***							
1409								
1410	***Alt Diameter 42" / Otay Full / L3010 80%***		***9.1.1.1***	***9.1.1.2***	***9.1.1.3***	***9.1.1.4***	***9.1.1.5***	***9.1.1.6***
1411	Alternate Diameter Pipeline 42"		710	710	710	710	710	710
1412	Line 3010 at 80% Supply		380	380	380	380	380	380
1413	Otay Mesa Full Supply		295	86	313	313	329	324
1414	**Total Supply**		**1385**	**1176**	**1403**	**1403**	**1419**	**1414**
1415	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
1416	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
1417	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1418		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1419		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1420	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
1421		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
1422		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
1423		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
1424	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1425		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1426		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1427								
1428	***Alt Diameter 42" / Otay Full / L3010 Out***		***9.2.1.1***	***9.2.1.2***	***9.2.1.3***	***9.2.1.4***	***9.2.1.5***	***9.2.1.6***
1429	Alternate Diameter Pipeline 42"		710	710	710	710	710	710
1430	Line 3010 Complete Outage		0	0	0	0	0	0
1431	Otay Mesa Full Supply		295	86	313	313	329	324
1432	**Total Supply**		**1005**	**796**	**1023**	**1023**	**1039**	**1034**
1433	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
1434	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
1435	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1436		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1437		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1438	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
1439		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
1440		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
1441		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
1442	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1443		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1444		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1445								
1446	***Alt Diameter 42" / Otay Medium / L3010 80%***		***9.1.2.1***	***9.1.2.2***	***9.1.2.3***	***9.1.2.4***	***9.1.2.5***	***9.1.2.6***
1447	Alternate Diameter Pipeline 42"		710	710	710	710	710	710
1448	Line 3010 at 80% Supply		380	380	380	380	380	380
1449	Otay Mesa Medium Supply		156	60	230	230	244	247
1450	**Total Supply**		**1246**	**1150**	**1320**	**1320**	**1334**	**1337**
1451	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
1452	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
1453	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1454		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1455		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1456	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
1457		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
1458		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
1459		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
1460	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1461		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1462		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1463								
1464	***Alt Diameter 42" / Otay Medium / L3010 Out***		***9.2.2.1***	***9.2.2.2***	***9.2.2.3***	***9.2.2.4***	***9.2.2.5***	***9.2.2.6***
1465	Alternate Diameter Pipeline 42"		710	710	710	710	710	710
1466	Line 3010 Complete Outage		0	0	0	0	0	0
1467	Otay Mesa Medium Supply		156	60	230	230	244	247
1468	**Total Supply**		**866**	**770**	**940**	**940**	**954**	**957**
1469	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
1470	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
1471	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1472		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1473		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1474	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
1475		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
1476		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
1477		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
1478	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1479		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1480		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**

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APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.			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
1								
2	A	B	C	D	E	F	G	H
1481								
1482	*Alt Diameter 42" / Otay Low / L3010 80%*		*9.1.3.1*	*9.1.3.2*	*9.1.3.3*	*9.1.3.4*	*9.1.3.5*	*9.1.3.6*
1483	Alternate Diameter Pipeline 42"		710	710	710	710	710	710
1484	Line 3010 at 80% Supply		380	380	380	380	380	380
1485	Otay Mesa Low Supply		33	33	148	148	130	168
1486	**Total Supply**		**1123**	**1123**	**1238**	**1238**	**1220**	**1258**
1487	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
1488	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
1489	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1490		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1491		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1492	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
1493		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
1494		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
1495		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
1496	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1497		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1498		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1499								
1500	*Alt Diameter 42" / Otay Low / L3010 Out*		*9.2.3.1*	*9.2.3.2*	*9.2.3.3*	*9.2.3.4*	*9.2.3.5*	*9.2.3.6*
1501	Alternate Diameter Pipeline 42"		710	710	710	710	710	710
1502	Line 3010 Complete Outage		0	0	0	0	0	0
1503	Otay Mesa Low Supply		33	33	148	148	130	168
1504	**Total Supply**		**743**	**743**	**858**	**858**	**840**	**878**
1505	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
1506	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
1507	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1508		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1509		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1510	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
1511		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
1512		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
1513		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
1514	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1515		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1516		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1517								
1518	*Alt Diameter 42" / Otay Out / L3010 80%*		*9.1.4.1*	*9.1.4.2*	*9.1.4.3*	*9.1.4.4*	*9.1.4.5*	*9.1.4.6*
1519	Alternate Diameter Pipeline 42"		710	710	710	710	710	710
1520	Line 3010 at 80% Supply		380	380	380	380	380	380
1521	Otay Mesa No Supply		0	0	0	0	0	0
1522	**Total Supply**		**1090**	**1090**	**1090**	**1090**	**1090**	**1090**
1523	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
1524	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
1525	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1526		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1527		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1528	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
1529		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
1530		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
1531		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
1532	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1533		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1534		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1535								
1536	*Alt Diameter 42" / Otay Out / L3010 Out*		*9.2.4.1*	*9.2.4.2*	*9.2.4.3*	*9.2.4.4*	*9.2.4.5*	*9.2.4.6*
1537	Alternate Diameter Pipeline 42"		710	710	710	710	710	710
1538	Line 3010 Complete Outage		0	0	0	0	0	0
1539	Otay Mesa No Supply		0	0	0	0	0	0
1540	**Total Supply**		**710**	**710**	**710**	**710**	**710**	**710**
1541	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
1542	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
1543	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1544		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1545		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1546	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
1547		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
1548		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
1549		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
1550	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1551		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1552		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**

WORK PAPER TABLE - SCENARIO ANALYSIS GAS DEMAND AND SUPPLY (SA 1.1
EXAMPLE DAY OF GAS DEMAND AND SUPPLY FOR CUSTOMER CLASSES DURING SEASONAL VARIATIONS FOR ANALYSIS OF CURTAILMENT AND CUSTOMERS AFFECTED FOR EACH PROJECT ALTERNATE
APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.			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
1								
2	A	B	C	D	E	F	G	H
1553								
1554	***L1600 In-Kind Replacement***							
1555								
1556	***L1600 In-Kind / Otay Full / L3010 80%***		***10.1.1.1***	***10.1.1.2***	***10.1.1.3***	***10.1.1.4***	***10.1.1.5***	***10.1.1.6***
1557	L1600 In-Kind Replacement		160	160	160	160	160	160
1558	Line 3010 at 80% Supply		380	380	380	380	380	380
1559	Otay Mesa Full Supply		295	86	313	313	329	324
1560	**Total Supply**		**835**	**626**	**853**	**853**	**869**	**864**
1561	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
1562	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
1563	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1564		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1565		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1566	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
1567		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
1568		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
1569		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
1570	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1571		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1572		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1573								
1574	***L1600 In-Kind / Otay Full / L3010 Out***		***10.2.1.1***	***10.2.1.2***	***10.2.1.3***	***10.2.1.4***	***10.2.1.5***	***10.2.1.6***
1575	L1600 In-Kind Replacement		160	160	160	160	160	160
1576	Line 3010 Complete Outage		0	0	0	0	0	0
1577	Otay Mesa Full Supply		295	86	313	313	329	324
1578	**Total Supply**		**455**	**246**	**473**	**473**	**489**	**484**
1579	**Total MMcfd Shortfall**		**0**	**229**	**64**	**104**	**0**	**41**
1580	**Immediate Curtailment to EG Stations?**		**No**	**Yes**	**Yes**	**Yes**	**No**	**No**
1581	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1582		Gas EG [%]	**0%**	**51%**	**1%**	**26%**	**0%**	**0%**
1583		Gas Non-Core Non-EG [%]	**0%**	**100%**	**100%**	**100%**	**0%**	**55%**
1584	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
1585		Gas EG [MWh/d]	**0**	**20,742**	**298**	**5,693**	**0**	**0**
1586		Gas EG [MW]	**0**	**864**	**12**	**237**	**0**	**0**
1587		Gas Non-Core Non-EG [MMcfd]	**0**	**75**	**62**	**62**	**0**	**41**
1588	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1589		Gas EG [# Affected]	**0**	**N/A**	**N/A**	**N/A**	**0**	**0**
1590		Gas Non-Core Non-EG [# Affected]	**0**	**N/A**	**N/A**	**N/A**	**0**	**N/A**
1591								
1592	***L1600 In-Kind / Otay Medium / L3010 80%***		***10.1.2.1***	***10.1.2.2***	***10.1.2.3***	***10.1.2.4***	***10.1.2.5***	***10.1.2.6***
1593	L1600 In-Kind Replacement		160	160	160	160	160	160
1594	Line 3010 at 80% Supply		380	380	380	380	380	380
1595	Otay Mesa Medium Supply		156	60	230	230	244	247
1596	**Total Supply**		**696**	**600**	**770**	**770**	**784**	**787**
1597	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
1598	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
1599	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1600		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1601		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1602	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
1603		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
1604		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
1605		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
1606	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1607		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1608		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1609								
1610	***L1600 In-Kind / Otay Medium / L3010 Out***		***10.2.2.1***	***10.2.2.2***	***10.2.2.3***	***10.2.2.4***	***10.2.2.5***	***10.2.2.6***
1611	L1600 In-Kind Replacement		160	160	160	160	160	160
1612	Line 3010 Complete Outage		0	0	0	0	0	0
1613	Otay Mesa Medium Supply		156	60	230	230	244	247
1614	**Total Supply**		**316**	**220**	**390**	**390**	**404**	**407**
1615	**Total MMcfd Shortfall**		**0**	**255**	**147**	**187**	**61**	**118**
1616	**Immediate Curtailment to EG Stations?**		**No**	**Yes**	**Yes**	**Yes**	**No**	**Yes**
1617	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1618		Gas EG [%]	**0%**	**60%**	**52%**	**76%**	**0%**	**16%**
1619		Gas Non-Core Non-EG [%]	**0%**	**100%**	**100%**	**100%**	**81%**	**100%**
1620	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
1621		Gas EG [MWh/d]	**0**	**24,309**	**11,475**	**16,870**	**0**	**5,777**
1622		Gas EG [MW]	**0**	**1,013**	**478**	**703**	**0**	**241**
1623		Gas Non-Core Non-EG [MMcfd]	**0**	**75**	**62**	**62**	**61**	**75**
1624	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1625		Gas EG [# Affected]	**0**	**N/A**	**N/A**	**N/A**	**0**	**N/A**
1626		Gas Non-Core Non-EG [# Affected]	**0**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**

WORK PAPER TABLE - SCENARIO ANALYSIS GAS DEMAND AND SUPPLY (SA 1.1
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APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.			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
1								
2	A	B	C	D	E	F	G	H
1627								
1628	*L1600 In-Kind / Otay Low / L3010 80%*		*10.1.3.1*	*10.1.3.2*	*10.1.3.3*	*10.1.3.4*	*10.1.3.5*	*10.1.3.6*
1629	L1600 In-Kind Replacement		160	160	160	160	160	160
1630	Line 3010 at 80% Supply		380	380	380	380	380	380
1631	Otay Mesa Low Supply		33	33	148	148	130	168
1632	**Total Supply**		**573**	**573**	**688**	**688**	**670**	**708**
1633	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
1634	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
1635	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1636		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1637		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1638	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
1639		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
1640		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
1641		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
1642	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1643		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1644		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1645								
1646	*L1600 In-Kind / Otay Low / L3010 Out*		*10.2.3.1*	*10.2.3.2*	*10.2.3.3*	*10.2.3.4*	*10.2.3.5*	*10.2.3.6*
1647	L1600 In-Kind Replacement		160	160	160	160	160	160
1648	Line 3010 Complete Outage		0	0	0	0	0	0
1649	Otay Mesa Low Supply		33	33	148	148	130	168
1650	**Total Supply**		**193**	**193**	**308**	**308**	**290**	**328**
1651	**Total MMcfd Shortfall**		**82**	**282**	**229**	**269**	**175**	**197**
1652	**Immediate Curtailment to EG Stations?**		**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
1653	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**1%**	**12%**	**0%**	**0%**
1654		Gas EG [%]	**7%**	**69%**	**100%**	**100%**	**45%**	**45%**
1655		Gas Non-Core Non-EG [%]	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
1656	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**2**	**42**	**0**	**0**
1657		Gas EG [MWh/d]	**902**	**27,876**	**22,253**	**22,253**	**13,473**	**16,515**
1658		Gas EG [MW]	**38**	**1,162**	**927**	**927**	**561**	**688**
1659		Gas Non-Core Non-EG [MMcfd]	**75**	**75**	**62**	**62**	**75**	**75**
1660	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**5,325**	**104,012**	**0**	**0**
1661		Gas EG [# Affected]	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
1662		Gas Non-Core Non-EG [# Affected]	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
1663								
1664	*L1600 In-Kind / Otay Out / L3010 80%*		*10.1.4.1*	*10.1.4.2*	*10.1.4.3*	*10.1.4.4*	*10.1.4.5*	*10.1.4.6*
1665	L1600 In-Kind Replacement		160	160	160	160	160	160
1666	Line 3010 at 80% Supply		380	380	380	380	380	380
1667	Otay Mesa No Supply		0	0	0	0	0	0
1668	**Total Supply**		**540**	**540**	**540**	**540**	**540**	**540**
1669	**Total MMcfd Shortfall**		**0**	**0**	**0**	**37**	**0**	**0**
1670	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
1671	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1672		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1673		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**60%**	**0%**	**0%**
1674	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
1675		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
1676		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
1677		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**37**	**0**	**0**
1678	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1679		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1680		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**N/A**	**0**	**0**
1681								
1682	*L1600 In-Kind / Otay Out / L3010 Out*		*10.2.4.1*	*10.2.4.2*	*10.2.4.3*	*10.2.4.4*	*10.2.4.5*	*10.2.4.6*
1683	L1600 In-Kind Replacement		160	160	160	160	160	160
1684	Line 3010 Complete Outage		0	0	0	0	0	0
1685	Otay Mesa No Supply		0	0	0	0	0	0
1686	**Total Supply**		**160**	**160**	**160**	**160**	**160**	**160**
1687	**Total MMcfd Shortfall**		**115**	**315**	**377**	**417**	**305**	**365**
1688	**Immediate Curtailment to EG Stations?**		**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
1689	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**48%**	**54%**	**6%**	**11%**
1690		Gas EG [%]	**40%**	**80%**	**100%**	**100%**	**100%**	**100%**
1691		Gas Non-Core Non-EG [%]	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
1692	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**150**	**190**	**10**	**20**
1693		Gas EG [MWh/d]	**5,395**	**32,368**	**22,253**	**22,253**	**29,671**	**36,414**
1694		Gas EG [MW]	**225**	**1,349**	**927**	**927**	**1,236**	**1,517**
1695		Gas Non-Core Non-EG [MMcfd]	**75**	**75**	**62**	**62**	**75**	**75**
1696	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**420,405**	**471,655**	**51,108**	**96,538**
1697		Gas EG [# Affected]	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
1698		Gas Non-Core Non-EG [# Affected]	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**

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APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.			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
1								
2	A	B	C	D	E	F	G	H
1699								
1700	***Otay Mesa Alternate***							
1701								
1702	***Otay Mesa Alternate / Otay Full / L3010 80%***		***11.1.1.1***	***11.1.1.2***	***11.1.1.3***	***11.1.1.4***	***11.1.1.5***	***11.1.1.6***
1703	Otay Mesa Alternate		0	0	0	0	0	0
1704	Line 3010 at 80% Supply		380	380	380	380	380	380
1705	Otay Mesa Full Supply		295	86	313	313	329	324
1706	**Total Supply**		**675**	**466**	**693**	**693**	**709**	**704**
1707	**Total MMcfd Shortfall**		**0**	**9**	**0**	**0**	**0**	**0**
1708	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
1709	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1710		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1711		Gas Non-Core Non-EG [%]	**0%**	**12%**	**0%**	**0%**	**0%**	**0%**
1712	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
1713		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
1714		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
1715		Gas Non-Core Non-EG [MMcfd]	**0**	**9**	**0**	**0**	**0**	**0**
1716	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1717		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1718		Gas Non-Core Non-EG [# Affected]	**0**	**N/A**	**0**	**0**	**0**	**0**
1719								
1720	***Otay Mesa Alternate / Otay Full / L3010 Out***		***11.2.1.1***	***11.2.1.2***	***11.2.1.3***	***11.2.1.4***	***11.2.1.5***	***11.2.1.6***
1721	Otay Mesa Alternate		0	0	0	0	0	0
1722	Line 3010 Complete Outage		0	0	0	0	0	0
1723	Otay Mesa Full Supply		295	86	313	313	329	324
1724	**Total Supply**		**295**	**86**	**313**	**313**	**329**	**324**
1725	**Total MMcfd Shortfall**		**0**	**389**	**224**	**264**	**136**	**201**
1726	**Immediate Curtailment to EG Stations?**		**No**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
1727	**Curtailment (%)**	Gas Core [%]	**0%**	**14%**	**0%**	**11%**	**0%**	**0%**
1728		Gas EG [%]	**0%**	**100%**	**98%**	**100%**	**28%**	**47%**
1729		Gas Non-Core Non-EG [%]	**0%**	**100%**	**100%**	**100%**	**100%**	**100%**
1730	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**14**	**0**	**37**	**0**	**0**
1731		Gas EG [MWh/d]	**0**	**40,461**	**21,877**	**22,253**	**8,240**	**17,039**
1732		Gas EG [MW]	**0**	**1,686**	**912**	**927**	**343**	**710**
1733		Gas Non-Core Non-EG [MMcfd]	**0**	**75**	**62**	**62**	**75**	**75**
1734	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**119,839**	**0**	**92,375**	**0**	**0**
1735		Gas EG [# Affected]	**0**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
1736		Gas Non-Core Non-EG [# Affected]	**0**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
1737								
1738	***Otay Mesa Alternate / Otay Medium / L3010 80%***		***11.1.2.1***	***11.1.2.2***	***11.1.2.3***	***11.1.2.4***	***11.1.2.5***	***11.1.2.6***
1739	Otay Mesa Alternate		0	0	0	0	0	0
1740	Line 3010 at 80% Supply		380	380	380	380	380	380
1741	Otay Mesa Medium Supply		156	60	230	230	244	247
1742	**Total Supply**		**536**	**440**	**610**	**610**	**624**	**627**
1743	**Total MMcfd Shortfall**		**0**	**35**	**0**	**0**	**0**	**0**
1744	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
1745	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1746		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1747		Gas Non-Core Non-EG [%]	**0%**	**47%**	**0%**	**0%**	**0%**	**0%**
1748	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
1749		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
1750		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
1751		Gas Non-Core Non-EG [MMcfd]	**0**	**35**	**0**	**0**	**0**	**0**
1752	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1753		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1754		Gas Non-Core Non-EG [# Affected]	**0**	**N/A**	**0**	**0**	**0**	**0**
1755								
1756	***Otay Mesa Alternate / Otay Medium / L3010 Out***		***11.2.2.1***	***11.2.2.2***	***11.2.2.3***	***11.2.2.4***	***11.2.2.5***	***11.2.2.6***
1757	Otay Mesa Alternate		0	0	0	0	0	0
1758	Line 3010 Complete Outage		0	0	0	0	0	0
1759	Otay Mesa Medium Supply		156	60	230	230	244	247
1760	**Total Supply**		**156**	**60**	**230**	**230**	**244**	**247**
1761	**Total MMcfd Shortfall**		**119**	**415**	**307**	**347**	**221**	**278**
1762	**Immediate Curtailment to EG Stations?**		**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
1763	**Curtailment (%)**	Gas Core [%]	**0%**	**40%**	**26%**	**34%**	**0%**	**0%**
1764		Gas EG [%]	**44%**	**100%**	**100%**	**100%**	**66%**	**75%**
1765		Gas Non-Core Non-EG [%]	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
1766	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**40**	**80**	**120**	**0**	**0**
1767		Gas EG [MWh/d]	**5,978**	**40,461**	**22,253**	**22,253**	**19,672**	**27,355**
1768		Gas EG [MW]	**249**	**1,686**	**927**	**927**	**820**	**1,140**
1769		Gas Non-Core Non-EG [MMcfd]	**75**	**75**	**62**	**62**	**75**	**75**
1770	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**349,638**	**224,454**	**298,098**	**0**	**0**
1771		Gas EG [# Affected]	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
1772		Gas Non-Core Non-EG [# Affected]	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**

WORK PAPER TABLE - SCENARIO ANALYSIS GAS DEMAND AND SUPPLY (SA 1.1

EXAMPLE DAY OF GAS DEMAND AND SUPPLY FOR CUSTOMER CLASSES DURING SEASONAL VARIATIONS FOR ANALYSIS OF CURTAILMENT AND CUSTOMERS AFFECTED FOR EACH PROJECT ALTERNATE

APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.			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
1								
2	A	B	C	D	E	F	G	H
1773								
1774	*Otay Mesa Alternate / Otay Low / L3010 80%*		*11.1.3.1*	*11.1.3.2*	*11.1.3.3*	*11.1.3.4*	*11.1.3.5*	*11.1.3.6*
1775	Otay Mesa Alternate		0	0	0	0	0	0
1776	Line 3010 at 80% Supply		380	380	380	380	380	380
1777	Otay Mesa Low Supply		33	33	148	148	130	168
1778	**Total Supply**		**413**	**413**	**528**	**528**	**510**	**548**
1779	**Total MMcfd Shortfall**		**0**	**62**	**9**	**49**	**0**	**0**
1780	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
1781	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1782		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1783		Gas Non-Core Non-EG [%]	**0%**	**82%**	**14%**	**79%**	**0%**	**0%**
1784	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
1785		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
1786		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
1787		Gas Non-Core Non-EG [MMcfd]	**0**	**62**	**9**	**49**	**0**	**0**
1788	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1789		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1790		Gas Non-Core Non-EG [# Affected]	**0**	**N/A**	**N/A**	**N/A**	**0**	**0**
1791								
1792	*Otay Mesa Alternate / Otay Low / L3010 Out*		*11.2.3.1*	*11.2.3.2*	*11.2.3.3*	*11.2.3.4*	*11.2.3.5*	*11.2.3.6*
1793	Otay Mesa Alternate		0	0	0	0	0	0
1794	Line 3010 Complete Outage		0	0	0	0	0	0
1795	Otay Mesa Low Supply		33	33	148	148	130	168
1796	**Total Supply**		**33**	**33**	**148**	**148**	**130**	**168**
1797	**Total MMcfd Shortfall**		**242**	**442**	**389**	**429**	**335**	**357**
1798	**Immediate Curtailment to EG Stations?**		**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
1799	**Curtailment (%)**	Gas Core [%]	**67%**	**67%**	**52%**	**58%**	**23%**	**7%**
1800		Gas EG [%]	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
1801		Gas Non-Core Non-EG [%]	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
1802	**Curtailment (Capacity)**	Gas Core [MMcfd]	**67**	**67**	**162**	**202**	**40**	**12**
1803		Gas EG [MWh/d]	**13,487**	**40,461**	**22,253**	**22,253**	**29,671**	**36,414**
1804		Gas EG [MW]	**562**	**1,686**	**927**	**927**	**1,236**	**1,517**
1805		Gas Non-Core Non-EG [MMcfd]	**75**	**75**	**62**	**62**	**75**	**75**
1806	**Number of Customers Affected**	Gas Core [# Affected]	**579,437**	**579,437**	**453,758**	**501,195**	**203,921**	**60,119**
1807		Gas EG [# Affected]	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
1808		Gas Non-Core Non-EG [# Affected]	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
1809								
1810	*Otay Mesa Alternate / Otay Out / L3010 80%*		*11.1.4.1*	*11.1.4.2*	*11.1.4.3*	*11.1.4.4*	*11.1.4.5*	*11.1.4.6*
1811	Otay Mesa Alternate		0	0	0	0	0	0
1812	Line 3010 at 80% Supply		380	380	380	380	380	380
1813	Otay Mesa No Supply		0	0	0	0	0	0
1814	**Total Supply**		**380**	**380**	**380**	**380**	**380**	**380**
1815	**Total MMcfd Shortfall**		**0**	**95**	**157**	**197**	**85**	**145**
1816	**Immediate Curtailment to EG Stations?**		**No**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
1817	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1818		Gas EG [%]	**0%**	**7%**	**58%**	**82%**	**5%**	**26%**
1819		Gas Non-Core Non-EG [%]	**0%**	**100%**	**100%**	**100%**	**100%**	**100%**
1820	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
1821		Gas EG [MWh/d]	**0**	**2,697**	**12,813**	**18,207**	**1,349**	**9,441**
1822		Gas EG [MW]	**0**	**112**	**534**	**759**	**56**	**393**
1823		Gas Non-Core Non-EG [MMcfd]	**0**	**75**	**62**	**62**	**75**	**75**
1824	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1825		Gas EG [# Affected]	**0**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
1826		Gas Non-Core Non-EG [# Affected]	**0**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
1827								
1828	*Otay Mesa Alternate / Otay Out / L3010 Out*		*11.2.4.1*	*11.2.4.2*	*11.2.4.3*	*11.2.4.4*	*11.2.4.5*	*11.2.4.6*
1829	Otay Mesa Alternate		0	0	0	0	0	0
1830	Line 3010 Complete Outage		0	0	0	0	0	0
1831	Otay Mesa No Supply		0	0	0	0	0	0
1832	**Total Supply**		**0**	**0**	**0**	**0**	**0**	**0**
1833	**Total MMcfd Shortfall**		**275**	**475**	**537**	**577**	**465**	**525**
1834	**Immediate Curtailment to EG Stations?**		**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
1835	**Curtailment (%)**	Gas Core [%]	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
1836		Gas EG [%]	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
1837		Gas Non-Core Non-EG [%]	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
1838	**Curtailment (Capacity)**	Gas Core [MMcfd]	**100**	**100**	**310**	**350**	**170**	**180**
1839		Gas EG [MWh/d]	**13,487**	**40,461**	**22,253**	**22,253**	**29,671**	**36,414**
1840		Gas EG [MW]	**562**	**1,686**	**927**	**927**	**1,236**	**1,517**
1841		Gas Non-Core Non-EG [MMcfd]	**75**	**75**	**62**	**62**	**75**	**75**
1842	**Number of Customers Affected**	Gas Core [# Affected]	**868,838**	**868,838**	**868,838**	**868,838**	**868,838**	**868,838**
1843		Gas EG [# Affected]	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
1844		Gas Non-Core Non-EG [# Affected]	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**

WORK PAPER TABLE - SCENARIO ANALYSIS GAS DEMAND AND SUPPLY (SA 1.1
EXAMPLE DAY OF GAS DEMAND AND SUPPLY FOR CUSTOMER CLASSES DURING SEASONAL VARIATIONS FOR ANALYSIS OF CURTAILMENT AND CUSTOMERS AFFECTED FOR EACH PROJECT ALTERNATE
APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.			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
1								
2	A	B	C	D	E	F	G	H
1845								
1846	***LNG Storage Alternate***							
1847								
1848	***LNG Storage / Otay Full / L3010 80%***		***13.1.1.1***	***13.1.1.2***	***13.1.1.3***	***13.1.1.4***	***13.1.1.5***	***13.1.1.6***
1849	LNG Storage Alternate		0	0	0	0	0	0
1850	Line 3010 at 80% Supply		380	380	380	380	380	380
1851	Otay Mesa Full Supply		295	86	313	313	329	324
1852	**Total Supply**		**675**	**466**	**693**	**693**	**709**	**704**
1853	**Total MMcfd Shortfall**		**0**	**9**	**0**	**0**	**0**	**0**
1854	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
1855	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1856		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1857		Gas Non-Core Non-EG [%]	**0%**	**12%**	**0%**	**0%**	**0%**	**0%**
1858	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
1859		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
1860		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
1861		Gas Non-Core Non-EG [MMcfd]	**0**	**9**	**0**	**0**	**0**	**0**
1862	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1863		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1864		Gas Non-Core Non-EG [# Affected]	**0**	**N/A**	**0**	**0**	**0**	**0**
1865								
1866	***LNG Storage / Otay Full / L3010 Out***		***13.2.1.1***	***13.2.1.2***	***13.2.1.3***	***13.2.1.4***	***13.2.1.5***	***13.2.1.6***
1867	LNG Storage Alternate		0	0	0	0	0	0
1868	Line 3010 Complete Outage		0	0	0	0	0	0
1869	Otay Mesa Full Supply		295	86	313	313	329	324
1870	**Total Supply**		**295**	**86**	**313**	**313**	**329**	**324**
1871	**Total MMcfd Shortfall**		**0**	**389**	**224**	**264**	**136**	**201**
1872	**Immediate Curtailment to EG Stations?**		**No**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
1873	**Curtailment (%)**	Gas Core [%]	**0%**	**14%**	**0%**	**11%**	**0%**	**0%**
1874		Gas EG [%]	**0%**	**100%**	**98%**	**100%**	**28%**	**47%**
1875		Gas Non-Core Non-EG [%]	**0%**	**100%**	**100%**	**100%**	**100%**	**100%**
1876	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**14**	**0**	**37**	**0**	**0**
1877		Gas EG [MWh/d]	**0**	**40,461**	**21,877**	**22,253**	**8,240**	**17,039**
1878		Gas EG [MW]	**0**	**1,686**	**912**	**927**	**343**	**710**
1879		Gas Non-Core Non-EG [MMcfd]	**0**	**75**	**62**	**62**	**75**	**75**
1880	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**119,839**	**0**	**92,375**	**0**	**0**
1881		Gas EG [# Affected]	**0**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
1882		Gas Non-Core Non-EG [# Affected]	**0**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
1883								
1884	***LNG Storage / Otay Medium / L3010 80%***		***13.1.2.1***	***13.1.2.2***	***13.1.2.3***	***13.1.2.4***	***13.1.2.5***	***13.1.2.6***
1885	LNG Storage Alternate		0	0	0	0	0	0
1886	Line 3010 at 80% Supply		380	380	380	380	380	380
1887	Otay Mesa Medium Supply		156	60	230	230	244	247
1888	**Total Supply**		**536**	**440**	**610**	**610**	**624**	**627**
1889	**Total MMcfd Shortfall**		**0**	**35**	**0**	**0**	**0**	**0**
1890	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
1891	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1892		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1893		Gas Non-Core Non-EG [%]	**0%**	**47%**	**0%**	**0%**	**0%**	**0%**
1894	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
1895		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
1896		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
1897		Gas Non-Core Non-EG [MMcfd]	**0**	**35**	**0**	**0**	**0**	**0**
1898	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1899		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1900		Gas Non-Core Non-EG [# Affected]	**0**	**N/A**	**0**	**0**	**0**	**0**
1901								
1902	***LNG Storage / Otay Medium / L3010 Out***		***13.2.2.1***	***13.2.2.2***	***13.2.2.3***	***13.2.2.4***	***13.2.2.5***	***13.2.2.6***
1903	LNG Storage Alternate		0	0	0	0	0	0
1904	Line 3010 Complete Outage		0	0	0	0	0	0
1905	Otay Mesa Medium Supply		156	60	230	230	244	247
1906	**Total Supply**		**156**	**60**	**230**	**230**	**244**	**247**
1907	**Total MMcfd Shortfall**		**119**	**415**	**307**	**347**	**221**	**278**
1908	**Immediate Curtailment to EG Stations?**		**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
1909	**Curtailment (%)**	Gas Core [%]	**0%**	**40%**	**26%**	**34%**	**0%**	**0%**
1910		Gas EG [%]	**44%**	**100%**	**100%**	**100%**	**66%**	**75%**
1911		Gas Non-Core Non-EG [%]	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
1912	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**40**	**80**	**120**	**0**	**0**
1913		Gas EG [MWh/d]	**5,978**	**40,461**	**22,253**	**22,253**	**19,672**	**27,355**
1914		Gas EG [MW]	**249**	**1,686**	**927**	**927**	**820**	**1,140**
1915		Gas Non-Core Non-EG [MMcfd]	**75**	**75**	**62**	**62**	**75**	**75**
1916	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**349,638**	**224,454**	**298,098**	**0**	**0**
1917		Gas EG [# Affected]	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
1918		Gas Non-Core Non-EG [# Affected]	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**

WORK PAPER TABLE - SCENARIO ANALYSIS GAS DEMAND AND SUPPLY (SA 1.1
EXAMPLE DAY OF GAS DEMAND AND SUPPLY FOR CUSTOMER CLASSES DURING SEASONAL VARIATIONS FOR ANALYSIS OF CURTAILMENT AND CUSTOMERS AFFECTED FOR EACH PROJECT ALTERNATE
APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.			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
1								
2	A	B	C	D	E	F	G	H
1919								
1920	***LNG Storage / Otay Low / L3010 80%***		***13.1.3.1***	***13.1.3.2***	***13.1.3.3***	***13.1.3.4***	***13.1.3.5***	***13.1.3.6***
1921	LNG Storage Alternate		0	0	0	0	0	0
1922	Line 3010 at 80% Supply		380	380	380	380	380	380
1923	Otay Mesa Low Supply		33	33	148	148	130	168
1924	**Total Supply**		**413**	**413**	**528**	**528**	**510**	**548**
1925	**Total MMcfd Shortfall**		**0**	**62**	**9**	**49**	**0**	**0**
1926	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
1927	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1928		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1929		Gas Non-Core Non-EG [%]	**0%**	**82%**	**14%**	**79%**	**0%**	**0%**
1930	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
1931		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
1932		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
1933		Gas Non-Core Non-EG [MMcfd]	**0**	**62**	**9**	**49**	**0**	**0**
1934	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1935		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1936		Gas Non-Core Non-EG [# Affected]	**0**	**N/A**	**N/A**	**N/A**	**0**	**0**
1937								
1938	***LNG Storage / Otay Low / L3010 Out***		***13.2.3.1***	***13.2.3.2***	***13.2.3.3***	***13.2.3.4***	***13.2.3.5***	***13.2.3.6***
1939	LNG Storage Alternate		0	0	0	0	0	0
1940	Line 3010 Complete Outage		0	0	0	0	0	0
1941	Otay Mesa Low Supply		33	33	148	148	130	168
1942	**Total Supply**		**33**	**33**	**148**	**148**	**130**	**168**
1943	**Total MMcfd Shortfall**		**242**	**442**	**389**	**429**	**335**	**357**
1944	**Immediate Curtailment to EG Stations?**		**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
1945	**Curtailment (%)**	Gas Core [%]	**67%**	**67%**	**52%**	**58%**	**23%**	**7%**
1946		Gas EG [%]	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
1947		Gas Non-Core Non-EG [%]	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
1948	**Curtailment (Capacity)**	Gas Core [MMcfd]	**67**	**67**	**162**	**202**	**40**	**12**
1949		Gas EG [MWh/d]	**13,487**	**40,461**	**22,253**	**22,253**	**29,671**	**36,414**
1950		Gas EG [MW]	**562**	**1,686**	**927**	**927**	**1,236**	**1,517**
1951		Gas Non-Core Non-EG [MMcfd]	**75**	**75**	**62**	**62**	**75**	**75**
1952	**Number of Customers Affected**	Gas Core [# Affected]	**579,437**	**579,437**	**453,758**	**501,195**	**203,921**	**60,119**
1953		Gas EG [# Affected]	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
1954		Gas Non-Core Non-EG [# Affected]	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
1955								
1956	***LNG Storage / Otay Out / L3010 80%***		***13.1.4.1***	***13.1.4.2***	***13.1.4.3***	***13.1.4.4***	***13.1.4.5***	***13.1.4.6***
1957	LNG Storage Alternate		0	0	0	0	0	0
1958	Line 3010 at 80% Supply		380	380	380	380	380	380
1959	Otay Mesa No Supply		0	0	0	0	0	0
1960	**Total Supply**		**380**	**380**	**380**	**380**	**380**	**380**
1961	**Total MMcfd Shortfall**		**0**	**95**	**157**	**197**	**85**	**145**
1962	**Immediate Curtailment to EG Stations?**		**No**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
1963	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1964		Gas EG [%]	**0%**	**7%**	**58%**	**82%**	**5%**	**26%**
1965		Gas Non-Core Non-EG [%]	**0%**	**100%**	**100%**	**100%**	**100%**	**100%**
1966	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
1967		Gas EG [MWh/d]	**0**	**2,697**	**12,813**	**18,207**	**1,349**	**9,441**
1968		Gas EG [MW]	**0**	**112**	**534**	**759**	**56**	**393**
1969		Gas Non-Core Non-EG [MMcfd]	**0**	**75**	**62**	**62**	**75**	**75**
1970	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
1971		Gas EG [# Affected]	**0**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
1972		Gas Non-Core Non-EG [# Affected]	**0**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
1973								
1974	***LNG Storage / Otay Out / L3010 Out***		***13.2.4.1***	***13.2.4.2***	***13.2.4.3***	***13.2.4.4***	***13.2.4.5***	***13.2.4.6***
1975	LNG Storage Alternate		0	0	0	0	0	0
1976	Line 3010 Complete Outage		0	0	0	0	0	0
1977	Otay Mesa No Supply		0	0	0	0	0	0
1978	**Total Supply**		**0**	**0**	**0**	**0**	**0**	**0**
1979	**Total MMcfd Shortfall**		**275**	**475**	**537**	**577**	**465**	**525**
1980	**Immediate Curtailment to EG Stations?**		**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
1981	**Curtailment (%)**	Gas Core [%]	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
1982		Gas EG [%]	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
1983		Gas Non-Core Non-EG [%]	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
1984	**Curtailment (Capacity)**	Gas Core [MMcfd]	**100**	**100**	**310**	**350**	**170**	**180**
1985		Gas EG [MWh/d]	**13,487**	**40,461**	**22,253**	**22,253**	**29,671**	**36,414**
1986		Gas EG [MW]	**562**	**1,686**	**927**	**927**	**1,236**	**1,517**
1987		Gas Non-Core Non-EG [MMcfd]	**75**	**75**	**62**	**62**	**75**	**75**
1988	**Number of Customers Affected**	Gas Core [# Affected]	**868,838**	**868,838**	**868,838**	**868,838**	**868,838**	**868,838**
1989		Gas EG [# Affected]	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
1990		Gas Non-Core Non-EG [# Affected]	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**

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APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.			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
1								
2	A	B	C	D	E	F	G	H
1991								
1992	***Alt Energy Alternate (Grid-Scale)***							
1993								
1994	***Alt Energy (Grid) / Otay Full / L3010 80%***		***14.1.1.1***	***14.1.1.2***	***14.1.1.3***	***14.1.1.4***	***14.1.1.5***	***14.1.1.6***
1995	Alt Energy Alternate (Grid-Scale)		0	0	0	0	0	0
1996	Line 3010 at 80% Supply		380	380	380	380	380	380
1997	Otay Mesa Full Supply		295	86	313	313	329	324
1998	**Total Supply**		**675**	**466**	**693**	**693**	**709**	**704**
1999	**Total MMcfd Shortfall**		**0**	**9**	**0**	**0**	**0**	**0**
2000	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
2001	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2002		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2003		Gas Non-Core Non-EG [%]	**0%**	**12%**	**0%**	**0%**	**0%**	**0%**
2004	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2005		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
2006		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
2007		Gas Non-Core Non-EG [MMcfd]	**0**	**9**	**0**	**0**	**0**	**0**
2008	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2009		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2010		Gas Non-Core Non-EG [# Affected]	**0**	**N/A**	**0**	**0**	**0**	**0**
2011								
2012	***Alt Energy (Grid) / Otay Full / L3010 Out***		***14.2.1.1***	***14.2.1.2***	***14.2.1.3***	***14.2.1.4***	***14.2.1.5***	***14.2.1.6***
2013	Alt Energy Alternate (Grid-Scale)		0	0	0	0	0	0
2014	Line 3010 Complete Outage		0	0	0	0	0	0
2015	Otay Mesa Full Supply		295	86	313	313	329	324
2016	**Total Supply**		**295**	**86**	**313**	**313**	**329**	**324**
2017	**Total MMcfd Shortfall**		**0**	**389**	**224**	**264**	**136**	**201**
2018	**Immediate Curtailment to EG Stations?**		**No**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
2019	**Curtailment (%)**	Gas Core [%]	**0%**	**14%**	**0%**	**11%**	**0%**	**0%**
2020		Gas EG [%]	**0%**	**100%**	**98%**	**100%**	**28%**	**47%**
2021		Gas Non-Core Non-EG [%]	**0%**	**100%**	**100%**	**100%**	**100%**	**100%**
2022	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**14**	**0**	**37**	**0**	**0**
2023		Gas EG [MWh/d]	**0**	**40,461**	**21,877**	**22,253**	**8,240**	**17,039**
2024		Gas EG [MW]	**0**	**1,686**	**912**	**927**	**343**	**710**
2025		Gas Non-Core Non-EG [MMcfd]	**0**	**75**	**62**	**62**	**75**	**75**
2026	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**119,839**	**0**	**92,375**	**0**	**0**
2027		Gas EG [# Affected]	**0**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
2028		Gas Non-Core Non-EG [# Affected]	**0**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
2029								
2030	***Alt Energy (Grid) / Otay Medium / L3010 80%***		***14.1.2.1***	***14.1.2.2***	***14.1.2.3***	***14.1.2.4***	***14.1.2.5***	***14.1.2.6***
2031	Alt Energy Alternate (Grid-Scale)		0	0	0	0	0	0
2032	Line 3010 at 80% Supply		380	380	380	380	380	380
2033	Otay Mesa Medium Supply		156	60	230	230	244	247
2034	**Total Supply**		**536**	**440**	**610**	**610**	**624**	**627**
2035	**Total MMcfd Shortfall**		**0**	**35**	**0**	**0**	**0**	**0**
2036	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
2037	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2038		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2039		Gas Non-Core Non-EG [%]	**0%**	**47%**	**0%**	**0%**	**0%**	**0%**
2040	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2041		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
2042		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
2043		Gas Non-Core Non-EG [MMcfd]	**0**	**35**	**0**	**0**	**0**	**0**
2044	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2045		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2046		Gas Non-Core Non-EG [# Affected]	**0**	**N/A**	**0**	**0**	**0**	**0**
2047								
2048	***Alt Energy (Grid) / Otay Medium / L3010 Out***		***14.2.2.1***	***14.2.2.2***	***14.2.2.3***	***14.2.2.4***	***14.2.2.5***	***14.2.2.6***
2049	Alt Energy Alternate (Grid-Scale)		0	0	0	0	0	0
2050	Line 3010 Complete Outage		0	0	0	0	0	0
2051	Otay Mesa Medium Supply		156	60	230	230	244	247
2052	**Total Supply**		**156**	**60**	**230**	**230**	**244**	**247**
2053	**Total MMcfd Shortfall**		**119**	**415**	**307**	**347**	**221**	**278**
2054	**Immediate Curtailment to EG Stations?**		**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
2055	**Curtailment (%)**	Gas Core [%]	**0%**	**40%**	**26%**	**34%**	**0%**	**0%**
2056		Gas EG [%]	**44%**	**100%**	**100%**	**100%**	**66%**	**75%**
2057		Gas Non-Core Non-EG [%]	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
2058	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**40**	**80**	**120**	**0**	**0**
2059		Gas EG [MWh/d]	**5,978**	**40,461**	**22,253**	**22,253**	**19,672**	**27,355**
2060		Gas EG [MW]	**249**	**1,686**	**927**	**927**	**820**	**1,140**
2061		Gas Non-Core Non-EG [MMcfd]	**75**	**75**	**62**	**62**	**75**	**75**
2062	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**349,638**	**224,454**	**298,098**	**0**	**0**
2063		Gas EG [# Affected]	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
2064		Gas Non-Core Non-EG [# Affected]	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**

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EXAMPLE DAY OF GAS DEMAND AND SUPPLY FOR CUSTOMER CLASSES DURING SEASONAL VARIATIONS FOR ANALYSIS OF CURTAILMENT AND CUSTOMERS AFFECTED FOR EACH PROJECT ALTERNATE

APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.			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
1								
2	A	B	C	D	E	F	G	H
2065								
2066	***Alt Energy (Grid) / Otay Low / L3010 80%***		***14.1.3.1***	***14.1.3.2***	***14.1.3.3***	***14.1.3.4***	***14.1.3.5***	***14.1.3.6***
2067	Alt Energy Alternate (Grid-Scale)		0	0	0	0	0	0
2068	Line 3010 at 80% Supply		380	380	380	380	380	380
2069	Otay Mesa Low Supply		33	33	148	148	130	168
2070	**Total Supply**		**413**	**413**	**528**	**528**	**510**	**548**
2071	**Total MMcfd Shortfall**		**0**	**62**	**9**	**49**	**0**	**0**
2072	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
2073	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2074		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2075		Gas Non-Core Non-EG [%]	**0%**	**82%**	**14%**	**79%**	**0%**	**0%**
2076	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2077		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
2078		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
2079		Gas Non-Core Non-EG [MMcfd]	**0**	**62**	**9**	**49**	**0**	**0**
2080	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2081		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2082		Gas Non-Core Non-EG [# Affected]	**0**	**N/A**	**N/A**	**N/A**	**0**	**0**
2083								
2084	***Alt Energy (Grid) / Otay Low / L3010 Out***		***14.2.3.1***	***14.2.3.2***	***14.2.3.3***	***14.2.3.4***	***14.2.3.5***	***14.2.3.6***
2085	Alt Energy Alternate (Grid-Scale)		0	0	0	0	0	0
2086	Line 3010 Complete Outage		0	0	0	0	0	0
2087	Otay Mesa Low Supply		33	33	148	148	130	168
2088	**Total Supply**		**33**	**33**	**148**	**148**	**130**	**168**
2089	**Total MMcfd Shortfall**		**242**	**442**	**389**	**429**	**335**	**357**
2090	**Immediate Curtailment to EG Stations?**		**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
2091	**Curtailment (%)**	Gas Core [%]	**67%**	**67%**	**52%**	**58%**	**23%**	**7%**
2092		Gas EG [%]	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
2093		Gas Non-Core Non-EG [%]	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
2094	**Curtailment (Capacity)**	Gas Core [MMcfd]	**67**	**67**	**162**	**202**	**40**	**12**
2095		Gas EG [MWh/d]	**13,487**	**40,461**	**22,253**	**22,253**	**29,671**	**36,414**
2096		Gas EG [MW]	**562**	**1,686**	**927**	**927**	**1,236**	**1,517**
2097		Gas Non-Core Non-EG [MMcfd]	**75**	**75**	**62**	**62**	**75**	**75**
2098	**Number of Customers Affected**	Gas Core [# Affected]	**579,437**	**579,437**	**453,758**	**501,195**	**203,921**	**60,119**
2099		Gas EG [# Affected]	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
2100		Gas Non-Core Non-EG [# Affected]	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
2101								
2102	***Alt Energy (Grid) / Otay Out / L3010 80%***		***14.1.4.1***	***14.1.4.2***	***14.1.4.3***	***14.1.4.4***	***14.1.4.5***	***14.1.4.6***
2103	Alt Energy Alternate (Grid-Scale)		0	0	0	0	0	0
2104	Line 3010 at 80% Supply		380	380	380	380	380	380
2105	Otay Mesa No Supply		0	0	0	0	0	0
2106	**Total Supply**		**380**	**380**	**380**	**380**	**380**	**380**
2107	**Total MMcfd Shortfall**		**0**	**95**	**157**	**197**	**85**	**145**
2108	**Immediate Curtailment to EG Stations?**		**No**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
2109	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2110		Gas EG [%]	**0%**	**7%**	**58%**	**82%**	**5%**	**26%**
2111		Gas Non-Core Non-EG [%]	**0%**	**100%**	**100%**	**100%**	**100%**	**100%**
2112	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2113		Gas EG [MWh/d]	**0**	**2,697**	**12,813**	**18,207**	**1,349**	**9,441**
2114		Gas EG [MW]	**0**	**112**	**534**	**759**	**56**	**393**
2115		Gas Non-Core Non-EG [MMcfd]	**0**	**75**	**62**	**62**	**75**	**75**
2116	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2117		Gas EG [# Affected]	**0**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
2118		Gas Non-Core Non-EG [# Affected]	**0**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
2119								
2120	***Alt Energy (Grid) / Otay Out / L3010 Out***		***14.2.4.1***	***14.2.4.2***	***14.2.4.3***	***14.2.4.4***	***14.2.4.5***	***14.2.4.6***
2121	Alt Energy Alternate (Grid-Scale)		0	0	0	0	0	0
2122	Line 3010 Complete Outage		0	0	0	0	0	0
2123	Otay Mesa No Supply		0	0	0	0	0	0
2124	**Total Supply**		**0**	**0**	**0**	**0**	**0**	**0**
2125	**Total MMcfd Shortfall**		**275**	**475**	**537**	**577**	**465**	**525**
2126	**Immediate Curtailment to EG Stations?**		**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
2127	**Curtailment (%)**	Gas Core [%]	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
2128		Gas EG [%]	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
2129		Gas Non-Core Non-EG [%]	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
2130	**Curtailment (Capacity)**	Gas Core [MMcfd]	**100**	**100**	**310**	**350**	**170**	**180**
2131		Gas EG [MWh/d]	**13,487**	**40,461**	**22,253**	**22,253**	**29,671**	**36,414**
2132		Gas EG [MW]	**562**	**1,686**	**927**	**927**	**1,236**	**1,517**
2133		Gas Non-Core Non-EG [MMcfd]	**75**	**75**	**62**	**62**	**75**	**75**
2134	**Number of Customers Affected**	Gas Core [# Affected]	**868,838**	**868,838**	**868,838**	**868,838**	**868,838**	**868,838**
2135		Gas EG [# Affected]	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
2136		Gas Non-Core Non-EG [# Affected]	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**

WORK PAPER TABLE - SCENARIO ANALYSIS GAS DEMAND AND SUPPLY (SA 1.1
EXAMPLE DAY OF GAS DEMAND AND SUPPLY FOR CUSTOMER CLASSES DURING SEASONAL VARIATIONS FOR ANALYSIS OF CURTAILMENT AND CUSTOMERS AFFECTED FOR EACH PROJECT ALTERNATE
APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.			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
1								
2	A	B	C	D	E	F	G	H
2137								
2138	***Alt Energy Alternate (Smaller-Scale)***							
2139								
2140	***Alt Energy (Small) / Otay Full / L3010 80%***		***21.1.1.1***	***21.1.1.2***	***21.1.1.3***	***21.1.1.4***	***21.1.1.5***	***21.1.1.6***
2141	Alt Energy Alternate (Smaller-Scale)		0	0	0	0	0	0
2142	Line 3010 at 80% Supply		380	380	380	380	380	380
2143	Otay Mesa Full Supply		295	86	313	313	329	324
2144	**Total Supply**		**675**	**466**	**693**	**693**	**709**	**704**
2145	**Total MMcfd Shortfall**		**0**	**9**	**0**	**0**	**0**	**0**
2146	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
2147	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2148		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2149		Gas Non-Core Non-EG [%]	**0%**	**12%**	**0%**	**0%**	**0%**	**0%**
2150	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2151		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
2152		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
2153		Gas Non-Core Non-EG [MMcfd]	**0**	**9**	**0**	**0**	**0**	**0**
2154	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2155		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2156		Gas Non-Core Non-EG [# Affected]	**0**	**N/A**	**0**	**0**	**0**	**0**
2157								
2158	***Alt Energy (Small) / Otay Full / L3010 Out***		***21.2.1.1***	***21.2.1.2***	***21.2.1.3***	***21.2.1.4***	***21.2.1.5***	***21.2.1.6***
2159	Alt Energy Alternate (Smaller-Scale)		0	0	0	0	0	0
2160	Line 3010 Complete Outage		0	0	0	0	0	0
2161	Otay Mesa Full Supply		295	86	313	313	329	324
2162	**Total Supply**		**295**	**86**	**313**	**313**	**329**	**324**
2163	**Total MMcfd Shortfall**		**0**	**389**	**224**	**264**	**136**	**201**
2164	**Immediate Curtailment to EG Stations?**		**No**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
2165	**Curtailment (%)**	Gas Core [%]	**0%**	**14%**	**0%**	**11%**	**0%**	**0%**
2166		Gas EG [%]	**0%**	**100%**	**98%**	**100%**	**28%**	**47%**
2167		Gas Non-Core Non-EG [%]	**0%**	**100%**	**100%**	**100%**	**100%**	**100%**
2168	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**14**	**0**	**37**	**0**	**0**
2169		Gas EG [MWh/d]	**0**	**40,461**	**21,877**	**22,253**	**8,240**	**17,039**
2170		Gas EG [MW]	**0**	**1,686**	**912**	**927**	**343**	**710**
2171		Gas Non-Core Non-EG [MMcfd]	**0**	**75**	**62**	**62**	**75**	**75**
2172	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**119,839**	**0**	**92,375**	**0**	**0**
2173		Gas EG [# Affected]	**0**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
2174		Gas Non-Core Non-EG [# Affected]	**0**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
2175								
2176	***Alt Energy (Small) / Otay Medium / L3010 80%***		***21.1.2.1***	***21.1.2.2***	***21.1.2.3***	***21.1.2.4***	***21.1.2.5***	***21.1.2.6***
2177	Alt Energy Alternate (Smaller-Scale)		0	0	0	0	0	0
2178	Line 3010 at 80% Supply		380	380	380	380	380	380
2179	Otay Mesa Medium Supply		156	60	230	230	244	247
2180	**Total Supply**		**536**	**440**	**610**	**610**	**624**	**627**
2181	**Total MMcfd Shortfall**		**0**	**35**	**0**	**0**	**0**	**0**
2182	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
2183	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2184		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2185		Gas Non-Core Non-EG [%]	**0%**	**47%**	**0%**	**0%**	**0%**	**0%**
2186	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2187		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
2188		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
2189		Gas Non-Core Non-EG [MMcfd]	**0**	**35**	**0**	**0**	**0**	**0**
2190	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2191		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2192		Gas Non-Core Non-EG [# Affected]	**0**	**N/A**	**0**	**0**	**0**	**0**
2193								
2194	***Alt Energy (Small) / Otay Medium / L3010 Out***		***21.2.2.1***	***21.2.2.2***	***21.2.2.3***	***21.2.2.4***	***21.2.2.5***	***21.2.2.6***
2195	Alt Energy Alternate (Smaller-Scale)		0	0	0	0	0	0
2196	Line 3010 Complete Outage		0	0	0	0	0	0
2197	Otay Mesa Medium Supply		156	60	230	230	244	247
2198	**Total Supply**		**156**	**60**	**230**	**230**	**244**	**247**
2199	**Total MMcfd Shortfall**		**119**	**415**	**307**	**347**	**221**	**278**
2200	**Immediate Curtailment to EG Stations?**		**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
2201	**Curtailment (%)**	Gas Core [%]	**0%**	**40%**	**26%**	**34%**	**0%**	**0%**
2202		Gas EG [%]	**44%**	**100%**	**100%**	**100%**	**66%**	**75%**
2203		Gas Non-Core Non-EG [%]	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
2204	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**40**	**80**	**120**	**0**	**0**
2205		Gas EG [MWh/d]	**5,978**	**40,461**	**22,253**	**22,253**	**19,672**	**27,355**
2206		Gas EG [MW]	**249**	**1,686**	**927**	**927**	**820**	**1,140**
2207		Gas Non-Core Non-EG [MMcfd]	**75**	**75**	**62**	**62**	**75**	**75**
2208	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**349,638**	**224,454**	**298,098**	**0**	**0**
2209		Gas EG [# Affected]	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
2210		Gas Non-Core Non-EG [# Affected]	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**

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APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.			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
1								
2	A	B	C	D	E	F	G	H
2211								
2212	***Alt Energy (Small) / Otay Low / L3010 80%***		***21.1.3.1***	***21.1.3.2***	***21.1.3.3***	***21.1.3.4***	***21.1.3.5***	***21.1.3.6***
2213	Alt Energy Alternate (Smaller-Scale)		0	0	0	0	0	0
2214	Line 3010 at 80% Supply		380	380	380	380	380	380
2215	Otay Mesa Low Supply		33	33	148	148	130	168
2216	**Total Supply**		**413**	**413**	**528**	**528**	**510**	**548**
2217	**Total MMcfd Shortfall**		**0**	**62**	**9**	**49**	**0**	**0**
2218	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
2219	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2220		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2221		Gas Non-Core Non-EG [%]	**0%**	**82%**	**14%**	**79%**	**0%**	**0%**
2222	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2223		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
2224		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
2225		Gas Non-Core Non-EG [MMcfd]	**0**	**62**	**9**	**49**	**0**	**0**
2226	**Number of**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2227	**Customers**	Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2228	**Affected**	Gas Non-Core Non-EG [# Affected]	**0**	**N/A**	**N/A**	**N/A**	**0**	**0**
2229								
2230	***Alt Energy (Small) / Otay Low / L3010 Out***		***21.2.3.1***	***21.2.3.2***	***21.2.3.3***	***21.2.3.4***	***21.2.3.5***	***21.2.3.6***
2231	Alt Energy Alternate (Smaller-Scale)		0	0	0	0	0	0
2232	Line 3010 Complete Outage		0	0	0	0	0	0
2233	Otay Mesa Low Supply		33	33	148	148	130	168
2234	**Total Supply**		**33**	**33**	**148**	**148**	**130**	**168**
2235	**Total MMcfd Shortfall**		**242**	**442**	**389**	**429**	**335**	**357**
2236	**Immediate Curtailment to EG Stations?**		**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
2237	**Curtailment (%)**	Gas Core [%]	**67%**	**67%**	**52%**	**58%**	**23%**	**7%**
2238		Gas EG [%]	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
2239		Gas Non-Core Non-EG [%]	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
2240	**Curtailment (Capacity)**	Gas Core [MMcfd]	**67**	**67**	**162**	**202**	**40**	**12**
2241		Gas EG [MWh/d]	**13,487**	**40,461**	**22,253**	**22,253**	**29,671**	**36,414**
2242		Gas EG [MW]	**562**	**1,686**	**927**	**927**	**1,236**	**1,517**
2243		Gas Non-Core Non-EG [MMcfd]	**75**	**75**	**62**	**62**	**75**	**75**
2244	**Number of**	Gas Core [# Affected]	**579,437**	**579,437**	**453,758**	**501,195**	**203,921**	**60,119**
2245	**Customers**	Gas EG [# Affected]	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
2246	**Affected**	Gas Non-Core Non-EG [# Affected]	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
2247								
2248	***Alt Energy (Small) / Otay Out / L3010 80%***		***21.1.4.1***	***21.1.4.2***	***21.1.4.3***	***21.1.4.4***	***21.1.4.5***	***21.1.4.6***
2249	Alt Energy Alternate (Smaller-Scale)		0	0	0	0	0	0
2250	Line 3010 at 80% Supply		380	380	380	380	380	380
2251	Otay Mesa No Supply		0	0	0	0	0	0
2252	**Total Supply**		**380**	**380**	**380**	**380**	**380**	**380**
2253	**Total MMcfd Shortfall**		**0**	**95**	**157**	**197**	**85**	**145**
2254	**Immediate Curtailment to EG Stations?**		**No**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
2255	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2256		Gas EG [%]	**0%**	**7%**	**58%**	**82%**	**5%**	**26%**
2257		Gas Non-Core Non-EG [%]	**0%**	**100%**	**100%**	**100%**	**100%**	**100%**
2258	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2259		Gas EG [MWh/d]	**0**	**2,697**	**12,813**	**18,207**	**1,349**	**9,441**
2260		Gas EG [MW]	**0**	**112**	**534**	**759**	**56**	**393**
2261		Gas Non-Core Non-EG [MMcfd]	**0**	**75**	**62**	**62**	**75**	**75**
2262	**Number of**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2263	**Customers**	Gas EG [# Affected]	**0**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
2264	**Affected**	Gas Non-Core Non-EG [# Affected]	**0**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
2265								
2266	***Alt Energy (Small) / Otay Out / L3010 Out***		***21.2.4.1***	***21.2.4.2***	***21.2.4.3***	***21.2.4.4***	***21.2.4.5***	***21.2.4.6***
2267	Alt Energy Alternate (Smaller-Scale)		0	0	0	0	0	0
2268	Line 3010 Complete Outage		0	0	0	0	0	0
2269	Otay Mesa No Supply		0	0	0	0	0	0
2270	**Total Supply**		**0**	**0**	**0**	**0**	**0**	**0**
2271	**Total MMcfd Shortfall**		**275**	**475**	**537**	**577**	**465**	**525**
2272	**Immediate Curtailment to EG Stations?**		**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
2273	**Curtailment (%)**	Gas Core [%]	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
2274		Gas EG [%]	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
2275		Gas Non-Core Non-EG [%]	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
2276	**Curtailment (Capacity)**	Gas Core [MMcfd]	**100**	**100**	**310**	**350**	**170**	**180**
2277		Gas EG [MWh/d]	**13,487**	**40,461**	**22,253**	**22,253**	**29,671**	**36,414**
2278		Gas EG [MW]	**562**	**1,686**	**927**	**927**	**1,236**	**1,517**
2279		Gas Non-Core Non-EG [MMcfd]	**75**	**75**	**62**	**62**	**75**	**75**
2280	**Number of**	Gas Core [# Affected]	**868,838**	**868,838**	**868,838**	**868,838**	**868,838**	**868,838**
2281	**Customers**	Gas EG [# Affected]	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
2282	**Affected**	Gas Non-Core Non-EG [# Affected]	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**

WORK PAPER TABLE - SCENARIO ANALYSIS GAS DEMAND AND SUPPLY (SA 1.1
EXAMPLE DAY OF GAS DEMAND AND SUPPLY FOR CUSTOMER CLASSES DURING SEASONAL VARIATIONS FOR ANALYSIS OF CURTAILMENT AND CUSTOMERS AFFECTED FOR EACH PROJECT ALTERNATE
APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.			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
1								
2	A	B	C	D	E	F	G	H
2283								
2284	***Offshore Route***							
2285								
2286	***Offshore / Otay Full / L3010 80%***		***15.1.1.1***	***15.1.1.2***	***15.1.1.3***	***15.1.1.4***	***15.1.1.5***	***15.1.1.6***
2287	Offshore Route		680	680	680	680	680	680
2288	Line 3010 at 80% Supply		380	380	380	380	380	380
2289	Otay Mesa Full Supply		295	86	313	313	329	324
2290	**Total Supply**		**1355**	**1146**	**1373**	**1373**	**1389**	**1384**
2291	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
2292	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
2293	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2294		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2295		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2296	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2297		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
2298		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
2299		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2300	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2301		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2302		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2303								
2304	***Offshore / Otay Full / L3010 Out***		***15.2.1.1***	***15.2.1.2***	***15.2.1.3***	***15.2.1.4***	***15.2.1.5***	***15.2.1.6***
2305	Offshore Route		680	680	680	680	680	680
2306	Line 3010 Complete Outage		0	0	0	0	0	0
2307	Otay Mesa Full Supply		295	86	313	313	329	324
2308	**Total Supply**		**975**	**766**	**993**	**993**	**1009**	**1004**
2309	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
2310	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
2311	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2312		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2313		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2314	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2315		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
2316		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
2317		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2318	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2319		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2320		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2321								
2322	***Offshore / Otay Medium / L3010 80%***		***15.1.2.1***	***15.1.2.2***	***15.1.2.3***	***15.1.2.4***	***15.1.2.5***	***15.1.2.6***
2323	Offshore Route		680	680	680	680	680	680
2324	Line 3010 at 80% Supply		380	380	380	380	380	380
2325	Otay Mesa Medium Supply		156	60	230	230	244	247
2326	**Total Supply**		**1216**	**1120**	**1290**	**1290**	**1304**	**1307**
2327	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
2328	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
2329	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2330		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2331		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2332	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2333		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
2334		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
2335		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2336	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2337		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2338		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2339								
2340	***Offshore / Otay Medium / L3010 Out***		***15.2.2.1***	***15.2.2.2***	***15.2.2.3***	***15.2.2.4***	***15.2.2.5***	***15.2.2.6***
2341	Offshore Route		680	680	680	680	680	680
2342	Line 3010 Complete Outage		0	0	0	0	0	0
2343	Otay Mesa Medium Supply		156	60	230	230	244	247
2344	**Total Supply**		**836**	**740**	**910**	**910**	**924**	**927**
2345	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
2346	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
2347	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2348		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2349		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2350	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2351		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
2352		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
2353		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2354	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2355		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2356		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**

WORK PAPER TABLE - SCENARIO ANALYSIS GAS DEMAND AND SUPPLY (SA 1.1

EXAMPLE DAY OF GAS DEMAND AND SUPPLY FOR CUSTOMER CLASSES DURING SEASONAL VARIATIONS FOR ANALYSIS OF CURTAILMENT AND CUSTOMERS AFFECTED FOR EACH PROJECT ALTERNATE

APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.			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
1								
2	A	B	C	D	E	F	G	H
2357								
2358	***Offshore / Otay Low / L3010 80%***		***15.1.3.1***	***15.1.3.2***	***15.1.3.3***	***15.1.3.4***	***15.1.3.5***	***15.1.3.6***
2359	Offshore Route		680	680	680	680	680	680
2360	Line 3010 at 80% Supply		380	380	380	380	380	380
2361	Otay Mesa Low Supply		33	33	148	148	130	168
2362	**Total Supply**		**1093**	**1093**	**1208**	**1208**	**1190**	**1228**
2363	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
2364	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
2365	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2366		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2367		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2368	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2369		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
2370		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
2371		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2372	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2373		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2374		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2375								
2376	***Offshore / Otay Low / L3010 Out***		***15.2.3.1***	***15.2.3.2***	***15.2.3.3***	***15.2.3.4***	***15.2.3.5***	***15.2.3.6***
2377	Offshore Route		680	680	680	680	680	680
2378	Line 3010 Complete Outage		0	0	0	0	0	0
2379	Otay Mesa Low Supply		33	33	148	148	130	168
2380	**Total Supply**		**713**	**713**	**828**	**828**	**810**	**848**
2381	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
2382	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
2383	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2384		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2385		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2386	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2387		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
2388		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
2389		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2390	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2391		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2392		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2393								
2394	***Offshore / Otay Out / L3010 80%***		***15.1.4.1***	***15.1.4.2***	***15.1.4.3***	***15.1.4.4***	***15.1.4.5***	***15.1.4.6***
2395	Offshore Route		680	680	680	680	680	680
2396	Line 3010 at 80% Supply		380	380	380	380	380	380
2397	Otay Mesa No Supply		0	0	0	0	0	0
2398	**Total Supply**		**1060**	**1060**	**1060**	**1060**	**1060**	**1060**
2399	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
2400	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
2401	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2402		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2403		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2404	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2405		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
2406		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
2407		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2408	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2409		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2410		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2411								
2412	***Offshore / Otay Out / L3010 Out***		***15.2.4.1***	***15.2.4.2***	***15.2.4.3***	***15.2.4.4***	***15.2.4.5***	***15.2.4.6***
2413	Offshore Route		680	680	680	680	680	680
2414	Line 3010 Complete Outage		0	0	0	0	0	0
2415	Otay Mesa No Supply		0	0	0	0	0	0
2416	**Total Supply**		**680**	**680**	**680**	**680**	**680**	**680**
2417	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
2418	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
2419	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2420		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2421		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2422	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2423		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
2424		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
2425		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2426	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2427		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2428		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**

WORK PAPER TABLE - SCENARIO ANALYSIS GAS DEMAND AND SUPPLY (SA 1.1
EXAMPLE DAY OF GAS DEMAND AND SUPPLY FOR CUSTOMER CLASSES DURING SEASONAL VARIATIONS FOR ANALYSIS OF CURTAILMENT AND CUSTOMERS AFFECTED FOR EACH PROJECT ALTERNATE
APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.			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
1								
2	A	B	C	D	E	F	G	H
2429								
2430	***Blythe to Santee Alternate 1***							
2431								
2432	***Blythe to Santee 1 / Otay Full / L3010 80%***		***16.1.1.1***	***16.1.1.2***	***16.1.1.3***	***16.1.1.4***	***16.1.1.5***	***16.1.1.6***
2433	Blythe to Santee Alternate 1		680	680	680	680	680	680
2434	Line 3010 at 80% Supply		380	380	380	380	380	380
2435	Otay Mesa Full Supply		295	86	313	313	329	324
2436	**Total Supply**		**1355**	**1146**	**1373**	**1373**	**1389**	**1384**
2437	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
2438	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
2439	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2440		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2441		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2442	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2443		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
2444		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
2445		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2446	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2447		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2448		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2449								
2450	***Blythe to Santee 1 / Otay Full / L3010 Out***		***16.2.1.1***	***16.2.1.2***	***16.2.1.3***	***16.2.1.4***	***16.2.1.5***	***16.2.1.6***
2451	Blythe to Santee Alternate 1		680	680	680	680	680	680
2452	Line 3010 Complete Outage		0	0	0	0	0	0
2453	Otay Mesa Full Supply		295	86	313	313	329	324
2454	**Total Supply**		**975**	**766**	**993**	**993**	**1009**	**1004**
2455	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
2456	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
2457	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2458		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2459		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2460	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2461		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
2462		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
2463		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2464	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2465		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2466		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2467								
2468	***Blythe to Santee 1 / Otay Medium / L3010 80%***		***16.1.2.1***	***16.1.2.2***	***16.1.2.3***	***16.1.2.4***	***16.1.2.5***	***16.1.2.6***
2469	Blythe to Santee Alternate 1		680	680	680	680	680	680
2470	Line 3010 at 80% Supply		380	380	380	380	380	380
2471	Otay Mesa Medium Supply		156	60	230	230	244	247
2472	**Total Supply**		**1216**	**1120**	**1290**	**1290**	**1304**	**1307**
2473	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
2474	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
2475	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2476		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2477		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2478	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2479		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
2480		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
2481		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2482	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2483		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2484		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2485								
2486	***Blythe to Santee 1 / Otay Medium / L3010 Out***		***16.2.2.1***	***16.2.2.2***	***16.2.2.3***	***16.2.2.4***	***16.2.2.5***	***16.2.2.6***
2487	Blythe to Santee Alternate 1		680	680	680	680	680	680
2488	Line 3010 Complete Outage		0	0	0	0	0	0
2489	Otay Mesa Medium Supply		156	60	230	230	244	247
2490	**Total Supply**		**836**	**740**	**910**	**910**	**924**	**927**
2491	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
2492	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
2493	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2494		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2495		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2496	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2497		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
2498		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
2499		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2500	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2501		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2502		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**

WORK PAPER TABLE - SCENARIO ANALYSIS GAS DEMAND AND SUPPLY (SA 1.1

EXAMPLE DAY OF GAS DEMAND AND SUPPLY FOR CUSTOMER CLASSES DURING SEASONAL VARIATIONS FOR ANALYSIS OF CURTAILMENT AND CUSTOMERS AFFECTED FOR EACH PROJECT ALTERNATE

APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.			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
1								
2	A	B	C	D	E	F	G	H
2503								
2504	***Blythe to Santee 1 / Otay Low / L3010 80%***		***16.1.3.1***	***16.1.3.2***	***16.1.3.3***	***16.1.3.4***	***16.1.3.5***	***16.1.3.6***
2505	Blythe to Santee Alternate 1		680	680	680	680	680	680
2506	Line 3010 at 80% Supply		380	380	380	380	380	380
2507	Otay Mesa Low Supply		33	33	148	148	130	168
2508	**Total Supply**		**1093**	**1093**	**1208**	**1208**	**1190**	**1228**
2509	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
2510	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
2511	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2512		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2513		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2514	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2515		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
2516		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
2517		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2518	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2519		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2520		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2521								
2522	***Blythe to Santee 1 / Otay Low / L3010 Out***		***16.2.3.1***	***16.2.3.2***	***16.2.3.3***	***16.2.3.4***	***16.2.3.5***	***16.2.3.6***
2523	Blythe to Santee Alternate 1		680	680	680	680	680	680
2524	Line 3010 Complete Outage		0	0	0	0	0	0
2525	Otay Mesa Low Supply		33	33	148	148	130	168
2526	**Total Supply**		**713**	**713**	**828**	**828**	**810**	**848**
2527	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
2528	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
2529	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2530		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2531		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2532	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2533		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
2534		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
2535		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2536	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2537		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2538		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2539								
2540	***Blythe to Santee 1 / Otay Out / L3010 80%***		***16.1.4.1***	***16.1.4.2***	***16.1.4.3***	***16.1.4.4***	***16.1.4.5***	***16.1.4.6***
2541	Blythe to Santee Alternate 1		680	680	680	680	680	680
2542	Line 3010 at 80% Supply		380	380	380	380	380	380
2543	Otay Mesa No Supply		0	0	0	0	0	0
2544	**Total Supply**		**1060**	**1060**	**1060**	**1060**	**1060**	**1060**
2545	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
2546	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
2547	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2548		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2549		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2550	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2551		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
2552		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
2553		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2554	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2555		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2556		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2557								
2558	***Blythe to Santee 1 / Otay Out / L3010 Out***		***16.2.4.1***	***16.2.4.2***	***16.2.4.3***	***16.2.4.4***	***16.2.4.5***	***16.2.4.6***
2559	Blythe to Santee Alternate 1		680	680	680	680	680	680
2560	Line 3010 Complete Outage		0	0	0	0	0	0
2561	Otay Mesa No Supply		0	0	0	0	0	0
2562	**Total Supply**		**680**	**680**	**680**	**680**	**680**	**680**
2563	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
2564	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
2565	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2566		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2567		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2568	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2569		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
2570		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
2571		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2572	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2573		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2574		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**

WORK PAPER TABLE - SCENARIO ANALYSIS GAS DEMAND AND SUPPLY (SA 1.1
EXAMPLE DAY OF GAS DEMAND AND SUPPLY FOR CUSTOMER CLASSES DURING SEASONAL VARIATIONS FOR ANALYSIS OF CURTAILMENT AND CUSTOMERS AFFECTED FOR EACH PROJECT ALTERNATE
APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.			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
1								
2	A	B	C	D	E	F	G	H
2575								
2576	***Blythe to Santee Alternate 2***							
2577								
2578	***Blythe to Santee 2 / Otay Full / L3010 80%***		***17.1.1.1***	***17.1.1.2***	***17.1.1.3***	***17.1.1.4***	***17.1.1.5***	***17.1.1.6***
2579	Blythe to Santee Alternate 2		680	680	680	680	680	680
2580	Line 3010 at 80% Supply		380	380	380	380	380	380
2581	Otay Mesa Full Supply		295	86	313	313	329	324
2582	**Total Supply**		**1355**	**1146**	**1373**	**1373**	**1389**	**1384**
2583	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
2584	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
2585	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2586		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2587		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2588	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2589		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
2590		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
2591		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2592	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2593		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2594		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2595								
2596	***Blythe to Santee 2 / Otay Full / L3010 Out***		***17.2.1.1***	***17.2.1.2***	***17.2.1.3***	***17.2.1.4***	***17.2.1.5***	***17.2.1.6***
2597	Blythe to Santee Alternate 2		680	680	680	680	680	680
2598	Line 3010 Complete Outage		0	0	0	0	0	0
2599	Otay Mesa Full Supply		295	86	313	313	329	324
2600	**Total Supply**		**975**	**766**	**993**	**993**	**1009**	**1004**
2601	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
2602	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
2603	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2604		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2605		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2606	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2607		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
2608		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
2609		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2610	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2611		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2612		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2613								
2614	***Blythe to Santee 2 / Otay Medium / L3010 80%***		***17.1.2.1***	***17.1.2.2***	***17.1.2.3***	***17.1.2.4***	***17.1.2.5***	***17.1.2.6***
2615	Blythe to Santee Alternate 2		680	680	680	680	680	680
2616	Line 3010 at 80% Supply		380	380	380	380	380	380
2617	Otay Mesa Medium Supply		156	60	230	230	244	247
2618	**Total Supply**		**1216**	**1120**	**1290**	**1290**	**1304**	**1307**
2619	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
2620	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
2621	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2622		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2623		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2624	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2625		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
2626		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
2627		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2628	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2629		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2630		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2631								
2632	***Blythe to Santee 2 / Otay Medium / L3010 Out***		***17.2.2.1***	***17.2.2.2***	***17.2.2.3***	***17.2.2.4***	***17.2.2.5***	***17.2.2.6***
2633	Blythe to Santee Alternate 2		680	680	680	680	680	680
2634	Line 3010 Complete Outage		0	0	0	0	0	0
2635	Otay Mesa Medium Supply		156	60	230	230	244	247
2636	**Total Supply**		**836**	**740**	**910**	**910**	**924**	**927**
2637	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
2638	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
2639	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2640		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2641		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2642	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2643		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
2644		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
2645		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2646	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2647		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2648		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**

WORK PAPER TABLE - SCENARIO ANALYSIS GAS DEMAND AND SUPPLY (SA 1.1

EXAMPLE DAY OF GAS DEMAND AND SUPPLY FOR CUSTOMER CLASSES DURING SEASONAL VARIATIONS FOR ANALYSIS OF CURTAILMENT AND CUSTOMERS AFFECTED FOR EACH PROJECT ALTERNATE

APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.			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
1								
2	A	B	C	D	E	F	G	H
2649								
2650	***Blythe to Santee 2 / Otay Low / L3010 80%***		***17.1.3.1***	***17.1.3.2***	***17.1.3.3***	***17.1.3.4***	***17.1.3.5***	***17.1.3.6***
2651	Blythe to Santee Alternate 2		680	680	680	680	680	680
2652	Line 3010 at 80% Supply		380	380	380	380	380	380
2653	Otay Mesa Low Supply		33	33	148	148	130	168
2654	**Total Supply**		**1093**	**1093**	**1208**	**1208**	**1190**	**1228**
2655	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
2656	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
2657	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2658		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2659		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2660	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2661		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
2662		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
2663		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2664	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2665		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2666		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2667								
2668	***Blythe to Santee 2 / Otay Low / L3010 Out***		***17.2.3.1***	***17.2.3.2***	***17.2.3.3***	***17.2.3.4***	***17.2.3.5***	***17.2.3.6***
2669	Blythe to Santee Alternate 2		680	680	680	680	680	680
2670	Line 3010 Complete Outage		0	0	0	0	0	0
2671	Otay Mesa Low Supply		33	33	148	148	130	168
2672	**Total Supply**		**713**	**713**	**828**	**828**	**810**	**848**
2673	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
2674	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
2675	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2676		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2677		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2678	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2679		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
2680		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
2681		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2682	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2683		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2684		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2685								
2686	***Blythe to Santee 2 / Otay Out / L3010 80%***		***17.1.4.1***	***17.1.4.2***	***17.1.4.3***	***17.1.4.4***	***17.1.4.5***	***17.1.4.6***
2687	Blythe to Santee Alternate 2		680	680	680	680	680	680
2688	Line 3010 at 80% Supply		380	380	380	380	380	380
2689	Otay Mesa No Supply		0	0	0	0	0	0
2690	**Total Supply**		**1060**	**1060**	**1060**	**1060**	**1060**	**1060**
2691	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
2692	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
2693	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2694		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2695		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2696	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2697		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
2698		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
2699		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2700	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2701		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2702		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2703								
2704	***Blythe to Santee 2 / Otay Out / L3010 Out***		***17.2.4.1***	***17.2.4.2***	***17.2.4.3***	***17.2.4.4***	***17.2.4.5***	***17.2.4.6***
2705	Blythe to Santee Alternate 2		680	680	680	680	680	680
2706	Line 3010 Complete Outage		0	0	0	0	0	0
2707	Otay Mesa No Supply		0	0	0	0	0	0
2708	**Total Supply**		**680**	**680**	**680**	**680**	**680**	**680**
2709	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
2710	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
2711	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2712		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2713		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2714	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2715		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
2716		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
2717		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2718	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2719		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2720		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**

WORK PAPER TABLE - SCENARIO ANALYSIS GAS DEMAND AND SUPPLY (SA 1.1
EXAMPLE DAY OF GAS DEMAND AND SUPPLY FOR CUSTOMER CLASSES DURING SEASONAL VARIATIONS FOR ANALYSIS OF CURTAILMENT AND CUSTOMERS AFFECTED FOR EACH PROJECT ALTERNATE
APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.			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
1								
2	A	B	C	D	E	F	G	H
2721								
2722	***Cactus City to San Diego Alternate***							
2723								
2724	***Cactus City to SD / Otay Full / L3010 80%***		***18.1.1.1***	***18.1.1.2***	***18.1.1.3***	***18.1.1.4***	***18.1.1.5***	***18.1.1.6***
2725	Cactus City to San Diego Alternate		680	680	680	680	680	680
2726	Line 3010 at 80% Supply		380	380	380	380	380	380
2727	Otay Mesa Full Supply		295	86	313	313	329	324
2728	**Total Supply**		**1355**	**1146**	**1373**	**1373**	**1389**	**1384**
2729	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
2730	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
2731	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2732		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2733		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2734	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2735		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
2736		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
2737		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2738	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2739		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2740		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2741								
2742	***Cactus City to SD / Otay Full / L3010 Out***		***18.2.1.1***	***18.2.1.2***	***18.2.1.3***	***18.2.1.4***	***18.2.1.5***	***18.2.1.6***
2743	Cactus City to San Diego Alternate		680	680	680	680	680	680
2744	Line 3010 Complete Outage		0	0	0	0	0	0
2745	Otay Mesa Full Supply		295	86	313	313	329	324
2746	**Total Supply**		**975**	**766**	**993**	**993**	**1009**	**1004**
2747	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
2748	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
2749	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2750		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2751		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2752	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2753		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
2754		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
2755		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2756	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2757		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2758		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2759								
2760	***Cactus City to SD / Otay Medium / L3010 80%***		***18.1.2.1***	***18.1.2.2***	***18.1.2.3***	***18.1.2.4***	***18.1.2.5***	***18.1.2.6***
2761	Cactus City to San Diego Alternate		680	680	680	680	680	680
2762	Line 3010 at 80% Supply		380	380	380	380	380	380
2763	Otay Mesa Medium Supply		156	60	230	230	244	247
2764	**Total Supply**		**1216**	**1120**	**1290**	**1290**	**1304**	**1307**
2765	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
2766	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
2767	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2768		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2769		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2770	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2771		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
2772		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
2773		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2774	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2775		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2776		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2777								
2778	***Cactus City to SD / Otay Medium / L3010 Out***		***18.2.2.1***	***18.2.2.2***	***18.2.2.3***	***18.2.2.4***	***18.2.2.5***	***18.2.2.6***
2779	Cactus City to San Diego Alternate		680	680	680	680	680	680
2780	Line 3010 Complete Outage		0	0	0	0	0	0
2781	Otay Mesa Medium Supply		156	60	230	230	244	247
2782	**Total Supply**		**836**	**740**	**910**	**910**	**924**	**927**
2783	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
2784	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
2785	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2786		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2787		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2788	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2789		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
2790		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
2791		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2792	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2793		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2794		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**

WORK PAPER TABLE - SCENARIO ANALYSIS GAS DEMAND AND SUPPLY (SA 1.1

EXAMPLE DAY OF GAS DEMAND AND SUPPLY FOR CUSTOMER CLASSES DURING SEASONAL VARIATIONS FOR ANALYSIS OF CURTAILMENT AND CUSTOMERS AFFECTED FOR EACH PROJECT ALTERNATE

APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.			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
1								
2	A	B	C	D	E	F	G	H
2795								
2796	***Cactus City to SD / Otay Low / L3010 80%***		***18.1.3.1***	***18.1.3.2***	***18.1.3.3***	***18.1.3.4***	***18.1.3.5***	***18.1.3.6***
2797	Cactus City to San Diego Alternate		680	680	680	680	680	680
2798	Line 3010 at 80% Supply		380	380	380	380	380	380
2799	Otay Mesa Low Supply		33	33	148	148	130	168
2800	**Total Supply**		**1093**	**1093**	**1208**	**1208**	**1190**	**1228**
2801	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
2802	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
2803	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2804		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2805		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2806	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2807		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
2808		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
2809		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2810	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2811		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2812		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2813								
2814	***Cactus City to SD / Otay Low / L3010 Out***		***18.2.3.1***	***18.2.3.2***	***18.2.3.3***	***18.2.3.4***	***18.2.3.5***	***18.2.3.6***
2815	Cactus City to San Diego Alternate		680	680	680	680	680	680
2816	Line 3010 Complete Outage		0	0	0	0	0	0
2817	Otay Mesa Low Supply		33	33	148	148	130	168
2818	**Total Supply**		**713**	**713**	**828**	**828**	**810**	**848**
2819	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
2820	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
2821	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2822		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2823		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2824	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2825		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
2826		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
2827		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2828	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2829		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2830		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2831								
2832	***Cactus City to SD / Otay Out / L3010 80%***		***18.1.4.1***	***18.1.4.2***	***18.1.4.3***	***18.1.4.4***	***18.1.4.5***	***18.1.4.6***
2833	Cactus City to San Diego Alternate		680	680	680	680	680	680
2834	Line 3010 at 80% Supply		380	380	380	380	380	380
2835	Otay Mesa No Supply		0	0	0	0	0	0
2836	**Total Supply**		**1060**	**1060**	**1060**	**1060**	**1060**	**1060**
2837	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
2838	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
2839	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2840		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2841		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2842	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2843		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
2844		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
2845		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2846	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2847		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2848		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2849								
2850	***Cactus City to SD / Otay Out / L3010 Out***		***18.2.4.1***	***18.2.4.2***	***18.2.4.3***	***18.2.4.4***	***18.2.4.5***	***18.2.4.6***
2851	Cactus City to San Diego Alternate		680	680	680	680	680	680
2852	Line 3010 Complete Outage		0	0	0	0	0	0
2853	Otay Mesa No Supply		0	0	0	0	0	0
2854	**Total Supply**		**680**	**680**	**680**	**680**	**680**	**680**
2855	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
2856	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
2857	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2858		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2859		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2860	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2861		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
2862		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
2863		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2864	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2865		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2866		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**

WORK PAPER TABLE - SCENARIO ANALYSIS GAS DEMAND AND SUPPLY (SA 1.1
EXAMPLE DAY OF GAS DEMAND AND SUPPLY FOR CUSTOMER CLASSES DURING SEASONAL VARIATIONS FOR ANALYSIS OF CURTAILMENT AND CUSTOMERS AFFECTED FOR EACH PROJECT ALTERNATE
APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.			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
1								
2	A	B	C	D	E	F	G	H
2867								
2868	***Second Pipeline Along L3010 Alternate***							
2869								
2870	***Second Pipeline Along L3010 / Otay Full / L3010 80%***		***19.1.1.1***	***19.1.1.2***	***19.1.1.3***	***19.1.1.4***	***19.1.1.5***	***19.1.1.6***
2871	Second Pipeline Along L3010 Alternate		680	680	680	680	680	680
2872	Line 3010 at 80% Supply		380	380	380	380	380	380
2873	Otay Mesa Full Supply		295	86	313	313	329	324
2874	**Total Supply**		**1355**	**1146**	**1373**	**1373**	**1389**	**1384**
2875	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
2876	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
2877	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2878		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2879		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2880	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2881		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
2882		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
2883		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2884	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2885		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2886		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2887								
2888	***Second Pipeline Along L3010 / Otay Full / L3010 Out***		***19.2.1.1***	***19.2.1.2***	***19.2.1.3***	***19.2.1.4***	***19.2.1.5***	***19.2.1.6***
2889	Second Pipeline Along L3010 Alternate		680	680	680	680	680	680
2890	Line 3010 Complete Outage		0	0	0	0	0	0
2891	Otay Mesa Full Supply		295	86	313	313	329	324
2892	**Total Supply**		**975**	**766**	**993**	**993**	**1009**	**1004**
2893	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
2894	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
2895	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2896		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2897		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2898	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2899		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
2900		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
2901		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2902	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2903		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2904		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2905								
2906	***Second Pipeline Along L3010 / Otay Medium / L3010 80***		***19.1.2.1***	***19.1.2.2***	***19.1.2.3***	***19.1.2.4***	***19.1.2.5***	***19.1.2.6***
2907	Second Pipeline Along L3010 Alternate		680	680	680	680	680	680
2908	Line 3010 at 80% Supply		380	380	380	380	380	380
2909	Otay Mesa Medium Supply		156	60	230	230	244	247
2910	**Total Supply**		**1216**	**1120**	**1290**	**1290**	**1304**	**1307**
2911	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
2912	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
2913	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2914		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2915		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2916	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2917		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
2918		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
2919		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2920	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2921		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2922		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2923								
2924	***Second Pipeline Along L3010 / Otay Medium / L3010 O***		***19.2.2.1***	***19.2.2.2***	***19.2.2.3***	***19.2.2.4***	***19.2.2.5***	***19.2.2.6***
2925	Second Pipeline Along L3010 Alternate		680	680	680	680	680	680
2926	Line 3010 Complete Outage		0	0	0	0	0	0
2927	Otay Mesa Medium Supply		156	60	230	230	244	247
2928	**Total Supply**		**836**	**740**	**910**	**910**	**924**	**927**
2929	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
2930	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
2931	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2932		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2933		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2934	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2935		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
2936		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
2937		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2938	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2939		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2940		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**

WORK PAPER TABLE - SCENARIO ANALYSIS GAS DEMAND AND SUPPLY (SA 1.1
EXAMPLE DAY OF GAS DEMAND AND SUPPLY FOR CUSTOMER CLASSES DURING SEASONAL VARIATIONS FOR ANALYSIS OF CURTAILMENT AND CUSTOMERS AFFECTED FOR EACH PROJECT ALTERNATE
APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.			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
1								
2	A	B	C	D	E	F	G	H
2941								
2942	***Second Pipeline Along L3010 / Otay Low / L3010 80%***		***19.1.3.1***	***19.1.3.2***	***19.1.3.3***	***19.1.3.4***	***19.1.3.5***	***19.1.3.6***
2943	Second Pipeline Along L3010 Alternate		680	680	680	680	680	680
2944	Line 3010 at 80% Supply		380	380	380	380	380	380
2945	Otay Mesa Low Supply		33	33	148	148	130	168
2946	**Total Supply**		**1093**	**1093**	**1208**	**1208**	**1190**	**1228**
2947	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
2948	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
2949	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2950		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2951		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2952	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2953		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
2954		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
2955		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2956	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2957		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2958		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2959								
2960	***Second Pipeline Along L3010 / Otay Low / L3010 Out***		***19.2.3.1***	***19.2.3.2***	***19.2.3.3***	***19.2.3.4***	***19.2.3.5***	***19.2.3.6***
2961	Second Pipeline Along L3010 Alternate		680	680	680	680	680	680
2962	Line 3010 Complete Outage		0	0	0	0	0	0
2963	Otay Mesa Low Supply		33	33	148	148	130	168
2964	**Total Supply**		**713**	**713**	**828**	**828**	**810**	**848**
2965	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
2966	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
2967	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2968		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2969		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2970	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2971		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
2972		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
2973		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2974	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2975		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2976		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2977								
2978	***Second Pipeline Along L3010 / Otay Out / L3010 80%***		***19.1.4.1***	***19.1.4.2***	***19.1.4.3***	***19.1.4.4***	***19.1.4.5***	***19.1.4.6***
2979	Second Pipeline Along L3010 Alternate		680	680	680	680	680	680
2980	Line 3010 at 80% Supply		380	380	380	380	380	380
2981	Otay Mesa No Supply		0	0	0	0	0	0
2982	**Total Supply**		**1060**	**1060**	**1060**	**1060**	**1060**	**1060**
2983	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
2984	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
2985	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2986		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2987		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
2988	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2989		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
2990		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
2991		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
2992	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2993		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2994		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
2995								
2996	***Second Pipeline Along L3010 / Otay Out / L3010 Out***		***19.2.4.1***	***19.2.4.2***	***19.2.4.3***	***19.2.4.4***	***19.2.4.5***	***19.2.4.6***
2997	Second Pipeline Along L3010 Alternate		680	680	680	680	680	680
2998	Line 3010 Complete Outage		0	0	0	0	0	0
2999	Otay Mesa No Supply		0	0	0	0	0	0
3000	**Total Supply**		**680**	**680**	**680**	**680**	**680**	**680**
3001	**Total MMcfd Shortfall**		**0**	**0**	**0**	**0**	**0**	**0**
3002	**Immediate Curtailment to EG Stations?**		**No**	**No**	**No**	**No**	**No**	**No**
3003	**Curtailment (%)**	Gas Core [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
3004		Gas EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
3005		Gas Non-Core Non-EG [%]	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
3006	**Curtailment (Capacity)**	Gas Core [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
3007		Gas EG [MWh/d]	**0**	**0**	**0**	**0**	**0**	**0**
3008		Gas EG [MW]	**0**	**0**	**0**	**0**	**0**	**0**
3009		Gas Non-Core Non-EG [MMcfd]	**0**	**0**	**0**	**0**	**0**	**0**
3010	**Number of Customers Affected**	Gas Core [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
3011		Gas EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
3012		Gas Non-Core Non-EG [# Affected]	**0**	**0**	**0**	**0**	**0**	**0**
3013								

WORK PAPER TABLE - SCENARIO ANALYSIS ELECTRIC DEMAND AND SUPPLY (SA 1.2)

EXAMPLE DAY OF ELECTRIC DEMAND AND SUPPLY DURING SEASONAL VARIATIONS FOR ANALYSIS OF CURTAILMENT AND METERS AFFECTED FOR EACH PROJECT ALTERNATE

APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.			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
1								
2	A	B	C	D	E	F	G	H
3	***Model Inputs***							
4								
5	***Date Ranges***							
6	Date Ranges for Seasonal Demand Conditions		**8/2/2015**	**8/8/2015**	**1/2/2015**	**1/14/2013**	**5/9/2015**	**11/23/2015**
7								
8	***Electric Demand (MW)***							
9	**Peak Electric Demand**		**3062**	**3723**	**2969**	**3328**	**2693**	**3019**
10								
11	***Electric Supply (MW)***							
12	NG-Fired Electric Gen		562	1,686	927	927	1,236	1,517
13	Other In-Basin Electric Gen		70	70	70	70	70	70
14	Electric Import Capacity		2500	2500	2500	2500	2500	2500
15								
16	**Notes:**							
17	1. SDG&E electric peak demand data and renewable data (source: SDG&E Grid Operations Services Department)							
18	2. Current state estimate of electric import capacity provided by SDG&E Grid Operations. Capacity expected to increase by completion date of the proposed project or alternates.							
19	3. For the Alt Energy Alternative, it was assumed that the capacity would be designed as a full backup to the EG stations (equivalent to max EG demand for gas)							
20		Capacity (MW)	1,686					
21								
22	4. For the LNG Storage Alternative, it was assumed that the storage capacity would be designed to meet a full NG outage to the electric generation sites. (Source: SDG&E / SoCalGas LNG Storage Facility Alternative Cost Analysis)							
23	5. Count of Total SDG&E Electric meters (source: SDG&E website, http://www.sdge.com/aboutus)							
24		Count (#)	1,400,000					
25								

WORK PAPER TABLE - SCENARIO ANALYSIS ELECTRIC DEMAND AND SUPPLY (SA 1.2)
EXAMPLE DAY OF ELECTRIC DEMAND AND SUPPLY DURING SEASONAL VARIATIONS FOR ANALYSIS OF CURTAILMENT AND METERS AFFECTED FOR EACH PROJECT ALTERNATE
APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.			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
1								
2	A	B	C	D	E	F	G	H
26								
27	***Line 1600 (Pre/Post Hydrotesting)***							
28								
29	***L1600 / Otay Full / L3010 80%***		***1.1.1.1***	***1.1.1.2***	***1.1.1.3***	***1.1.1.4***	***1.1.1.5***	***1.1.1.6***
30	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
31	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
32	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
33	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
34	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
35	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
36	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
37								
38	***L1600 / Otay Full / L3010 Out***		***1.2.1.1***	***1.2.1.2***	***1.2.1.3***	***1.2.1.4***	***1.2.1.5***	***1.2.1.6***
39	Curtailed NG-Fired Electric Gen (MW)		0	920	69	293	0	0
40	**Total Supply**		**3132**	**3335**	**3429**	**3204**	**3806**	**4087**
41	**Elec Curtailment (MWh)**		**0**	**2,043**	**0**	**249**	**0**	**0**
42	**Elec Curtailment Duration (h)**		**0**	**9**	**0**	**3**	**0**	**0**
43	**Avg Elec Curtailment (MW)**		**0**	**221**	**0**	**83**	**0**	**0**
44	**Elec Curtailment (%)**		**0%**	**6%**	**0%**	**2%**	**0%**	**0%**
45	**Elec Curtailment (# of Customers)**		**0**	**83,073**	**0**	**34,869**	**0**	**0**
46								
47	***L1600 / Otay Medium / L3010 80%***		***1.1.2.1***	***1.1.2.2***	***1.1.2.3***	***1.1.2.4***	***1.1.2.5***	***1.1.2.6***
48	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
49	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
50	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
51	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
52	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
53	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
54	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
55								
56	***L1600 / Otay Medium / L3010 Out***		***1.2.2.1***	***1.2.2.2***	***1.2.2.3***	***1.2.2.4***	***1.2.2.5***	***1.2.2.6***
57	Curtailed NG-Fired Electric Gen (MW)		0	1069	534	759	0	297
58	**Total Supply**		**3132**	**3187**	**2963**	**2738**	**3806**	**3790**
59	**Elec Curtailment (MWh)**		**0**	**3,554**	**1**	**2,886**	**0**	**0**
60	**Elec Curtailment Duration (h)**		**0**	**11**	**0**	**11**	**0**	**0**
61	**Avg Elec Curtailment (MW)**		**0**	**323**	**6**	**268**	**0**	**0**
62	**Elec Curtailment (%)**		**0%**	**9%**	**0%**	**8%**	**0%**	**0%**
63	**Elec Curtailment (# of Customers)**		**0**	**121,504**	**2,665**	**112,935**	**0**	**0**
64								
65	***L1600 / Otay Low / L3010 80%***		***1.1.3.1***	***1.1.3.2***	***1.1.3.3***	***1.1.3.4***	***1.1.3.5***	***1.1.3.6***
66	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
67	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
68	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
69	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
70	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
71	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
72	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
73								
74	***L1600 / Otay Low / L3010 Out***		***1.2.3.1***	***1.2.3.2***	***1.2.3.3***	***1.2.3.4***	***1.2.3.5***	***1.2.3.6***
75	Curtailed NG-Fired Electric Gen (MW)		94	1218	927	927	618	744
76	**Total Supply**		**3038**	**3038**	**2570**	**2570**	**3189**	**3343**
77	**Elec Curtailment (MWh)**		**12**	**5,303**	**1,450**	**5,152**	**0**	**0**
78	**Elec Curtailment Duration (h)**		**1**	**13**	**5**	**17**	**0**	**0**
79	**Avg Elec Curtailment (MW)**		**23**	**424**	**276**	**308**	**0**	**0**
80	**Elec Curtailment (%)**		**1%**	**11%**	**9%**	**9%**	**0%**	**0%**
81	**Elec Curtailment (# of Customers)**		**10,621**	**159,543**	**130,224**	**129,384**	**0**	**0**

WORK PAPER TABLE - SCENARIO ANALYSIS ELECTRIC DEMAND AND SUPPLY (SA 1.2)

EXAMPLE DAY OF ELECTRIC DEMAND AND SUPPLY DURING SEASONAL VARIATIONS FOR ANALYSIS OF CURTAILMENT AND METERS AFFECTED FOR EACH PROJECT ALTERNATE

APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.			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
1								
2	A	B	C	D	E	F	G	H
82								
83	*L1600 / Otay Out / L3010 80%*		*1.1.4.1*	*1.1.4.2*	*1.1.4.3*	*1.1.4.4*	*1.1.4.5*	*1.1.4.6*
84	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
85	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
86	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
87	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
88	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
89	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
90	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
91								
92	*L1600 / Otay Out / L3010 Out*		*1.2.4.1*	*1.2.4.2*	*1.2.4.3*	*1.2.4.4*	*1.2.4.5*	*1.2.4.6*
93	Curtailed NG-Fired Electric Gen (MW)		281	1405	927	927	1236	1517
94	**Total Supply**		**2851**	**2851**	**2570**	**2570**	**2570**	**2570**
95	**Elec Curtailment (MWh)**		**720**	**7,881**	**1,450**	**5,152**	**150**	**1,636**
96	**Elec Curtailment Duration (h)**		**6**	**15**	**5**	**17**	**2**	**8**
97	**Avg Elec Curtailment (MW)**		**120**	**534**	**276**	**308**	**86**	**204**
98	**Elec Curtailment (%)**		**4%**	**14%**	**9%**	**9%**	**3%**	**7%**
99	**Elec Curtailment (# of Customers)**		**54,877**	**200,930**	**130,224**	**129,384**	**44,549**	**94,833**

WORK PAPER TABLE - SCENARIO ANALYSIS ELECTRIC DEMAND AND SUPPLY (SA 1.2)
EXAMPLE DAY OF ELECTRIC DEMAND AND SUPPLY DURING SEASONAL VARIATIONS FOR ANALYSIS OF CURTAILMENT AND METERS AFFECTED FOR EACH PROJECT ALTERNATE
APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.			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
1								
2	A	B	C	D	E	F	G	H
100								
101	***Line 3602 (Proposed Project)***							
102								
103	***L3602 / Otay Full / L3010 80%***		***2.1.1.1***	***2.1.1.2***	***2.1.1.3***	***2.1.1.4***	***2.1.1.5***	***2.1.1.6***
104	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
105	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
106	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
107	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
108	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
109	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
110	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
111								
112	***L3602 / Otay Full / L3010 Out***		***2.2.1.1***	***2.2.1.2***	***2.2.1.3***	***2.2.1.4***	***2.2.1.5***	***2.2.1.6***
113	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
114	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
115	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
116	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
117	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
118	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
119	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
120								
121	***L3602 / Otay Medium / L3010 80%***		***2.1.2.1***	***2.1.2.2***	***2.1.2.3***	***2.1.2.4***	***2.1.2.5***	***2.1.2.6***
122	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
123	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
124	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
125	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
126	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
127	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
128	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
129								
130	***L3602 / Otay Medium / L3010 Out***		***2.2.2.1***	***2.2.2.2***	***2.2.2.3***	***2.2.2.4***	***2.2.2.5***	***2.2.2.6***
131	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
132	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
133	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
134	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
135	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
136	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
137	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
138								
139	***L3602 / Otay Low / L3010 80%***		***2.1.3.1***	***2.1.3.2***	***2.1.3.3***	***2.1.3.4***	***2.1.3.5***	***2.1.3.6***
140	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
141	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
142	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
143	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
144	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
145	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
146	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
147								
148	***L3602 / Otay Low / L3010 Out***		***2.2.3.1***	***2.2.3.2***	***2.2.3.3***	***2.2.3.4***	***2.2.3.5***	***2.2.3.6***
149	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
150	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
151	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
152	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
153	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
154	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
155	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
156								
157	***L3602 / Otay Out / L3010 80%***		***2.1.4.1***	***2.1.4.2***	***2.1.4.3***	***2.1.4.4***	***2.1.4.5***	***2.1.4.6***
158	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
159	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
160	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
161	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
162	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
163	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
164	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
165								
166	***L3602 / Otay Out / L3010 Out***		***2.2.4.1***	***2.2.4.2***	***2.2.4.3***	***2.2.4.4***	***2.2.4.5***	***2.2.4.6***
167	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
168	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
169	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
170	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
171	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
172	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0.0%**	**0%**	**0%**
173	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**

WORK PAPER TABLE - SCENARIO ANALYSIS ELECTRIC DEMAND AND SUPPLY (SA 1.2)
EXAMPLE DAY OF ELECTRIC DEMAND AND SUPPLY DURING SEASONAL VARIATIONS FOR ANALYSIS OF CURTAILMENT AND METERS AFFECTED FOR EACH PROJECT ALTERNATE
APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.			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
1								
2	A	B	C	D	E	F	G	H
174								
175	***Line 1600 (During Hydrotesting)***							
176								
177	***Hydrotesting / Otay Full / L3010 80%***		***3.1.1.1***	***3.1.1.2***	***3.1.1.3***	***3.1.1.4***	***3.1.1.5***	***3.1.1.6***
178	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
179	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
180	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
181	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
182	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
183	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
184	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
185								
186	***Hydrotesting / Otay Full / L3010 Out***		***3.2.1.1***	***3.2.1.2***	***3.2.1.3***	***3.2.1.4***	***3.2.1.5***	***3.2.1.6***
187	Curtailed NG-Fired Electric Gen (MW)		0	1686	912	927	343	710
188	**Total Supply**		**3132**	**2570**	**2586**	**2570**	**3463**	**3377**
189	**Elec Curtailment (MWh)**		**0**	**12,380**	**1,368**	**5,152**	**0**	**0**
190	**Elec Curtailment Duration (h)**		**0**	**18**	**5**	**17**	**0**	**0**
191	**Avg Elec Curtailment (MW)**		**0**	**697**	**261**	**308**	**0**	**0**
192	**Elec Curtailment (%)**		**0%**	**19%**	**9%**	**9%**	**0%**	**0%**
193	**Elec Curtailment (# of Customers)**		**0**	**262,272**	**122,837**	**129,384**	**0**	**0**
194								
195	***Hydrotesting / Otay Medium / L3010 80%***		***3.1.2.1***	***3.1.2.2***	***3.1.2.3***	***3.1.2.4***	***3.1.2.5***	***3.1.2.6***
196	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
197	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
198	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
199	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
200	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
201	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
202	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
203								
204	***Hydrotesting / Otay Medium / L3010 Out***		***3.2.2.1***	***3.2.2.2***	***3.2.2.3***	***3.2.2.4***	***3.2.2.5***	***3.2.2.6***
205	Curtailed NG-Fired Electric Gen (MW)		249	1686	927	927	820	1140
206	**Total Supply**		**2883**	**2570**	**2570**	**2570**	**2987**	**2947**
207	**Elec Curtailment (MWh)**		**542**	**12,380**	**1,450**	**5,152**	**0**	**70**
208	**Elec Curtailment Duration (h)**		**5**	**18**	**5**	**17**	**0**	**2**
209	**Avg Elec Curtailment (MW)**		**103**	**697**	**276**	**308**	**0**	**46**
210	**Elec Curtailment (%)**		**3%**	**19%**	**9%**	**9%**	**0%**	**2%**
211	**Elec Curtailment (# of Customers)**		**47,219**	**262,272**	**130,224**	**129,384**	**0**	**21,550**
212								
213	***Hydrotesting / Otay Low / L3010 80%***		***3.1.3.1***	***3.1.3.2***	***3.1.3.3***	***3.1.3.4***	***3.1.3.5***	***3.1.3.6***
214	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
215	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
216	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
217	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
218	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
219	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
220	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
221								
222	***Hydrotesting / Otay Low / L3010 Out***		***3.2.3.1***	***3.2.3.2***	***3.2.3.3***	***3.2.3.4***	***3.2.3.5***	***3.2.3.6***
223	Curtailed NG-Fired Electric Gen (MW)		562	1686	927	927	1236	1517
224	**Total Supply**		**2570**	**2570**	**2570**	**2570**	**2570**	**2570**
225	**Elec Curtailment (MWh)**		**2,873**	**12,380**	**1,450**	**5,152**	**150**	**1,636**
226	**Elec Curtailment Duration (h)**		**9**	**18**	**5**	**17**	**2**	**8**
227	**Avg Elec Curtailment (MW)**		**311**	**697**	**276**	**308**	**86**	**204**
228	**Elec Curtailment (%)**		**10%**	**19%**	**9%**	**9%**	**3%**	**7%**
229	**Elec Curtailment (# of Customers)**		**142,040**	**262,272**	**130,224**	**129,384**	**44,549**	**94,833**
230								
231	***Hydrotesting / Otay Out / L3010 80%***		***3.1.4.1***	***3.1.4.2***	***3.1.4.3***	***3.1.4.4***	***3.1.4.5***	***3.1.4.6***
232	Curtailed NG-Fired Electric Gen (MW)		0	112	534	759	56	393
233	**Total Supply**		**3132**	**4143**	**2963**	**2739**	**3750**	**3694**
234	**Elec Curtailment (MWh)**		**0**	**0**	**1**	**2,881**	**0**	**0**
235	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**11**	**0**	**0**
236	**Avg Elec Curtailment (MW)**		**0**	**0**	**5**	**268**	**0**	**0**
237	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**8%**	**0%**	**0%**
238	**Elec Curtailment (# of Customers)**		**0**	**0**	**2,440**	**112,734**	**0**	**0**
239								
240	***Hydrotesting / Otay Out / L3010 Out***		***3.2.4.1***	***3.2.4.2***	***3.2.4.3***	***3.2.4.4***	***3.2.4.5***	***3.2.4.6***
241	Curtailed NG-Fired Electric Gen (MW)		562	1686	927	927	1236	1517
242	**Total Supply**		**2570**	**2570**	**2570**	**2570**	**2570**	**2570**
243	**Elec Curtailment (MWh)**		**2,873**	**12,380**	**1,450**	**5,152**	**150**	**1,636**
244	**Elec Curtailment Duration (h)**		**9**	**18**	**5**	**17**	**2**	**8**
245	**Avg Elec Curtailment (MW)**		**311**	**697**	**276**	**308**	**86**	**204**
246	**Elec Curtailment (%)**		**10%**	**19%**	**9%**	**9%**	**3%**	**7%**
247	**Elec Curtailment (# of Customers)**		**142,040**	**262,272**	**130,224**	**129,384**	**44,549**	**94,833**

WORK PAPER TABLE - SCENARIO ANALYSIS ELECTRIC DEMAND AND SUPPLY (SA 1.2)
EXAMPLE DAY OF ELECTRIC DEMAND AND SUPPLY DURING SEASONAL VARIATIONS FOR ANALYSIS OF CURTAILMENT AND METERS AFFECTED FOR EACH PROJECT ALTERNATE
APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.			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
1								
2	A	B	C	D	E	F	G	H
248								
249	***Alternate Diameter Pipeline 10"***							
250								
251	***Alt Diameter 10" / Otay Full / L3010 80%***		***4.1.1.1***	***4.1.1.2***	***4.1.1.3***	***4.1.1.4***	***4.1.1.5***	***4.1.1.6***
252	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
253	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
254	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
255	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
256	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
257	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
258	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
259								
260	***Alt Diameter 10" / Otay Full / L3010 Out***		***4.2.1.1***	***4.2.1.2***	***4.2.1.3***	***4.2.1.4***	***4.2.1.5***	***4.2.1.6***
261	Curtailed NG-Fired Electric Gen (MW)		0	1482	631	855	62	429
262	**Total Supply**		**3132**	**2773**	**2867**	**2642**	**3744**	**3658**
263	**Elec Curtailment (MWh)**		**0**	**9,051**	**172**	**4,053**	**0**	**0**
264	**Elec Curtailment Duration (h)**		**0**	**16**	**3**	**14**	**0**	**0**
265	**Avg Elec Curtailment (MW)**		**0**	**584**	**62**	**300**	**0**	**0**
266	**Elec Curtailment (%)**		**0%**	**16%**	**2%**	**9%**	**0%**	**0%**
267	**Elec Curtailment (# of Customers)**		**0**	**219,576**	**29,432**	**126,283**	**0**	**0**
268								
269	***Alt Diameter 10" / Otay Medium / L3010 80%***		***4.1.2.1***	***4.1.2.2***	***4.1.2.3***	***4.1.2.4***	***4.1.2.5***	***4.1.2.6***
270	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
271	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
272	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
273	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
274	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
275	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
276	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
277								
278	***Alt Diameter 10" / Otay Medium / L3010 Out***		***4.2.2.1***	***4.2.2.2***	***4.2.2.3***	***4.2.2.4***	***4.2.2.5***	***4.2.2.6***
279	Curtailed NG-Fired Electric Gen (MW)		0	1631	927	927	539	859
280	**Total Supply**		**3132**	**2625**	**2570**	**2570**	**3268**	**3228**
281	**Elec Curtailment (MWh)**		**0**	**11,438**	**1,450**	**5,152**	**0**	**0**
282	**Elec Curtailment Duration (h)**		**0**	**17**	**5**	**17**	**0**	**0**
283	**Avg Elec Curtailment (MW)**		**0**	**683**	**276**	**308**	**0**	**0**
284	**Elec Curtailment (%)**		**0%**	**18%**	**9%**	**9%**	**0%**	**0%**
285	**Elec Curtailment (# of Customers)**		**0**	**256,793**	**130,224**	**129,384**	**0**	**0**
286								
287	***Alt Diameter 10" / Otay Low / L3010 80%***		***4.1.3.1***	***4.1.3.2***	***4.1.3.3***	***4.1.3.4***	***4.1.3.5***	***4.1.3.6***
288	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
289	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
290	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
291	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
292	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
293	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
294	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
295								
296	***Alt Diameter 10" / Otay Low / L3010 Out***		***4.2.3.1***	***4.2.3.2***	***4.2.3.3***	***4.2.3.4***	***4.2.3.5***	***4.2.3.6***
297	Curtailed NG-Fired Electric Gen (MW)		562	1686	927	927	1180	1306
298	**Total Supply**		**2570**	**2570**	**2570**	**2570**	**2627**	**2781**
299	**Elec Curtailment (MWh)**		**2,873**	**12,380**	**1,450**	**5,152**	**58**	**473**
300	**Elec Curtailment Duration (h)**		**9**	**18**	**5**	**17**	**2**	**3**
301	**Avg Elec Curtailment (MW)**		**311**	**697**	**276**	**308**	**38**	**146**
302	**Elec Curtailment (%)**		**10%**	**19%**	**9%**	**9%**	**1%**	**5%**
303	**Elec Curtailment (# of Customers)**		**142,040**	**262,272**	**130,224**	**129,384**	**19,934**	**67,529**
304								
305	***Alt Diameter 10" / Otay Out / L3010 80%***		***4.1.4.1***	***4.1.4.2***	***4.1.4.3***	***4.1.4.4***	***4.1.4.5***	***4.1.4.6***
306	Curtailed NG-Fired Electric Gen (MW)		0	0	253	478	0	112
307	**Total Supply**		**3132**	**4256**	**3244**	**3020**	**3806**	**3975**
308	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**912**	**0**	**0**
309	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**4**	**0**	**0**
310	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**215**	**0**	**0**
311	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**6%**	**0%**	**0%**
312	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**90,313**	**0**	**0**
313								
314	***Alt Diameter 10" / Otay Out / L3010 Out***		***4.2.4.1***	***4.2.4.2***	***4.2.4.3***	***4.2.4.4***	***4.2.4.5***	***4.2.4.6***
315	Curtailed NG-Fired Electric Gen (MW)		562	1686	927	927	1236	1517
316	**Total Supply**		**2570**	**2570**	**2570**	**2570**	**2570**	**2570**
317	**Elec Curtailment (MWh)**		**2,873**	**12,380**	**1,450**	**5,152**	**150**	**1,636**
318	**Elec Curtailment Duration (h)**		**9**	**18**	**5**	**17**	**2**	**8**
319	**Avg Elec Curtailment (MW)**		**311**	**697**	**276**	**308**	**86**	**204**
320	**Elec Curtailment (%)**		**10%**	**19%**	**9%**	**9%**	**3%**	**7%**
321	**Elec Curtailment (# of Customers)**		**142,040**	**262,272**	**130,224**	**129,384**	**44,549**	**94,833**

WORK PAPER TABLE - SCENARIO ANALYSIS ELECTRIC DEMAND AND SUPPLY (SA 1.2)
EXAMPLE DAY OF ELECTRIC DEMAND AND SUPPLY DURING SEASONAL VARIATIONS FOR ANALYSIS OF CURTAILMENT AND METERS AFFECTED FOR EACH PROJECT ALTERNATE
APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.			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
1								
2	A	B	C	D	E	F	G	H
322								
323	***Alternate Diameter Pipeline 12"***							
324								
325	***Alt Diameter 12" / Otay Full / L3010 80%***		***5.1.1.1***	***5.1.1.2***	***5.1.1.3***	***5.1.1.4***	***5.1.1.5***	***5.1.1.6***
326	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
327	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
328	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
329	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
330	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
331	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
332	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
333								
334	***Alt Diameter 12" / Otay Full / L3010 Out***		***5.2.1.1***	***5.2.1.2***	***5.2.1.3***	***5.2.1.4***	***5.2.1.5***	***5.2.1.6***
335	Curtailed NG-Fired Electric Gen (MW)		0	1370	518	743	0	317
336	**Total Supply**		**3132**	**2886**	**2979**	**2754**	**3806**	**3771**
337	**Elec Curtailment (MWh)**		**0**	**7,374**	**0**	**2,716**	**0**	**0**
338	**Elec Curtailment Duration (h)**		**0**	**15**	**0**	**11**	**0**	**0**
339	**Avg Elec Curtailment (MW)**		**0**	**509**	**0**	**259**	**0**	**0**
340	**Elec Curtailment (%)**		**0%**	**14%**	**0%**	**8%**	**0%**	**0%**
341	**Elec Curtailment (# of Customers)**		**0**	**191,226**	**0**	**108,815**	**0**	**0**
342								
343	***Alt Diameter 12" / Otay Medium / L3010 80%***		***5.1.2.1***	***5.1.2.2***	***5.1.2.3***	***5.1.2.4***	***5.1.2.5***	***5.1.2.6***
344	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
345	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
346	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
347	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
348	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
349	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
350	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
351								
352	***Alt Diameter 12" / Otay Medium / L3010 Out***		***5.2.2.1***	***5.2.2.2***	***5.2.2.3***	***5.2.2.4***	***5.2.2.5***	***5.2.2.6***
353	Curtailed NG-Fired Electric Gen (MW)		0	1519	927	927	426	746
354	**Total Supply**		**3132**	**2737**	**2570**	**2570**	**3380**	**3341**
355	**Elec Curtailment (MWh)**		**0**	**9,618**	**1,450**	**5,152**	**0**	**0**
356	**Elec Curtailment Duration (h)**		**0**	**16**	**5**	**17**	**0**	**0**
357	**Avg Elec Curtailment (MW)**		**0**	**601**	**276**	**308**	**0**	**0**
358	**Elec Curtailment (%)**		**0%**	**16%**	**9%**	**9%**	**0%**	**0%**
359	**Elec Curtailment (# of Customers)**		**0**	**226,051**	**130,224**	**129,384**	**0**	**0**
360								
361	***Alt Diameter 12" / Otay Low / L3010 80%***		***5.1.3.1***	***5.1.3.2***	***5.1.3.3***	***5.1.3.4***	***5.1.3.5***	***5.1.3.6***
362	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
363	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
364	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
365	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
366	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
367	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
368	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
369								
370	***Alt Diameter 12" / Otay Low / L3010 Out***		***5.2.3.1***	***5.2.3.2***	***5.2.3.3***	***5.2.3.4***	***5.2.3.5***	***5.2.3.6***
371	Curtailed NG-Fired Electric Gen (MW)		543	1667	927	927	1067	1194
372	**Total Supply**		**2589**	**2589**	**2570**	**2570**	**2739**	**2893**
373	**Elec Curtailment (MWh)**		**2,701**	**12,054**	**1,450**	**5,152**	**0**	**170**
374	**Elec Curtailment Duration (h)**		**9**	**18**	**5**	**17**	**0**	**2**
375	**Avg Elec Curtailment (MW)**		**292**	**689**	**276**	**308**	**0**	**76**
376	**Elec Curtailment (%)**		**10%**	**19%**	**9%**	**9%**	**0%**	**3%**
377	**Elec Curtailment (# of Customers)**		**133,537**	**259,014**	**130,224**	**129,384**	**0**	**35,092**
378								
379	***Alt Diameter 12" / Otay Out / L3010 80%***		***5.1.4.1***	***5.1.4.2***	***5.1.4.3***	***5.1.4.4***	***5.1.4.5***	***5.1.4.6***
380	Curtailed NG-Fired Electric Gen (MW)		0	0	140	365	0	0
381	**Total Supply**		**3132**	**4256**	**3357**	**3132**	**3806**	**4087**
382	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**486**	**0**	**0**
383	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**4**	**0**	**0**
384	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**139**	**0**	**0**
385	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**4%**	**0%**	**0%**
386	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**58,403**	**0**	**0**
387								
388	***Alt Diameter 12" / Otay Out / L3010 Out***		***5.2.4.1***	***5.2.4.2***	***5.2.4.3***	***5.2.4.4***	***5.2.4.5***	***5.2.4.6***
389	Curtailed NG-Fired Electric Gen (MW)		562	1686	927	927	1236	1517
390	**Total Supply**		**2570**	**2570**	**2570**	**2570**	**2570**	**2570**
391	**Elec Curtailment (MWh)**		**2,873**	**12,380**	**1,450**	**5,152**	**150**	**1,636**
392	**Elec Curtailment Duration (h)**		**9**	**18**	**5**	**17**	**2**	**8**
393	**Avg Elec Curtailment (MW)**		**311**	**697**	**276**	**308**	**86**	**204**
394	**Elec Curtailment (%)**		**10%**	**19%**	**9%**	**9%**	**3%**	**7%**
395	**Elec Curtailment (# of Customers)**		**142,040**	**262,272**	**130,224**	**129,384**	**44,549**	**94,833**

WORK PAPER TABLE - SCENARIO ANALYSIS ELECTRIC DEMAND AND SUPPLY (SA 1.2)
EXAMPLE DAY OF ELECTRIC DEMAND AND SUPPLY DURING SEASONAL VARIATIONS FOR ANALYSIS OF CURTAILMENT AND METERS AFFECTED FOR EACH PROJECT ALTERNATE
APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.			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
1								
2	A	B	C	D	E	F	G	H
396								
397	***Alternate Diameter Pipeline 16"***							
398								
399	***Alt Diameter 16" / Otay Full / L3010 80%***		***6.1.1.1***	***6.1.1.2***	***6.1.1.3***	***6.1.1.4***	***6.1.1.5***	***6.1.1.6***
400	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
401	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
402	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
403	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
404	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
405	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
406	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
407								
408	***Alt Diameter 16" / Otay Full / L3010 Out***		***6.2.1.1***	***6.2.1.2***	***6.2.1.3***	***6.2.1.4***	***6.2.1.5***	***6.2.1.6***
409	Curtailed NG-Fired Electric Gen (MW)		0	864	12	237	0	0
410	**Total Supply**		**3132**	**3392**	**3485**	**3260**	**3806**	**4087**
411	**Elec Curtailment (MWh)**		**0**	**1,539**	**0**	**105**	**0**	**0**
412	**Elec Curtailment Duration (h)**		**0**	**9**	**0**	**2**	**0**	**0**
413	**Avg Elec Curtailment (MW)**		**0**	**181**	**0**	**47**	**0**	**0**
414	**Elec Curtailment (%)**		**0%**	**5%**	**0%**	**1%**	**0%**	**0%**
415	**Elec Curtailment (# of Customers)**		**0**	**68,106**	**0**	**19,607**	**0**	**0**
416								
417	***Alt Diameter 16" / Otay Medium / L3010 80%***		***6.1.2.1***	***6.1.2.2***	***6.1.2.3***	***6.1.2.4***	***6.1.2.5***	***6.1.2.6***
418	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
419	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
420	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
421	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
422	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
423	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
424	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
425								
426	***Alt Diameter 16" / Otay Medium / L3010 Out***		***6.2.2.1***	***6.2.2.2***	***6.2.2.3***	***6.2.2.4***	***6.2.2.5***	***6.2.2.6***
427	Curtailed NG-Fired Electric Gen (MW)		0	1013	478	703	0	241
428	**Total Supply**		**3132**	**3243**	**3019**	**2794**	**3806**	**3847**
429	**Elec Curtailment (MWh)**		**0**	**2,953**	**0**	**2,315**	**0**	**0**
430	**Elec Curtailment Duration (h)**		**0**	**11**	**0**	**9**	**0**	**0**
431	**Avg Elec Curtailment (MW)**		**0**	**281**	**0**	**250**	**0**	**0**
432	**Elec Curtailment (%)**		**0%**	**8%**	**0%**	**8%**	**0%**	**0%**
433	**Elec Curtailment (# of Customers)**		**0**	**105,754**	**0**	**105,273**	**0**	**0**
434								
435	***Alt Diameter 16" / Otay Low / L3010 80%***		***6.1.3.1***	***6.1.3.2***	***6.1.3.3***	***6.1.3.4***	***6.1.3.5***	***6.1.3.6***
436	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
437	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
438	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
439	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
440	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
441	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
442	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
443								
444	***Alt Diameter 16" / Otay Low / L3010 Out***		***6.2.3.1***	***6.2.3.2***	***6.2.3.3***	***6.2.3.4***	***6.2.3.5***	***6.2.3.6***
445	Curtailed NG-Fired Electric Gen (MW)		38	1162	927	927	561	688
446	**Total Supply**		**3094**	**3094**	**2570**	**2570**	**3245**	**3399**
447	**Elec Curtailment (MWh)**		**0**	**4,618**	**1,450**	**5,152**	**0**	**0**
448	**Elec Curtailment Duration (h)**		**0**	**12**	**5**	**17**	**0**	**0**
449	**Avg Elec Curtailment (MW)**		**0**	**385**	**276**	**308**	**0**	**0**
450	**Elec Curtailment (%)**		**0%**	**10%**	**9%**	**9%**	**0%**	**0%**
451	**Elec Curtailment (# of Customers)**		**0**	**144,719**	**130,224**	**129,384**	**0**	**0**
452								
453	***Alt Diameter 16" / Otay Out / L3010 80%***		***6.1.4.1***	***6.1.4.2***	***6.1.4.3***	***6.1.4.4***	***6.1.4.5***	***6.1.4.6***
454	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
455	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
456	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
457	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
458	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
459	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
460	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
461								
462	***Alt Diameter 16" / Otay Out / L3010 Out***		***6.2.4.1***	***6.2.4.2***	***6.2.4.3***	***6.2.4.4***	***6.2.4.5***	***6.2.4.6***
463	Curtailed NG-Fired Electric Gen (MW)		225	1349	927	927	1236	1517
464	**Total Supply**		**2907**	**2907**	**2570**	**2570**	**2570**	**2570**
465	**Elec Curtailment (MWh)**		**417**	**7,065**	**1,450**	**5,152**	**150**	**1,636**
466	**Elec Curtailment Duration (h)**		**5**	**15**	**5**	**17**	**2**	**8**
467	**Avg Elec Curtailment (MW)**		**83**	**487**	**276**	**308**	**86**	**204**
468	**Elec Curtailment (%)**		**3%**	**13%**	**9%**	**9%**	**3%**	**7%**
469	**Elec Curtailment (# of Customers)**		**38,177**	**183,210**	**130,224**	**129,384**	**44,549**	**94,833**

WORK PAPER TABLE - SCENARIO ANALYSIS ELECTRIC DEMAND AND SUPPLY (SA 1.2)
EXAMPLE DAY OF ELECTRIC DEMAND AND SUPPLY DURING SEASONAL VARIATIONS FOR ANALYSIS OF CURTAILMENT AND METERS AFFECTED FOR EACH PROJECT ALTERNATE
APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.			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
1								
2	A	B	C	D	E	F	G	H
470								
471	***Alternate Diameter Pipeline 20"***							
472								
473	***Alt Diameter 20" / Otay Full / L3010 80%***		***20.1.1.1***	***20.1.1.2***	***20.1.1.3***	***20.1.1.4***	***20.1.1.5***	***20.1.1.6***
474	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
475	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
476	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
477	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
478	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
479	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
480	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
481								
482	***Alt Diameter 20" / Otay Full / L3010 Out***		***20.2.1.1***	***20.2.1.2***	***20.2.1.3***	***20.2.1.4***	***20.2.1.5***	***20.2.1.6***
483	Curtailed NG-Fired Electric Gen (MW)		0	358	0	0	0	0
484	**Total Supply**		**3132**	**3897**	**3497**	**3497**	**3806**	**4087**
485	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
486	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
487	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
488	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
489	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
490								
491	***Alt Diameter 20" / Otay Medium / L3010 80%***		***20.1.2.1***	***20.1.2.2***	***20.1.2.3***	***20.1.2.4***	***20.1.2.5***	***20.1.2.6***
492	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
493	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
494	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
495	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
496	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
497	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
498	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
499								
500	***Alt Diameter 20" / Otay Medium / L3010 Out***		***20.2.2.1***	***20.2.2.2***	***20.2.2.3***	***20.2.2.4***	***20.2.2.5***	***20.2.2.6***
501	Curtailed NG-Fired Electric Gen (MW)		0	507	0	197	0	0
502	**Total Supply**		**3132**	**3749**	**3497**	**3300**	**3806**	**4087**
503	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**28**	**0**	**0**
504	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**1**	**0**	**0**
505	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**23**	**0**	**0**
506	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**1%**	**0%**	**0%**
507	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**9,493**	**0**	**0**
508								
509	***Alt Diameter 20" / Otay Low / L3010 80%***		***20.1.3.1***	***20.1.3.2***	***20.1.3.3***	***20.1.3.4***	***20.1.3.5***	***20.1.3.6***
510	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
511	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
512	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
513	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
514	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
515	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
516	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
517								
518	***Alt Diameter 20" / Otay Low / L3010 Out***		***20.2.3.1***	***20.2.3.2***	***20.2.3.3***	***20.2.3.4***	***20.2.3.5***	***20.2.3.6***
519	Curtailed NG-Fired Electric Gen (MW)		0	656	432	657	56	182
520	**Total Supply**		**3132**	**3600**	**3065**	**2840**	**3751**	**3905**
521	**Elec Curtailment (MWh)**		**0**	**297**	**0**	**1,906**	**0**	**0**
522	**Elec Curtailment Duration (h)**		**0**	**4**	**0**	**8**	**0**	**0**
523	**Avg Elec Curtailment (MW)**		**0**	**85**	**0**	**231**	**0**	**0**
524	**Elec Curtailment (%)**		**0%**	**2%**	**0%**	**7%**	**0%**	**0%**
525	**Elec Curtailment (# of Customers)**		**0**	**31,857**	**0**	**97,165**	**0**	**0**
526								
527	***Alt Diameter 20" / Otay Out / L3010 80%***		***20.1.4.1***	***20.1.4.2***	***20.1.4.3***	***20.1.4.4***	***20.1.4.5***	***20.1.4.6***
528	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
529	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
530	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
531	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
532	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
533	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
534	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
535								
536	***Alt Diameter 20" / Otay Out / L3010 Out***		***20.2.4.1***	***20.2.4.2***	***20.2.4.3***	***20.2.4.4***	***20.2.4.5***	***20.2.4.6***
537	Curtailed NG-Fired Electric Gen (MW)		0	843	927	927	787	1124
538	**Total Supply**		**3132**	**3413**	**2570**	**2570**	**3020**	**2963**
539	**Elec Curtailment (MWh)**		**0**	**1,363**	**1,450**	**5,152**	**0**	**49**
540	**Elec Curtailment Duration (h)**		**0**	**8**	**5**	**17**	**0**	**1**
541	**Avg Elec Curtailment (MW)**		**0**	**165**	**276**	**308**	**0**	**39**
542	**Elec Curtailment (%)**		**0%**	**4%**	**9%**	**9%**	**0%**	**1%**
543	**Elec Curtailment (# of Customers)**		**0**	**62,123**	**130,224**	**129,384**	**0**	**18,018**

WORK PAPER TABLE - SCENARIO ANALYSIS ELECTRIC DEMAND AND SUPPLY (SA 1.2)
EXAMPLE DAY OF ELECTRIC DEMAND AND SUPPLY DURING SEASONAL VARIATIONS FOR ANALYSIS OF CURTAILMENT AND METERS AFFECTED FOR EACH PROJECT ALTERNATE
APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.			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
1								
2	A	B	C	D	E	F	G	H
544								
545	***Alternate Diameter Pipeline 24"***							
546								
547		***Alt Diameter 24" / Otay Full / L3010 80%***	***7.1.1.1***	***7.1.1.2***	***7.1.1.3***	***7.1.1.4***	***7.1.1.5***	***7.1.1.6***
548		Curtailed NG-Fired Electric Gen (MW)	0	0	0	0	0	0
549		**Total Supply**	**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
550		**Elec Curtailment (MWh)**	**0**	**0**	**0**	**0**	**0**	**0**
551		**Elec Curtailment Duration (h)**	**0**	**0**	**0**	**0**	**0**	**0**
552		**Avg Elec Curtailment (MW)**	**0**	**0**	**0**	**0**	**0**	**0**
553		**Elec Curtailment (%)**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
554		**Elec Curtailment (# of Customers)**	**0**	**0**	**0**	**0**	**0**	**0**
555								
556		***Alt Diameter 24" / Otay Full / L3010 Out***	***7.2.1.1***	***7.2.1.2***	***7.2.1.3***	***7.2.1.4***	***7.2.1.5***	***7.2.1.6***
557		Curtailed NG-Fired Electric Gen (MW)	0	0	0	0	0	0
558		**Total Supply**	**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
559		**Elec Curtailment (MWh)**	**0**	**0**	**0**	**0**	**0**	**0**
560		**Elec Curtailment Duration (h)**	**0**	**0**	**0**	**0**	**0**	**0**
561		**Avg Elec Curtailment (MW)**	**0**	**0**	**0**	**0**	**0**	**0**
562		**Elec Curtailment (%)**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
563		**Elec Curtailment (# of Customers)**	**0**	**0**	**0**	**0**	**0**	**0**
564								
565		***Alt Diameter 24" / Otay Medium / L3010 80%***	***7.1.2.1***	***7.1.2.2***	***7.1.2.3***	***7.1.2.4***	***7.1.2.5***	***7.1.2.6***
566		Curtailed NG-Fired Electric Gen (MW)	0	0	0	0	0	0
567		**Total Supply**	**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
568		**Elec Curtailment (MWh)**	**0**	**0**	**0**	**0**	**0**	**0**
569		**Elec Curtailment Duration (h)**	**0**	**0**	**0**	**0**	**0**	**0**
570		**Avg Elec Curtailment (MW)**	**0**	**0**	**0**	**0**	**0**	**0**
571		**Elec Curtailment (%)**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
572		**Elec Curtailment (# of Customers)**	**0**	**0**	**0**	**0**	**0**	**0**
573								
574		***Alt Diameter 24" / Otay Medium / L3010 Out***	***7.2.2.1***	***7.2.2.2***	***7.2.2.3***	***7.2.2.4***	***7.2.2.5***	***7.2.2.6***
575		Curtailed NG-Fired Electric Gen (MW)	0	0	0	0	0	0
576		**Total Supply**	**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
577		**Elec Curtailment (MWh)**	**0**	**0**	**0**	**0**	**0**	**0**
578		**Elec Curtailment Duration (h)**	**0**	**0**	**0**	**0**	**0**	**0**
579		**Avg Elec Curtailment (MW)**	**0**	**0**	**0**	**0**	**0**	**0**
580		**Elec Curtailment (%)**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
581		**Elec Curtailment (# of Customers)**	**0**	**0**	**0**	**0**	**0**	**0**
582								
583		***Alt Diameter 24" / Otay Low / L3010 80%***	***7.1.3.1***	***7.1.3.2***	***7.1.3.3***	***7.1.3.4***	***7.1.3.5***	***7.1.3.6***
584		Curtailed NG-Fired Electric Gen (MW)	0	0	0	0	0	0
585		**Total Supply**	**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
586		**Elec Curtailment (MWh)**	**0**	**0**	**0**	**0**	**0**	**0**
587		**Elec Curtailment Duration (h)**	**0**	**0**	**0**	**0**	**0**	**0**
588		**Avg Elec Curtailment (MW)**	**0**	**0**	**0**	**0**	**0**	**0**
589		**Elec Curtailment (%)**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
590		**Elec Curtailment (# of Customers)**	**0**	**0**	**0**	**0**	**0**	**0**
591								
592		***Alt Diameter 24" / Otay Low / L3010 Out***	***7.2.3.1***	***7.2.3.2***	***7.2.3.3***	***7.2.3.4***	***7.2.3.5***	***7.2.3.6***
593		Curtailed NG-Fired Electric Gen (MW)	0	0	0	0	0	0
594		**Total Supply**	**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
595		**Elec Curtailment (MWh)**	**0**	**0**	**0**	**0**	**0**	**0**
596		**Elec Curtailment Duration (h)**	**0**	**0**	**0**	**0**	**0**	**0**
597		**Avg Elec Curtailment (MW)**	**0**	**0**	**0**	**0**	**0**	**0**
598		**Elec Curtailment (%)**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
599		**Elec Curtailment (# of Customers)**	**0**	**0**	**0**	**0**	**0**	**0**
600								
601		***Alt Diameter 24" / Otay Out / L3010 80%***	***7.1.4.1***	***7.1.4.2***	***7.1.4.3***	***7.1.4.4***	***7.1.4.5***	***7.1.4.6***
602		Curtailed NG-Fired Electric Gen (MW)	0	0	0	0	0	0
603		**Total Supply**	**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
604		**Elec Curtailment (MWh)**	**0**	**0**	**0**	**0**	**0**	**0**
605		**Elec Curtailment Duration (h)**	**0**	**0**	**0**	**0**	**0**	**0**
606		**Avg Elec Curtailment (MW)**	**0**	**0**	**0**	**0**	**0**	**0**
607		**Elec Curtailment (%)**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
608		**Elec Curtailment (# of Customers)**	**0**	**0**	**0**	**0**	**0**	**0**
609								
610		***Alt Diameter 24" / Otay Out / L3010 Out***	***7.2.4.1***	***7.2.4.2***	***7.2.4.3***	***7.2.4.4***	***7.2.4.5***	***7.2.4.6***
611		Curtailed NG-Fired Electric Gen (MW)	0	0	421	646	0	281
612		**Total Supply**	**3132**	**4256**	**3076**	**2851**	**3806**	**3806**
613		**Elec Curtailment (MWh)**	**0**	**0**	**0**	**1,819**	**0**	**0**
614		**Elec Curtailment Duration (h)**	**0**	**0**	**0**	**8**	**0**	**0**
615		**Avg Elec Curtailment (MW)**	**0**	**0**	**0**	**227**	**0**	**0**
616		**Elec Curtailment (%)**	**0%**	**0%**	**0%**	**7%**	**0%**	**0%**
617		**Elec Curtailment (# of Customers)**	**0**	**0**	**0**	**95,660**	**0**	**0**

WORK PAPER TABLE - SCENARIO ANALYSIS ELECTRIC DEMAND AND SUPPLY (SA 1.2)
EXAMPLE DAY OF ELECTRIC DEMAND AND SUPPLY DURING SEASONAL VARIATIONS FOR ANALYSIS OF CURTAILMENT AND METERS AFFECTED FOR EACH PROJECT ALTERNATE
APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.			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
1								
2	A	B	C	D	E	F	G	H
618								
619	***Alternate Diameter Pipeline 30"***							
620								
621	***Alt Diameter 30" / Otay Full / L3010 80%***		***8.1.1.1***	***8.1.1.2***	***8.1.1.3***	***8.1.1.4***	***8.1.1.5***	***8.1.1.6***
622	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
623	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
624	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
625	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
626	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
627	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
628	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
629								
630	***Alt Diameter 30" / Otay Full / L3010 Out***		***8.2.1.1***	***8.2.1.2***	***8.2.1.3***	***8.2.1.4***	***8.2.1.5***	***8.2.1.6***
631	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
632	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
633	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
634	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
635	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
636	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
637	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
638								
639	***Alt Diameter 30" / Otay Medium / L3010 80%***		***8.1.2.1***	***8.1.2.2***	***8.1.2.3***	***8.1.2.4***	***8.1.2.5***	***8.1.2.6***
640	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
641	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
642	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
643	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
644	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
645	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
646	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
647								
648	***Alt Diameter 30" / Otay Medium / L3010 Out***		***8.2.2.1***	***8.2.2.2***	***8.2.2.3***	***8.2.2.4***	***8.2.2.5***	***8.2.2.6***
649	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
650	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
651	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
652	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
653	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
654	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
655	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
656								
657	***Alt Diameter 30" / Otay Low / L3010 80%***		***8.1.3.1***	***8.1.3.2***	***8.1.3.3***	***8.1.3.4***	***8.1.3.5***	***8.1.3.6***
658	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
659	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
660	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
661	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
662	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
663	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
664	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
665								
666	***Alt Diameter 30" / Otay Low / L3010 Out***		***8.2.3.1***	***8.2.3.2***	***8.2.3.3***	***8.2.3.4***	***8.2.3.5***	***8.2.3.6***
667	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
668	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
669	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
670	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
671	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
672	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
673	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
674								
675	***Alt Diameter 30" / Otay Out / L3010 80%***		***8.1.4.1***	***8.1.4.2***	***8.1.4.3***	***8.1.4.4***	***8.1.4.5***	***8.1.4.6***
676	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
677	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
678	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
679	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
680	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
681	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
682	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
683								
684	***Alt Diameter 30" / Otay Out / L3010 Out***		***8.2.4.1***	***8.2.4.2***	***8.2.4.3***	***8.2.4.4***	***8.2.4.5***	***8.2.4.6***
685	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
686	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
687	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
688	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
689	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
690	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
691	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**

WORK PAPER TABLE - SCENARIO ANALYSIS ELECTRIC DEMAND AND SUPPLY (SA 1.2)
EXAMPLE DAY OF ELECTRIC DEMAND AND SUPPLY DURING SEASONAL VARIATIONS FOR ANALYSIS OF CURTAILMENT AND METERS AFFECTED FOR EACH PROJECT ALTERNATE
APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.			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
1								
2	A	B	C	D	E	F	G	H
692								
693	***Alternate Diameter Pipeline 42"***							
694								
695	***Alt Diameter 42" / Otay Full / L3010 80%***		*9.1.1.1*	*9.1.1.2*	*9.1.1.3*	*9.1.1.4*	*9.1.1.5*	*9.1.1.6*
696	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
697	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
698	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
699	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
700	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
701	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
702	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
703								
704	***Alt Diameter 42" / Otay Full / L3010 Out***		*9.2.1.1*	*9.2.1.2*	*9.2.1.3*	*9.2.1.4*	*9.2.1.5*	*9.2.1.6*
705	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
706	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
707	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
708	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
709	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
710	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
711	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
712								
713	***Alt Diameter 42" / Otay Medium / L3010 80%***		*9.1.2.1*	*9.1.2.2*	*9.1.2.3*	*9.1.2.4*	*9.1.2.5*	*9.1.2.6*
714	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
715	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
716	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
717	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
718	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
719	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
720	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
721								
722	***Alt Diameter 42" / Otay Medium / L3010 Out***		*9.2.2.1*	*9.2.2.2*	*9.2.2.3*	*9.2.2.4*	*9.2.2.5*	*9.2.2.6*
723	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
724	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
725	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
726	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
727	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
728	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
729	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
730								
731	***Alt Diameter 42" / Otay Low / L3010 80%***		*9.1.3.1*	*9.1.3.2*	*9.1.3.3*	*9.1.3.4*	*9.1.3.5*	*9.1.3.6*
732	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
733	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
734	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
735	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
736	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
737	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
738	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
739								
740	***Alt Diameter 42" / Otay Low / L3010 Out***		*9.2.3.1*	*9.2.3.2*	*9.2.3.3*	*9.2.3.4*	*9.2.3.5*	*9.2.3.6*
741	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
742	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
743	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
744	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
745	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
746	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
747	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
748								
749	***Alt Diameter 42" / Otay Out / L3010 80%***		*9.1.4.1*	*9.1.4.2*	*9.1.4.3*	*9.1.4.4*	*9.1.4.5*	*9.1.4.6*
750	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
751	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
752	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
753	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
754	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
755	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
756	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
757								
758	***Alt Diameter 42" / Otay Out / L3010 Out***		*9.2.4.1*	*9.2.4.2*	*9.2.4.3*	*9.2.4.4*	*9.2.4.5*	*9.2.4.6*
759	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
760	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
761	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
762	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
763	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
764	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0.0%**	**0%**	**0%**
765	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**

WORK PAPER TABLE - SCENARIO ANALYSIS ELECTRIC DEMAND AND SUPPLY (SA 1.2)
EXAMPLE DAY OF ELECTRIC DEMAND AND SUPPLY DURING SEASONAL VARIATIONS FOR ANALYSIS OF CURTAILMENT AND METERS AFFECTED FOR EACH PROJECT ALTERNATE
APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.			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
1								
2	A	B	C	D	E	F	G	H
766								
767	***L1600 In-Kind Replacement***							
768								
769	***L1600 In-Kind / Otay Full / L3010 80%***		***10.1.1.1***	***10.1.1.2***	***10.1.1.3***	***10.1.1.4***	***10.1.1.5***	***10.1.1.6***
770	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
771	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
772	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
773	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
774	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
775	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
776	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
777								
778	***L1600 In-Kind / Otay Full / L3010 Out***		***10.2.1.1***	***10.2.1.2***	***10.2.1.3***	***10.2.1.4***	***10.2.1.5***	***10.2.1.6***
779	Curtailed NG-Fired Electric Gen (MW)		0	864	12	237	0	0
780	**Total Supply**		**3132**	**3392**	**3485**	**3260**	**3806**	**4087**
781	**Elec Curtailment (MWh)**		**0**	**1,539**	**0**	**105**	**0**	**0**
782	**Elec Curtailment Duration (h)**		**0**	**9**	**0**	**2**	**0**	**0**
783	**Avg Elec Curtailment (MW)**		**0**	**181**	**0**	**47**	**0**	**0**
784	**Elec Curtailment (%)**		**0%**	**5%**	**0%**	**1%**	**0%**	**0%**
785	**Elec Curtailment (# of Customers)**		**0**	**68,106**	**0**	**19,607**	**0**	**0**
786								
787	***L1600 In-Kind / Otay Medium / L3010 80%***		***10.1.2.1***	***10.1.2.2***	***10.1.2.3***	***10.1.2.4***	***10.1.2.5***	***10.1.2.6***
788	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
789	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
790	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
791	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
792	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
793	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
794	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
795								
796	***L1600 In-Kind / Otay Medium / L3010 Out***		***10.2.2.1***	***10.2.2.2***	***10.2.2.3***	***10.2.2.4***	***10.2.2.5***	***10.2.2.6***
797	Curtailed NG-Fired Electric Gen (MW)		0	1013	478	703	0	241
798	**Total Supply**		**3132**	**3243**	**3019**	**2794**	**3806**	**3847**
799	**Elec Curtailment (MWh)**		**0**	**2,953**	**0**	**2,315**	**0**	**0**
800	**Elec Curtailment Duration (h)**		**0**	**11**	**0**	**9**	**0**	**0**
801	**Avg Elec Curtailment (MW)**		**0**	**281**	**0**	**250**	**0**	**0**
802	**Elec Curtailment (%)**		**0%**	**8%**	**0%**	**8%**	**0%**	**0%**
803	**Elec Curtailment (# of Customers)**		**0**	**105,754**	**0**	**105,273**	**0**	**0**
804								
805	***L1600 In-Kind / Otay Low / L3010 80%***		***10.1.3.1***	***10.1.3.2***	***10.1.3.3***	***10.1.3.4***	***10.1.3.5***	***10.1.3.6***
806	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
807	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
808	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
809	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
810	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
811	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
812	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
813								
814	***L1600 In-Kind / Otay Low / L3010 Out***		***10.2.3.1***	***10.2.3.2***	***10.2.3.3***	***10.2.3.4***	***10.2.3.5***	***10.2.3.6***
815	Curtailed NG-Fired Electric Gen (MW)		38	1162	927	927	561	688
816	**Total Supply**		**3094**	**3094**	**2570**	**2570**	**3245**	**3399**
817	**Elec Curtailment (MWh)**		**0**	**4,618**	**1,450**	**5,152**	**0**	**0**
818	**Elec Curtailment Duration (h)**		**0**	**12**	**5**	**17**	**0**	**0**
819	**Avg Elec Curtailment (MW)**		**0**	**385**	**276**	**308**	**0**	**0**
820	**Elec Curtailment (%)**		**0%**	**10%**	**9%**	**9%**	**0%**	**0%**
821	**Elec Curtailment (# of Customers)**		**0**	**144,719**	**130,224**	**129,384**	**0**	**0**
822								
823	***L1600 In-Kind / Otay Out / L3010 80%***		***10.1.4.1***	***10.1.4.2***	***10.1.4.3***	***10.1.4.4***	***10.1.4.5***	***10.1.4.6***
824	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
825	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
826	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
827	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
828	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
829	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
830	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
831								
832	***L1600 In-Kind / Otay Out / L3010 Out***		***10.2.4.1***	***10.2.4.2***	***10.2.4.3***	***10.2.4.4***	***10.2.4.5***	***10.2.4.6***
833	Curtailed NG-Fired Electric Gen (MW)		225	1349	927	927	1236	1517
834	**Total Supply**		**2907**	**2907**	**2570**	**2570**	**2570**	**2570**
835	**Elec Curtailment (MWh)**		**417**	**7,065**	**1,450**	**5,152**	**150**	**1,636**
836	**Elec Curtailment Duration (h)**		**5**	**15**	**5**	**17**	**2**	**8**
837	**Avg Elec Curtailment (MW)**		**83**	**487**	**276**	**308**	**86**	**204**
838	**Elec Curtailment (%)**		**3%**	**13%**	**9%**	**9%**	**3%**	**7%**
839	**Elec Curtailment (# of Customers)**		**38,177**	**183,210**	**130,224**	**129,384**	**44,549**	**94,833**

WORK PAPER TABLE - SCENARIO ANALYSIS ELECTRIC DEMAND AND SUPPLY (SA 1.2)
EXAMPLE DAY OF ELECTRIC DEMAND AND SUPPLY DURING SEASONAL VARIATIONS FOR ANALYSIS OF CURTAILMENT AND METERS AFFECTED FOR EACH PROJECT ALTERNATE
APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.			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
1								
2	A	B	C	D	E	F	G	H
840								
841	***Otay Mesa Alternate***							
842								
843	***Otay Mesa Alternate / Otay Full / L3010 80%***		***11.1.1.1***	***11.1.1.2***	***11.1.1.3***	***11.1.1.4***	***11.1.1.5***	***11.1.1.6***
844	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
845	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
846	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
847	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
848	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
849	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
850	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
851								
852	***Otay Mesa Alternate / Otay Full / L3010 Out***		***11.2.1.1***	***11.2.1.2***	***11.2.1.3***	***11.2.1.4***	***11.2.1.5***	***11.2.1.6***
853	Curtailed NG-Fired Electric Gen (MW)		0	1686	912	927	343	710
854	**Total Supply**		**3132**	**2570**	**2586**	**2570**	**3463**	**3377**
855	**Elec Curtailment (MWh)**		**0**	**12,380**	**1,368**	**5,152**	**0**	**0**
856	**Elec Curtailment Duration (h)**		**0**	**18**	**5**	**17**	**0**	**0**
857	**Avg Elec Curtailment (MW)**		**0**	**697**	**261**	**308**	**0**	**0**
858	**Elec Curtailment (%)**		**0%**	**19%**	**9%**	**9%**	**0%**	**0%**
859	**Elec Curtailment (# of Customers)**		**0**	**262,272**	**122,837**	**129,384**	**0**	**0**
860								
861	***Otay Mesa Alternate / Otay Medium / L3010 80%***		***11.1.2.1***	***11.1.2.2***	***11.1.2.3***	***11.1.2.4***	***11.1.2.5***	***11.1.2.6***
862	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
863	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
864	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
865	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
866	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
867	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
868	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
869								
870	***Otay Mesa Alternate / Otay Medium / L3010 Out***		***11.2.2.1***	***11.2.2.2***	***11.2.2.3***	***11.2.2.4***	***11.2.2.5***	***11.2.2.6***
871	Curtailed NG-Fired Electric Gen (MW)		249	1686	927	927	820	1140
872	**Total Supply**		**2883**	**2570**	**2570**	**2570**	**2987**	**2947**
873	**Elec Curtailment (MWh)**		**542**	**12,380**	**1,450**	**5,152**	**0**	**70**
874	**Elec Curtailment Duration (h)**		**5**	**18**	**5**	**17**	**0**	**2**
875	**Avg Elec Curtailment (MW)**		**103**	**697**	**276**	**308**	**0**	**46**
876	**Elec Curtailment (%)**		**3%**	**19%**	**9%**	**9%**	**0%**	**2%**
877	**Elec Curtailment (# of Customers)**		**47,219**	**262,272**	**130,224**	**129,384**	**0**	**21,550**
878								
879	***Otay Mesa Alternate / Otay Low / L3010 80%***		***11.1.3.1***	***11.1.3.2***	***11.1.3.3***	***11.1.3.4***	***11.1.3.5***	***11.1.3.6***
880	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
881	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
882	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
883	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
884	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
885	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
886	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
887								
888	***Otay Mesa Alternate / Otay Low / L3010 Out***		***11.2.3.1***	***11.2.3.2***	***11.2.3.3***	***11.2.3.4***	***11.2.3.5***	***11.2.3.6***
889	Curtailed NG-Fired Electric Gen (MW)		562	1686	927	927	1236	1517
890	**Total Supply**		**2570**	**2570**	**2570**	**2570**	**2570**	**2570**
891	**Elec Curtailment (MWh)**		**2,873**	**12,380**	**1,450**	**5,152**	**150**	**1,636**
892	**Elec Curtailment Duration (h)**		**9**	**18**	**5**	**17**	**2**	**8**
893	**Avg Elec Curtailment (MW)**		**311**	**697**	**276**	**308**	**86**	**204**
894	**Elec Curtailment (%)**		**10%**	**19%**	**9%**	**9%**	**3%**	**7%**
895	**Elec Curtailment (# of Customers)**		**142,040**	**262,272**	**130,224**	**129,384**	**44,549**	**94,833**
896								
897	***Otay Mesa Alternate / Otay Out / L3010 80%***		***11.1.4.1***	***11.1.4.2***	***11.1.4.3***	***11.1.4.4***	***11.1.4.5***	***11.1.4.6***
898	Curtailed NG-Fired Electric Gen (MW)		0	112	534	759	56	393
899	**Total Supply**		**3132**	**4143**	**2963**	**2739**	**3750**	**3694**
900	**Elec Curtailment (MWh)**		**0**	**0**	**1**	**2,881**	**0**	**0**
901	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**11**	**0**	**0**
902	**Avg Elec Curtailment (MW)**		**0**	**0**	**5**	**268**	**0**	**0**
903	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**8%**	**0%**	**0%**
904	**Elec Curtailment (# of Customers)**		**0**	**0**	**2,440**	**112,734**	**0**	**0**
905								
906	***Otay Mesa Alternate / Otay Out / L3010 Out***		***11.2.4.1***	***11.2.4.2***	***11.2.4.3***	***11.2.4.4***	***11.2.4.5***	***11.2.4.6***
907	Curtailed NG-Fired Electric Gen (MW)		562	1686	927	927	1236	1517
908	**Total Supply**		**2570**	**2570**	**2570**	**2570**	**2570**	**2570**
909	**Elec Curtailment (MWh)**		**2,873**	**12,380**	**1,450**	**5,152**	**150**	**1,636**
910	**Elec Curtailment Duration (h)**		**9**	**18**	**5**	**17**	**2**	**8**
911	**Avg Elec Curtailment (MW)**		**311**	**697**	**276**	**308**	**86**	**204**
912	**Elec Curtailment (%)**		**10%**	**19%**	**9%**	**9%**	**3%**	**7%**
913	**Elec Curtailment (# of Customers)**		**142,040**	**262,272**	**130,224**	**129,384**	**44,549**	**94,833**

WORK PAPER TABLE - SCENARIO ANALYSIS ELECTRIC DEMAND AND SUPPLY (SA 1.2)
EXAMPLE DAY OF ELECTRIC DEMAND AND SUPPLY DURING SEASONAL VARIATIONS FOR ANALYSIS OF CURTAILMENT AND METERS AFFECTED FOR EACH PROJECT ALTERNATE
APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.			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
1								
2	A	B	C	D	E	F	G	H
914								
915	***LNG Storage Alternate***							
916								
917	***LNG Storage / Otay Full / L3010 80%***		***13.1.1.1***	***13.1.1.2***	***13.1.1.3***	***13.1.1.4***	***13.1.1.5***	***13.1.1.6***
918	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
919	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
920	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
921	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
922	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
923	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
924	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
925								
926	***LNG Storage / Otay Full / L3010 Out***		***13.2.1.1***	***13.2.1.2***	***13.2.1.3***	***13.2.1.4***	***13.2.1.5***	***13.2.1.6***
927	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
928	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
929	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
930	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
931	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
932	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
933	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
934								
935	***LNG Storage / Otay Medium / L3010 80%***		***13.1.2.1***	***13.1.2.2***	***13.1.2.3***	***13.1.2.4***	***13.1.2.5***	***13.1.2.6***
936	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
937	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
938	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
939	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
940	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
941	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
942	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
943								
944	***LNG Storage / Otay Medium / L3010 Out***		***13.2.2.1***	***13.2.2.2***	***13.2.2.3***	***13.2.2.4***	***13.2.2.5***	***13.2.2.6***
945	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
946	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
947	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
948	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
949	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
950	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
951	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
952								
953	***LNG Storage / Otay Low / L3010 80%***		***13.1.3.1***	***13.1.3.2***	***13.1.3.3***	***13.1.3.4***	***13.1.3.5***	***13.1.3.6***
954	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
955	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
956	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
957	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
958	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
959	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
960	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
961								
962	***LNG Storage / Otay Low / L3010 Out***		***13.2.3.1***	***13.2.3.2***	***13.2.3.3***	***13.2.3.4***	***13.2.3.5***	***13.2.3.6***
963	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
964	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
965	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
966	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
967	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
968	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
969	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
970								
971	***LNG Storage / Otay Out / L3010 80%***		***13.1.4.1***	***13.1.4.2***	***13.1.4.3***	***13.1.4.4***	***13.1.4.5***	***13.1.4.6***
972	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
973	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
974	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
975	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
976	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
977	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
978	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
979								
980	***LNG Storage / Otay Out / L3010 Out***		***13.2.4.1***	***13.2.4.2***	***13.2.4.3***	***13.2.4.4***	***13.2.4.5***	***13.2.4.6***
981	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
982	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
983	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
984	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
985	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
986	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
987	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**

WORK PAPER TABLE - SCENARIO ANALYSIS ELECTRIC DEMAND AND SUPPLY (SA 1.2)
EXAMPLE DAY OF ELECTRIC DEMAND AND SUPPLY DURING SEASONAL VARIATIONS FOR ANALYSIS OF CURTAILMENT AND METERS AFFECTED FOR EACH PROJECT ALTERNATE
APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.			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
1								
2	A	B	C	D	E	F	G	H
988								
989	***Alt Energy Alternate (Grid-Scale)***							
990								
991	***Alt Energy (Grid) / Otay Full / L3010 80%***		***14.1.1.1***	***14.1.1.2***	***14.1.1.3***	***14.1.1.4***	***14.1.1.5***	***14.1.1.6***
992	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
993	**Total Supply**		**4818**	**5942**	**5183**	**5183**	**5492**	**5773**
994	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
995	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
996	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
997	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
998	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
999								
1000	***Alt Energy (Grid) / Otay Full / L3010 Out***		***14.2.1.1***	***14.2.1.2***	***14.2.1.3***	***14.2.1.4***	***14.2.1.5***	***14.2.1.6***
1001	Curtailed NG-Fired Electric Gen (MW)		0	1686	912	927	343	710
1002	**Total Supply**		**4818**	**4256**	**4272**	**4256**	**5149**	**5063**
1003	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
1004	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
1005	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
1006	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1007	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
1008								
1009	***Alt Energy (Grid) / Otay Medium / L3010 80%***		***14.1.2.1***	***14.1.2.2***	***14.1.2.3***	***14.1.2.4***	***14.1.2.5***	***14.1.2.6***
1010	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
1011	**Total Supply**		**4818**	**5942**	**5183**	**5183**	**5492**	**5773**
1012	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
1013	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
1014	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
1015	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1016	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
1017								
1018	***Alt Energy (Grid) / Otay Medium / L3010 Out***		***14.2.2.1***	***14.2.2.2***	***14.2.2.3***	***14.2.2.4***	***14.2.2.5***	***14.2.2.6***
1019	Curtailed NG-Fired Electric Gen (MW)		249	1686	927	927	820	1140
1020	**Total Supply**		**4569**	**4256**	**4256**	**4256**	**4672**	**4633**
1021	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
1022	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
1023	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
1024	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1025	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
1026								
1027	***Alt Energy (Grid) / Otay Low / L3010 80%***		***14.1.3.1***	***14.1.3.2***	***14.1.3.3***	***14.1.3.4***	***14.1.3.5***	***14.1.3.6***
1028	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
1029	**Total Supply**		**4818**	**5942**	**5183**	**5183**	**5492**	**5773**
1030	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
1031	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
1032	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
1033	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1034	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
1035								
1036	***Alt Energy (Grid) / Otay Low / L3010 Out***		***14.2.3.1***	***14.2.3.2***	***14.2.3.3***	***14.2.3.4***	***14.2.3.5***	***14.2.3.6***
1037	Curtailed NG-Fired Electric Gen (MW)		562	1686	927	927	1236	1517
1038	**Total Supply**		**4256**	**4256**	**4256**	**4256**	**4256**	**4256**
1039	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
1040	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
1041	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
1042	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1043	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
1044								
1045	***Alt Energy (Grid) / Otay Out / L3010 80%***		***14.1.4.1***	***14.1.4.2***	***14.1.4.3***	***14.1.4.4***	***14.1.4.5***	***14.1.4.6***
1046	Curtailed NG-Fired Electric Gen (MW)		0	112	534	759	56	393
1047	**Total Supply**		**4818**	**5829**	**4649**	**4424**	**5436**	**5380**
1048	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
1049	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
1050	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
1051	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1052	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
1053								
1054	***Alt Energy (Grid) / Otay Out / L3010 Out***		***14.2.4.1***	***14.2.4.2***	***14.2.4.3***	***14.2.4.4***	***14.2.4.5***	***14.2.4.6***
1055	Curtailed NG-Fired Electric Gen (MW)		562	1686	927	927	1236	1517
1056	**Total Supply**		**4256**	**4256**	**4256**	**4256**	**4256**	**4256**
1057	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
1058	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
1059	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
1060	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1061	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**

WORK PAPER TABLE - SCENARIO ANALYSIS ELECTRIC DEMAND AND SUPPLY (SA 1.2)
EXAMPLE DAY OF ELECTRIC DEMAND AND SUPPLY DURING SEASONAL VARIATIONS FOR ANALYSIS OF CURTAILMENT AND METERS AFFECTED FOR EACH PROJECT ALTERNATE
APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.			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
1								
2	A	B	C	D	E	F	G	H
1062								
1063	***Alt Energy Alternate (Smaller-Scale)***							
1064								
1065	***Alt Energy (Small) / Otay Full / L3010 80%***		***21.1.1.1***	***21.1.1.2***	***21.1.1.3***	***21.1.1.4***	***21.1.1.5***	***21.1.1.6***
1066	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
1067	**Total Supply**		**4818**	**5942**	**5183**	**5183**	**5492**	**5773**
1068	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
1069	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
1070	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
1071	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1072	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
1073								
1074	***Alt Energy (Small) / Otay Full / L3010 Out***		***21.2.1.1***	***21.2.1.2***	***21.2.1.3***	***21.2.1.4***	***21.2.1.5***	***21.2.1.6***
1075	Curtailed NG-Fired Electric Gen (MW)		0	1686	912	927	343	710
1076	**Total Supply**		**4818**	**4256**	**4272**	**4256**	**5149**	**5063**
1077	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
1078	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
1079	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
1080	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1081	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
1082								
1083	***Alt Energy (Small) / Otay Medium / L3010 80%***		***21.1.2.1***	***21.1.2.2***	***21.1.2.3***	***21.1.2.4***	***21.1.2.5***	***21.1.2.6***
1084	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
1085	**Total Supply**		**4818**	**5942**	**5183**	**5183**	**5492**	**5773**
1086	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
1087	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
1088	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
1089	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1090	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
1091								
1092	***Alt Energy (Small) / Otay Medium / L3010 Out***		***21.2.2.1***	***21.2.2.2***	***21.2.2.3***	***21.2.2.4***	***21.2.2.5***	***21.2.2.6***
1093	Curtailed NG-Fired Electric Gen (MW)		249	1686	927	927	820	1140
1094	**Total Supply**		**4569**	**4256**	**4256**	**4256**	**4672**	**4633**
1095	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
1096	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
1097	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
1098	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1099	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
1100								
1101	***Alt Energy (Small) / Otay Low / L3010 80%***		***21.1.3.1***	***21.1.3.2***	***21.1.3.3***	***21.1.3.4***	***21.1.3.5***	***21.1.3.6***
1102	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
1103	**Total Supply**		**4818**	**5942**	**5183**	**5183**	**5492**	**5773**
1104	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
1105	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
1106	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
1107	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1108	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
1109								
1110	***Alt Energy (Small) / Otay Low / L3010 Out***		***21.2.3.1***	***21.2.3.2***	***21.2.3.3***	***21.2.3.4***	***21.2.3.5***	***21.2.3.6***
1111	Curtailed NG-Fired Electric Gen (MW)		562	1686	927	927	1236	1517
1112	**Total Supply**		**4256**	**4256**	**4256**	**4256**	**4256**	**4256**
1113	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
1114	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
1115	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
1116	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1117	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
1118								
1119	***Alt Energy (Small) / Otay Out / L3010 80%***		***21.1.4.1***	***21.1.4.2***	***21.1.4.3***	***21.1.4.4***	***21.1.4.5***	***21.1.4.6***
1120	Curtailed NG-Fired Electric Gen (MW)		0	112	534	759	56	393
1121	**Total Supply**		**4818**	**5829**	**4649**	**4424**	**5436**	**5380**
1122	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
1123	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
1124	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
1125	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1126	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
1127								
1128	***Alt Energy (Small) / Otay Out / L3010 Out***		***21.2.4.1***	***21.2.4.2***	***21.2.4.3***	***21.2.4.4***	***21.2.4.5***	***21.2.4.6***
1129	Curtailed NG-Fired Electric Gen (MW)		562	1686	927	927	1236	1517
1130	**Total Supply**		**4256**	**4256**	**4256**	**4256**	**4256**	**4256**
1131	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
1132	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
1133	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
1134	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1135	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**

WORK PAPER TABLE - SCENARIO ANALYSIS ELECTRIC DEMAND AND SUPPLY (SA 1.2)
EXAMPLE DAY OF ELECTRIC DEMAND AND SUPPLY DURING SEASONAL VARIATIONS FOR ANALYSIS OF CURTAILMENT AND METERS AFFECTED FOR EACH PROJECT ALTERNATE
APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.			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
1								
2	A	B	C	D	E	F	G	H
1136								
1137	***Offshore Route***							
1138								
1139		***Offshore / Otay Full / L3010 80%***	***15.1.1.1***	***15.1.1.2***	***15.1.1.3***	***15.1.1.4***	***15.1.1.5***	***15.1.1.6***
1140		Curtailed NG-Fired Electric Gen (MW)	0	0	0	0	0	0
1141		**Total Supply**	**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
1142		**Elec Curtailment (MWh)**	**0**	**0**	**0**	**0**	**0**	**0**
1143		**Elec Curtailment Duration (h)**	**0**	**0**	**0**	**0**	**0**	**0**
1144		**Avg Elec Curtailment (MW)**	**0**	**0**	**0**	**0**	**0**	**0**
1145		**Elec Curtailment (%)**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1146		**Elec Curtailment (# of Customers)**	**0**	**0**	**0**	**0**	**0**	**0**
1147								
1148		***Offshore / Otay Full / L3010 Out***	***15.2.1.1***	***15.2.1.2***	***15.2.1.3***	***15.2.1.4***	***15.2.1.5***	***15.2.1.6***
1149		Curtailed NG-Fired Electric Gen (MW)	0	0	0	0	0	0
1150		**Total Supply**	**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
1151		**Elec Curtailment (MWh)**	**0**	**0**	**0**	**0**	**0**	**0**
1152		**Elec Curtailment Duration (h)**	**0**	**0**	**0**	**0**	**0**	**0**
1153		**Avg Elec Curtailment (MW)**	**0**	**0**	**0**	**0**	**0**	**0**
1154		**Elec Curtailment (%)**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1155		**Elec Curtailment (# of Customers)**	**0**	**0**	**0**	**0**	**0**	**0**
1156								
1157		***Offshore / Otay Medium / L3010 80%***	***15.1.2.1***	***15.1.2.2***	***15.1.2.3***	***15.1.2.4***	***15.1.2.5***	***15.1.2.6***
1158		Curtailed NG-Fired Electric Gen (MW)	0	0	0	0	0	0
1159		**Total Supply**	**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
1160		**Elec Curtailment (MWh)**	**0**	**0**	**0**	**0**	**0**	**0**
1161		**Elec Curtailment Duration (h)**	**0**	**0**	**0**	**0**	**0**	**0**
1162		**Avg Elec Curtailment (MW)**	**0**	**0**	**0**	**0**	**0**	**0**
1163		**Elec Curtailment (%)**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1164		**Elec Curtailment (# of Customers)**	**0**	**0**	**0**	**0**	**0**	**0**
1165								
1166		***Offshore / Otay Medium / L3010 Out***	***15.2.2.1***	***15.2.2.2***	***15.2.2.3***	***15.2.2.4***	***15.2.2.5***	***15.2.2.6***
1167		Curtailed NG-Fired Electric Gen (MW)	0	0	0	0	0	0
1168		**Total Supply**	**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
1169		**Elec Curtailment (MWh)**	**0**	**0**	**0**	**0**	**0**	**0**
1170		**Elec Curtailment Duration (h)**	**0**	**0**	**0**	**0**	**0**	**0**
1171		**Avg Elec Curtailment (MW)**	**0**	**0**	**0**	**0**	**0**	**0**
1172		**Elec Curtailment (%)**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1173		**Elec Curtailment (# of Customers)**	**0**	**0**	**0**	**0**	**0**	**0**
1174								
1175		***Offshore / Otay Low / L3010 80%***	***15.1.3.1***	***15.1.3.2***	***15.1.3.3***	***15.1.3.4***	***15.1.3.5***	***15.1.3.6***
1176		Curtailed NG-Fired Electric Gen (MW)	0	0	0	0	0	0
1177		**Total Supply**	**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
1178		**Elec Curtailment (MWh)**	**0**	**0**	**0**	**0**	**0**	**0**
1179		**Elec Curtailment Duration (h)**	**0**	**0**	**0**	**0**	**0**	**0**
1180		**Avg Elec Curtailment (MW)**	**0**	**0**	**0**	**0**	**0**	**0**
1181		**Elec Curtailment (%)**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1182		**Elec Curtailment (# of Customers)**	**0**	**0**	**0**	**0**	**0**	**0**
1183								
1184		***Offshore / Otay Low / L3010 Out***	***15.2.3.1***	***15.2.3.2***	***15.2.3.3***	***15.2.3.4***	***15.2.3.5***	***15.2.3.6***
1185		Curtailed NG-Fired Electric Gen (MW)	0	0	0	0	0	0
1186		**Total Supply**	**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
1187		**Elec Curtailment (MWh)**	**0**	**0**	**0**	**0**	**0**	**0**
1188		**Elec Curtailment Duration (h)**	**0**	**0**	**0**	**0**	**0**	**0**
1189		**Avg Elec Curtailment (MW)**	**0**	**0**	**0**	**0**	**0**	**0**
1190		**Elec Curtailment (%)**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1191		**Elec Curtailment (# of Customers)**	**0**	**0**	**0**	**0**	**0**	**0**
1192								
1193		***Offshore / Otay Out / L3010 80%***	***15.1.4.1***	***15.1.4.2***	***15.1.4.3***	***15.1.4.4***	***15.1.4.5***	***15.1.4.6***
1194		Curtailed NG-Fired Electric Gen (MW)	0	0	0	0	0	0
1195		**Total Supply**	**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
1196		**Elec Curtailment (MWh)**	**0**	**0**	**0**	**0**	**0**	**0**
1197		**Elec Curtailment Duration (h)**	**0**	**0**	**0**	**0**	**0**	**0**
1198		**Avg Elec Curtailment (MW)**	**0**	**0**	**0**	**0**	**0**	**0**
1199		**Elec Curtailment (%)**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1200		**Elec Curtailment (# of Customers)**	**0**	**0**	**0**	**0**	**0**	**0**
1201								
1202		***Offshore / Otay Out / L3010 Out***	***15.2.4.1***	***15.2.4.2***	***15.2.4.3***	***15.2.4.4***	***15.2.4.5***	***15.2.4.6***
1203		Curtailed NG-Fired Electric Gen (MW)	0	0	0	0	0	0
1204		**Total Supply**	**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
1205		**Elec Curtailment (MWh)**	**0**	**0**	**0**	**0**	**0**	**0**
1206		**Elec Curtailment Duration (h)**	**0**	**0**	**0**	**0**	**0**	**0**
1207		**Avg Elec Curtailment (MW)**	**0**	**0**	**0**	**0**	**0**	**0**
1208		**Elec Curtailment (%)**	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1209		**Elec Curtailment (# of Customers)**	**0**	**0**	**0**	**0**	**0**	**0**

WORK PAPER TABLE - SCENARIO ANALYSIS ELECTRIC DEMAND AND SUPPLY (SA 1.2)
EXAMPLE DAY OF ELECTRIC DEMAND AND SUPPLY DURING SEASONAL VARIATIONS FOR ANALYSIS OF CURTAILMENT AND METERS AFFECTED FOR EACH PROJECT ALTERNATE
APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.			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
1								
2	A	B	C	D	E	F	G	H
1210								
1211	***Blythe to Santee Alternate 1***							
1212								
1213	***Blythe to Santee 1 / Otay Full / L3010 80%***		***16.1.1.1***	***16.1.1.2***	***16.1.1.3***	***16.1.1.4***	***16.1.1.5***	***16.1.1.6***
1214	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
1215	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
1216	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
1217	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
1218	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
1219	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1220	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
1221								
1222	***Blythe to Santee 1 / Otay Full / L3010 Out***		***16.2.1.1***	***16.2.1.2***	***16.2.1.3***	***16.2.1.4***	***16.2.1.5***	***16.2.1.6***
1223	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
1224	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
1225	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
1226	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
1227	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
1228	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1229	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
1230								
1231	***Blythe to Santee 1 / Otay Medium / L3010 80%***		***16.1.2.1***	***16.1.2.2***	***16.1.2.3***	***16.1.2.4***	***16.1.2.5***	***16.1.2.6***
1232	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
1233	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
1234	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
1235	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
1236	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
1237	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1238	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
1239								
1240	***Blythe to Santee 1 / Otay Medium / L3010 Out***		***16.2.2.1***	***16.2.2.2***	***16.2.2.3***	***16.2.2.4***	***16.2.2.5***	***16.2.2.6***
1241	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
1242	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
1243	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
1244	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
1245	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
1246	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1247	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
1248								
1249	***Blythe to Santee 1 / Otay Low / L3010 80%***		***16.1.3.1***	***16.1.3.2***	***16.1.3.3***	***16.1.3.4***	***16.1.3.5***	***16.1.3.6***
1250	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
1251	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
1252	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
1253	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
1254	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
1255	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1256	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
1257								
1258	***Blythe to Santee 1 / Otay Low / L3010 Out***		***16.2.3.1***	***16.2.3.2***	***16.2.3.3***	***16.2.3.4***	***16.2.3.5***	***16.2.3.6***
1259	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
1260	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
1261	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
1262	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
1263	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
1264	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1265	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
1266								
1267	***Blythe to Santee 1 / Otay Out / L3010 80%***		***16.1.4.1***	***16.1.4.2***	***16.1.4.3***	***16.1.4.4***	***16.1.4.5***	***16.1.4.6***
1268	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
1269	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
1270	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
1271	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
1272	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
1273	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1274	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
1275								
1276	***Blythe to Santee 1 / Otay Out / L3010 Out***		***16.2.4.1***	***16.2.4.2***	***16.2.4.3***	***16.2.4.4***	***16.2.4.5***	***16.2.4.6***
1277	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
1278	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
1279	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
1280	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
1281	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
1282	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1283	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**

WORK PAPER TABLE - SCENARIO ANALYSIS ELECTRIC DEMAND AND SUPPLY (SA 1.2)
EXAMPLE DAY OF ELECTRIC DEMAND AND SUPPLY DURING SEASONAL VARIATIONS FOR ANALYSIS OF CURTAILMENT AND METERS AFFECTED FOR EACH PROJECT ALTERNATE
APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.			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
1								
2	A	B	C	D	E	F	G	H
1284								
1285	***Blythe to Santee Alternate 2***							
1286								
1287	***Blythe to Santee 2 / Otay Full / L3010 80%***		***17.1.1.1***	***17.1.1.2***	***17.1.1.3***	***17.1.1.4***	***17.1.1.5***	***17.1.1.6***
1288	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
1289	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
1290	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
1291	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
1292	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
1293	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1294	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
1295								
1296	***Blythe to Santee 2 / Otay Full / L3010 Out***		***17.2.1.1***	***17.2.1.2***	***17.2.1.3***	***17.2.1.4***	***17.2.1.5***	***17.2.1.6***
1297	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
1298	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
1299	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
1300	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
1301	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
1302	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1303	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
1304								
1305	***Blythe to Santee 2 / Otay Medium / L3010 80%***		***17.1.2.1***	***17.1.2.2***	***17.1.2.3***	***17.1.2.4***	***17.1.2.5***	***17.1.2.6***
1306	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
1307	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
1308	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
1309	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
1310	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
1311	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1312	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
1313								
1314	***Blythe to Santee 2 / Otay Medium / L3010 Out***		***17.2.2.1***	***17.2.2.2***	***17.2.2.3***	***17.2.2.4***	***17.2.2.5***	***17.2.2.6***
1315	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
1316	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
1317	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
1318	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
1319	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
1320	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1321	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
1322								
1323	***Blythe to Santee 2 / Otay Low / L3010 80%***		***17.1.3.1***	***17.1.3.2***	***17.1.3.3***	***17.1.3.4***	***17.1.3.5***	***17.1.3.6***
1324	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
1325	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
1326	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
1327	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
1328	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
1329	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1330	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
1331								
1332	***Blythe to Santee 2 / Otay Low / L3010 Out***		***17.2.3.1***	***17.2.3.2***	***17.2.3.3***	***17.2.3.4***	***17.2.3.5***	***17.2.3.6***
1333	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
1334	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
1335	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
1336	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
1337	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
1338	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1339	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
1340								
1341	***Blythe to Santee 2 / Otay Out / L3010 80%***		***17.1.4.1***	***17.1.4.2***	***17.1.4.3***	***17.1.4.4***	***17.1.4.5***	***17.1.4.6***
1342	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
1343	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
1344	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
1345	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
1346	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
1347	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1348	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
1349								
1350	***Blythe to Santee 2 / Otay Out / L3010 Out***		***17.2.4.1***	***17.2.4.2***	***17.2.4.3***	***17.2.4.4***	***17.2.4.5***	***17.2.4.6***
1351	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
1352	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
1353	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
1354	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
1355	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
1356	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1357	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**

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APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.			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
1								
2	A	B	C	D	E	F	G	H
1358								
1359	***Cactus City to San Diego Alternate***							
1360								
1361	***Cactus City to SD / Otay Full / L3010 80%***		***18.1.1.1***	***18.1.1.2***	***18.1.1.3***	***18.1.1.4***	***18.1.1.5***	***18.1.1.6***
1362	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
1363	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
1364	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
1365	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
1366	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
1367	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1368	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
1369								
1370	***Cactus City to SD / Otay Full / L3010 Out***		***18.2.1.1***	***18.2.1.2***	***18.2.1.3***	***18.2.1.4***	***18.2.1.5***	***18.2.1.6***
1371	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
1372	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
1373	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
1374	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
1375	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
1376	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1377	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
1378								
1379	***Cactus City to SD / Otay Medium / L3010 80%***		***18.1.2.1***	***18.1.2.2***	***18.1.2.3***	***18.1.2.4***	***18.1.2.5***	***18.1.2.6***
1380	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
1381	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
1382	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
1383	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
1384	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
1385	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1386	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
1387								
1388	***Cactus City to SD / Otay Medium / L3010 Out***		***18.2.2.1***	***18.2.2.2***	***18.2.2.3***	***18.2.2.4***	***18.2.2.5***	***18.2.2.6***
1389	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
1390	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
1391	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
1392	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
1393	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
1394	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1395	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
1396								
1397	***Cactus City to SD / Otay Low / L3010 80%***		***18.1.3.1***	***18.1.3.2***	***18.1.3.3***	***18.1.3.4***	***18.1.3.5***	***18.1.3.6***
1398	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
1399	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
1400	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
1401	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
1402	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
1403	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1404	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
1405								
1406	***Cactus City to SD / Otay Low / L3010 Out***		***18.2.3.1***	***18.2.3.2***	***18.2.3.3***	***18.2.3.4***	***18.2.3.5***	***18.2.3.6***
1407	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
1408	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
1409	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
1410	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
1411	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
1412	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1413	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
1414								
1415	***Cactus City to SD / Otay Out / L3010 80%***		***18.1.4.1***	***18.1.4.2***	***18.1.4.3***	***18.1.4.4***	***18.1.4.5***	***18.1.4.6***
1416	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
1417	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
1418	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
1419	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
1420	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
1421	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1422	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
1423								
1424	***Cactus City to SD / Otay Out / L3010 Out***		***18.2.4.1***	***18.2.4.2***	***18.2.4.3***	***18.2.4.4***	***18.2.4.5***	***18.2.4.6***
1425	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
1426	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
1427	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
1428	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
1429	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
1430	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1431	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**

WORK PAPER TABLE - SCENARIO ANALYSIS ELECTRIC DEMAND AND SUPPLY (SA 1.2)
EXAMPLE DAY OF ELECTRIC DEMAND AND SUPPLY DURING SEASONAL VARIATIONS FOR ANALYSIS OF CURTAILMENT AND METERS AFFECTED FOR EACH PROJECT ALTERNATE
APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.			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
1								
2	A	B	C	D	E	F	G	H
1432								
1433	***Second Pipeline Along L3010 Alternate***							
1434								
1435	***Second Pipeline Along L3010 / Otay Full / L3010 80%***		***19.1.1.1***	***19.1.1.2***	***19.1.1.3***	***19.1.1.4***	***19.1.1.5***	***19.1.1.6***
1436	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
1437	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
1438	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
1439	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
1440	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
1441	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1442	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
1443								
1444	***Second Pipeline Along L3010 / Otay Full / L3010 Out***		***19.2.1.1***	***19.2.1.2***	***19.2.1.3***	***19.2.1.4***	***19.2.1.5***	***19.2.1.6***
1445	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
1446	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
1447	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
1448	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
1449	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
1450	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1451	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
1452								
1453	***Second Pipeline Along L3010 / Otay Medium / L3010 8***		***19.1.2.1***	***19.1.2.2***	***19.1.2.3***	***19.1.2.4***	***19.1.2.5***	***19.1.2.6***
1454	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
1455	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
1456	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
1457	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
1458	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
1459	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1460	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
1461								
1462	***Second Pipeline Along L3010 / Otay Medium / L3010 C***		***19.2.2.1***	***19.2.2.2***	***19.2.2.3***	***19.2.2.4***	***19.2.2.5***	***19.2.2.6***
1463	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
1464	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
1465	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
1466	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
1467	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
1468	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1469	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
1470								
1471	***Second Pipeline Along L3010 / Otay Low / L3010 80%***		***19.1.3.1***	***19.1.3.2***	***19.1.3.3***	***19.1.3.4***	***19.1.3.5***	***19.1.3.6***
1472	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
1473	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
1474	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
1475	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
1476	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
1477	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1478	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
1479								
1480	***Second Pipeline Along L3010 / Otay Low / L3010 Out***		***19.2.3.1***	***19.2.3.2***	***19.2.3.3***	***19.2.3.4***	***19.2.3.5***	***19.2.3.6***
1481	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
1482	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
1483	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
1484	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
1485	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
1486	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1487	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
1488								
1489	***Second Pipeline Along L3010 / Otay Out / L3010 80%***		***19.1.4.1***	***19.1.4.2***	***19.1.4.3***	***19.1.4.4***	***19.1.4.5***	***19.1.4.6***
1490	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
1491	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
1492	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
1493	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
1494	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
1495	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1496	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**
1497								
1498	***Second Pipeline Along L3010 / Otay Out / L3010 Out***		***19.2.4.1***	***19.2.4.2***	***19.2.4.3***	***19.2.4.4***	***19.2.4.5***	***19.2.4.6***
1499	Curtailed NG-Fired Electric Gen (MW)		0	0	0	0	0	0
1500	**Total Supply**		**3132**	**4256**	**3497**	**3497**	**3806**	**4087**
1501	**Elec Curtailment (MWh)**		**0**	**0**	**0**	**0**	**0**	**0**
1502	**Elec Curtailment Duration (h)**		**0**	**0**	**0**	**0**	**0**	**0**
1503	**Avg Elec Curtailment (MW)**		**0**	**0**	**0**	**0**	**0**	**0**
1504	**Elec Curtailment (%)**		**0%**	**0%**	**0%**	**0%**	**0%**	**0%**
1505	**Elec Curtailment (# of Customers)**		**0**	**0**	**0**	**0**	**0**	**0**

WORK PAPER TABLE - SCENARIO ANALYSIS ELECTRIC DEMAND AND OUTPUTS (SA 1.3)
EXAMPLE ELECTRIC DEMAND DAY DURING SEASONAL VARIATIONS WITH ELECTRIC SUPPLY FOR THE ALTERNATIVES AND RELATED CURTAILMENT
APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.		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	
1													
2													
3	*L1600 / Otay Full / L3010 80%*	*1.1.1.1*		*1.1.1.2*		*1.1.1.3*		*1.1.1.4*		*1.1.1.5*		*1.1.1.6*	
4		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
5		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
6		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
106	*L1600 / Otay Full / L3010 Out*	*1.2.1.1*		*1.2.1.2*		*1.2.1.3*		*1.2.1.4*		*1.2.1.5*		*1.2.1.6*	
107		Available Supply (MW)	3,132	Available Supply (MW)	3,335	Available Supply (MW)	3,429	Available Supply (MW)	3,204	Available Supply (MW)	3,806	Available Supply (MW)	4,087
108		Curtailment (MWh)	0	Curtailment (MWh)	2,043	Curtailment (MWh)	0	Curtailment (MWh)	249	Curtailment (MWh)	0	Curtailment (MWh)	0
109		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	9.25	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	3.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
209	*L1600 / Otay Medium / L3010 80%*	*1.1.2.1*		*1.1.2.2*		*1.1.2.3*		*1.1.2.4*		*1.1.2.5*		*1.1.2.6*	
210		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
211		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
212		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
312	*L1600 / Otay Medium / L3010 Out*	*1.2.2.1*		*1.2.2.2*		*1.2.2.3*		*1.2.2.4*		*1.2.2.5*		*1.2.2.6*	
313		Available Supply (MW)	3,132	Available Supply (MW)	3,187	Available Supply (MW)	2,963	Available Supply (MW)	2,738	Available Supply (MW)	3,806	Available Supply (MW)	3,790
314		Curtailment (MWh)	0	Curtailment (MWh)	3,554	Curtailment (MWh)	1	Curtailment (MWh)	2,886	Curtailment (MWh)	0	Curtailment (MWh)	0
315		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	11.00	Total # Hours w/ Outages	0.25	Total # Hours w/ Outages	10.75	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
415	*L1600 / Otay Low / L3010 80%*	*1.1.3.1*		*1.1.3.2*		*1.1.3.3*		*1.1.3.4*		*1.1.3.5*		*1.1.3.6*	
416		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
417		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
418		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
518	*L1600 / Otay Low / L3010 Out*	*1.2.3.1*		*1.2.3.2*		*1.2.3.3*		*1.2.3.4*		*1.2.3.5*		*1.2.3.6*	
519		Available Supply (MW)	3,038	Available Supply (MW)	3,038	Available Supply (MW)	2,570	Available Supply (MW)	2,570	Available Supply (MW)	3,189	Available Supply (MW)	3,343
520		Curtailment (MWh)	12	Curtailment (MWh)	5,303	Curtailment (MWh)	1,450	Curtailment (MWh)	5,152	Curtailment (MWh)	0	Curtailment (MWh)	0
521		Total # Hours w/ Outages	0.50	Total # Hours w/ Outages	12.50	Total # Hours w/ Outages	5.25	Total # Hours w/ Outages	16.75	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
621	*L1600 / Otay Out / L3010 80%*	*1.1.4.1*		*1.1.4.2*		*1.1.4.3*		*1.1.4.4*		*1.1.4.5*		*1.1.4.6*	
622		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
623		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
624		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
724	*L1600 / Otay Out / L3010 Out*	*1.2.4.1*		*1.2.4.2*		*1.2.4.3*		*1.2.4.4*		*1.2.4.5*		*1.2.4.6*	
725		Available Supply (MW)	2,851	Available Supply (MW)	2,851	Available Supply (MW)	2,570	Available Supply (MW)	2,570	Available Supply (MW)	2,570	Available Supply (MW)	2,570
726		Curtailment (MWh)	720	Curtailment (MWh)	7,881	Curtailment (MWh)	1,450	Curtailment (MWh)	5,152	Curtailment (MWh)	150	Curtailment (MWh)	1,636
727		Total # Hours w/ Outages	6.00	Total # Hours w/ Outages	14.75	Total # Hours w/ Outages	5.25	Total # Hours w/ Outages	16.75	Total # Hours w/ Outages	1.75	Total # Hours w/ Outages	8.00
827	*L3602 / Otay Full / L3010 80%*	*2.1.1.1*		*2.1.1.2*		*2.1.1.3*		*2.1.1.4*		*2.1.1.5*		*2.1.1.6*	
828		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
829		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
830		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
930	*L3602 / Otay Full / L3010 Out*	*2.2.1.1*		*2.2.1.2*		*2.2.1.3*		*2.2.1.4*		*2.2.1.5*		*2.2.1.6*	
931		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
932		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
933		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
1033	*L3602 / Otay Medium / L3010 80%*	*2.1.2.1*		*2.1.2.2*		*2.1.2.3*		*2.1.2.4*		*2.1.2.5*		*2.1.2.6*	

WORK PAPER TABLE - SCENARIO ANALYSIS ELECTRIC DEMAND AND OUTPUTS (SA 1.3)

EXAMPLE ELECTRIC DEMAND DAY DURING SEASONAL VARIATIONS WITH ELECTRIC SUPPLY FOR THE ALTERNATIVES AND RELATED CURTAILMENT

APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.		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	
1													
1034		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
1035		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
1036		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
1136	*L3602 / Otay Medium / L3010 Out*	*2.2.2.1*		*2.2.2.2*		*2.2.2.3*		*2.2.2.4*		*2.2.2.5*		*2.2.2.6*	
1137		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
1138		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
1139		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
1239	*L3602 / Otay Low / L3010 80%*	*2.1.3.1*		*2.1.3.2*		*2.1.3.3*		*2.1.3.4*		*2.1.3.5*		*2.1.3.6*	
1240		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
1241		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
1242		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
1342	*L3602 / Otay Low / L3010 Out*	*2.2.3.1*		*2.2.3.2*		*2.2.3.3*		*2.2.3.4*		*2.2.3.5*		*2.2.3.6*	
1343		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
1344		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
1345		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
1445	*L3602 / Otay Out / L3010 80%*	*2.1.4.1*		*2.1.4.2*		*2.1.4.3*		*2.1.4.4*		*2.1.4.5*		*2.1.4.6*	
1446		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
1447		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
1448		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
1548	*L3602 / Otay Out / L3010 Out*	*2.2.4.1*		*2.2.4.2*		*2.2.4.3*		*2.2.4.4*		*2.2.4.5*		*2.2.4.6*	
1549		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
1550		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
1651	*Hydrotesting / Otay Full / L3010 80%*	*3.1.1.1*		*3.1.1.2*		*3.1.1.3*		*3.1.1.4*		*3.1.1.5*		*3.1.1.6*	
1652		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
1653		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
1654		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
1754	*Hydrotesting / Otay Full / L3010 Out*	*3.2.1.1*		*3.2.1.2*		*3.2.1.3*		*3.2.1.4*		*3.2.1.5*		*3.2.1.6*	
1755		Available Supply (MW)	3,132	Available Supply (MW)	2,570	Available Supply (MW)	2,586	Available Supply (MW)	2,570	Available Supply (MW)	3,463	Available Supply (MW)	3,377
1756		Curtailment (MWh)	0	Curtailment (MWh)	12,380	Curtailment (MWh)	1,368	Curtailment (MWh)	5,152	Curtailment (MWh)	0	Curtailment (MWh)	0
1757		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	17.75	Total # Hours w/ Outages	5.25	Total # Hours w/ Outages	16.75	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
1857	*Hydrotesting / Otay Medium / L3010 80%*	*3.1.2.1*		*3.1.2.2*		*3.1.2.3*		*3.1.2.4*		*3.1.2.5*		*3.1.2.6*	
1858		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
1859		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
1860		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
1960	*Hydrotesting / Otay Medium / L3010 Out*	*3.2.2.1*		*3.2.2.2*		*3.2.2.3*		*3.2.2.4*		*3.2.2.5*		*3.2.2.6*	
1961		Available Supply (MW)	2,883	Available Supply (MW)	2,570	Available Supply (MW)	2,570	Available Supply (MW)	2,570	Available Supply (MW)	2,987	Available Supply (MW)	2,947
1962		Curtailment (MWh)	542	Curtailment (MWh)	12,380	Curtailment (MWh)	1,450	Curtailment (MWh)	5,152	Curtailment (MWh)	0	Curtailment (MWh)	70
1963		Total # Hours w/ Outages	5.25	Total # Hours w/ Outages	17.75	Total # Hours w/ Outages	5.25	Total # Hours w/ Outages	16.75	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	1.50
2063	*Hydrotesting / Otay Low / L3010 80%*	*3.1.3.1*		*3.1.3.2*		*3.1.3.3*		*3.1.3.4*		*3.1.3.5*		*3.1.3.6*	
2064		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
2065		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
2066		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00

WORK PAPER TABLE - SCENARIO ANALYSIS ELECTRIC DEMAND AND OUTPUTS (SA 1.3)
EXAMPLE ELECTRIC DEMAND DAY DURING SEASONAL VARIATIONS WITH ELECTRIC SUPPLY FOR THE ALTERNATIVES AND RELATED CURTAILMENT
APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.		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	
1													
2166	*Hydrotesting / Otay Low / L3010 Out*	*3.2.3.1*		*3.2.3.2*		*3.2.3.3*		*3.2.3.4*		*3.2.3.5*		*3.2.3.6*	
2167		Available Supply (MW)	2,570	Available Supply (MW)	2,570	Available Supply (MW)	2,570	Available Supply (MW)	2,570	Available Supply (MW)	2,570	Available Supply (MW)	2,570
2168		Curtailment (MWh)	2,873	Curtailment (MWh)	12,380	Curtailment (MWh)	1,450	Curtailment (MWh)	5,152	Curtailment (MWh)	150	Curtailment (MWh)	1,636
2169		Total # Hours w/ Outages	9.25	Total # Hours w/ Outages	17.75	Total # Hours w/ Outages	5.25	Total # Hours w/ Outages	16.75	Total # Hours w/ Outages	1.75	Total # Hours w/ Outages	8.00
2269	*Hydrotesting / Otay Out / L3010 80%*	*3.1.4.1*		*3.1.4.2*		*3.1.4.3*		*3.1.4.4*		*3.1.4.5*		*3.1.4.6*	
2270		Available Supply (MW)	3,132	Available Supply (MW)	4,143	Available Supply (MW)	2,963	Available Supply (MW)	2,739	Available Supply (MW)	3,750	Available Supply (MW)	3,694
2271		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	1	Curtailment (MWh)	2,881	Curtailment (MWh)	0	Curtailment (MWh)	0
2272		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.25	Total # Hours w/ Outages	10.75	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
2372	*Hydrotesting / Otay Out / L3010 Out*	*3.2.4.1*		*3.2.4.2*		*3.2.4.3*		*3.2.4.4*		*3.2.4.5*		*3.2.4.6*	
2373		Available Supply (MW)	2,570	Available Supply (MW)	2,570	Available Supply (MW)	2,570	Available Supply (MW)	2,570	Available Supply (MW)	2,570	Available Supply (MW)	2,570
2374		Curtailment (MWh)	2,873	Curtailment (MWh)	12,380	Curtailment (MWh)	1,450	Curtailment (MWh)	5,152	Curtailment (MWh)	150	Curtailment (MWh)	1,636
2475	*Alt Diameter 10" / Otay Full / L3010 80%*	*4.1.1.1*		*4.1.1.2*		*4.1.1.3*		*4.1.1.4*		*4.1.1.5*		*4.1.1.6*	
2476		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
2477		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
2478		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
2578	*Alt Diameter 10" / Otay Full / L3010 Out*	*4.2.1.1*		*4.2.1.2*		*4.2.1.3*		*4.2.1.4*		*4.2.1.5*		*4.2.1.6*	
2579		Available Supply (MW)	3,132	Available Supply (MW)	2,773	Available Supply (MW)	2,867	Available Supply (MW)	2,642	Available Supply (MW)	3,744	Available Supply (MW)	3,658
2580		Curtailment (MWh)	0	Curtailment (MWh)	9,051	Curtailment (MWh)	172	Curtailment (MWh)	4,053	Curtailment (MWh)	0	Curtailment (MWh)	0
2581		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	15.50	Total # Hours w/ Outages	2.75	Total # Hours w/ Outages	13.50	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
2681	*Alt Diameter 10" / Otay Medium / L3010 80%*	*4.1.2.1*		*4.1.2.2*		*4.1.2.3*		*4.1.2.4*		*4.1.2.5*		*4.1.2.6*	
2682		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
2683		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
2684		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
2784	*Alt Diameter 10" / Otay Medium / L3010 Out*	*4.2.2.1*		*4.2.2.2*		*4.2.2.3*		*4.2.2.4*		*4.2.2.5*		*4.2.2.6*	
2785		Available Supply (MW)	3,132	Available Supply (MW)	2,625	Available Supply (MW)	2,570	Available Supply (MW)	2,570	Available Supply (MW)	3,268	Available Supply (MW)	3,228
2786		Curtailment (MWh)	0	Curtailment (MWh)	11,438	Curtailment (MWh)	1,450	Curtailment (MWh)	5,152	Curtailment (MWh)	0	Curtailment (MWh)	0
2787		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	16.75	Total # Hours w/ Outages	5.25	Total # Hours w/ Outages	16.75	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
2887	*Alt Diameter 10" / Otay Low / L3010 80%*	*4.1.3.1*		*4.1.3.2*		*4.1.3.3*		*4.1.3.4*		*4.1.3.5*		*4.1.3.6*	
2888		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
2889		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
2890		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
2990	*Alt Diameter 10" / Otay Low / L3010 Out*	*4.2.3.1*		*4.2.3.2*		*4.2.3.3*		*4.2.3.4*		*4.2.3.5*		*4.2.3.6*	
2991		Available Supply (MW)	2,570	Available Supply (MW)	2,570	Available Supply (MW)	2,570	Available Supply (MW)	2,570	Available Supply (MW)	2,627	Available Supply (MW)	2,781
2992		Curtailment (MWh)	2,873	Curtailment (MWh)	12,380	Curtailment (MWh)	1,450	Curtailment (MWh)	5,152	Curtailment (MWh)	58	Curtailment (MWh)	473
2993		Total # Hours w/ Outages	9.25	Total # Hours w/ Outages	17.75	Total # Hours w/ Outages	5.25	Total # Hours w/ Outages	16.75	Total # Hours w/ Outages	1.50	Total # Hours w/ Outages	3.25
3093	*Alt Diameter 10" / Otay Out / L3010 80%*	*4.1.4.1*		*4.1.4.2*		*4.1.4.3*		*4.1.4.4*		*4.1.4.5*		*4.1.4.6*	
3094		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,244	Available Supply (MW)	3,020	Available Supply (MW)	3,806	Available Supply (MW)	3,975
3095		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	912	Curtailment (MWh)	0	Curtailment (MWh)	0
3096		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	4.25	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
3196	*Alt Diameter 10" / Otay Out / L3010 Out*	*4.2.4.1*		*4.2.4.2*		*4.2.4.3*		*4.2.4.4*		*4.2.4.5*		*4.2.4.6*	
3197		Available Supply (MW)	2,570	Available Supply (MW)	2,570	Available Supply (MW)	2,570	Available Supply (MW)	2,570	Available Supply (MW)	2,570	Available Supply (MW)	2,570

WORK PAPER TABLE - SCENARIO ANALYSIS ELECTRIC DEMAND AND OUTPUTS (SA 1.3)

EXAMPLE ELECTRIC DEMAND DAY DURING SEASONAL VARIATIONS WITH ELECTRIC SUPPLY FOR THE ALTERNATIVES AND RELATED CURTAILMENT

APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.		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	
1													
3198		Curtailment (MWh)	2,873	Curtailment (MWh)	12,380	Curtailment (MWh)	1,450	Curtailment (MWh)	5,152	Curtailment (MWh)	150	Curtailment (MWh)	1,636
3299	*Alt Diameter 12" / Otay Full / L3010 80%*	*5.1.1.1*		*5.1.1.2*		*5.1.1.3*		*5.1.1.4*		*5.1.1.5*		*5.1.1.6*	
3300		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
3301		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
3302		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
3402	*Alt Diameter 12" / Otay Full / L3010 Out*	*5.2.1.1*		*5.2.1.2*		*5.2.1.3*		*5.2.1.4*		*5.2.1.5*		*5.2.1.6*	
3403		Available Supply (MW)	3,132	Available Supply (MW)	2,886	Available Supply (MW)	2,979	Available Supply (MW)	2,754	Available Supply (MW)	3,806	Available Supply (MW)	3,771
3404		Curtailment (MWh)	0	Curtailment (MWh)	7,374	Curtailment (MWh)	0	Curtailment (MWh)	2,716	Curtailment (MWh)	0	Curtailment (MWh)	0
3405		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	14.50	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	10.50	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
3505	*Alt Diameter 12" / Otay Medium / L3010 80%*	*5.1.2.1*		*5.1.2.2*		*5.1.2.3*		*5.1.2.4*		*5.1.2.5*		*5.1.2.6*	
3506		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
3507		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
3508		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
3608	*Alt Diameter 12" / Otay Medium / L3010 Out*	*5.2.2.1*		*5.2.2.2*		*5.2.2.3*		*5.2.2.4*		*5.2.2.5*		*5.2.2.6*	
3609		Available Supply (MW)	3,132	Available Supply (MW)	2,737	Available Supply (MW)	2,570	Available Supply (MW)	2,570	Available Supply (MW)	3,380	Available Supply (MW)	3,341
3610		Curtailment (MWh)	0	Curtailment (MWh)	9,618	Curtailment (MWh)	1,450	Curtailment (MWh)	5,152	Curtailment (MWh)	0	Curtailment (MWh)	0
3611		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	16.00	Total # Hours w/ Outages	5.25	Total # Hours w/ Outages	16.75	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
3711	*Alt Diameter 12" / Otay Low / L3010 80%*	*5.1.3.1*		*5.1.3.2*		*5.1.3.3*		*5.1.3.4*		*5.1.3.5*		*5.1.3.6*	
3712		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
3713		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
3714		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
3814	*Alt Diameter 12" / Otay Low / L3010 Out*	*5.2.3.1*		*5.2.3.2*		*5.2.3.3*		*5.2.3.4*		*5.2.3.5*		*5.2.3.6*	
3815		Available Supply (MW)	2,589	Available Supply (MW)	2,589	Available Supply (MW)	2,570	Available Supply (MW)	2,570	Available Supply (MW)	2,739	Available Supply (MW)	2,893
3816		Curtailment (MWh)	2,701	Curtailment (MWh)	12,054	Curtailment (MWh)	1,450	Curtailment (MWh)	5,152	Curtailment (MWh)	0	Curtailment (MWh)	170
3817		Total # Hours w/ Outages	9.25	Total # Hours w/ Outages	17.50	Total # Hours w/ Outages	5.25	Total # Hours w/ Outages	16.75	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	2.25
3917	*Alt Diameter 12" / Otay Out / L3010 80%*	*5.1.4.1*		*5.1.4.2*		*5.1.4.3*		*5.1.4.4*		*5.1.4.5*		*5.1.4.6*	
3918		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,357	Available Supply (MW)	3,132	Available Supply (MW)	3,806	Available Supply (MW)	4,087
3919		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	486	Curtailment (MWh)	0	Curtailment (MWh)	0
3920		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	3.50	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
4020	*Alt Diameter 12" / Otay Out / L3010 Out*	*5.2.4.1*		*5.2.4.2*		*5.2.4.3*		*5.2.4.4*		*5.2.4.5*		*5.2.4.6*	
4021		Available Supply (MW)	2,570	Available Supply (MW)	2,570	Available Supply (MW)	2,570	Available Supply (MW)	2,570	Available Supply (MW)	2,570	Available Supply (MW)	2,570
4022		Curtailment (MWh)	2,873	Curtailment (MWh)	12,380	Curtailment (MWh)	1,450	Curtailment (MWh)	5,152	Curtailment (MWh)	150	Curtailment (MWh)	1,636
4123	*Alt Diameter 16" / Otay Full / L3010 80%*	*6.1.1.1*		*6.1.1.2*		*6.1.1.3*		*6.1.1.4*		*6.1.1.5*		*6.1.1.6*	
4124		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
4125		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
4126		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
4226	*Alt Diameter 16" / Otay Full / L3010 Out*	*6.2.1.1*		*6.2.1.2*		*6.2.1.3*		*6.2.1.4*		*6.2.1.5*		*6.2.1.6*	
4227		Available Supply (MW)	3,132	Available Supply (MW)	3,392	Available Supply (MW)	3,485	Available Supply (MW)	3,260	Available Supply (MW)	3,806	Available Supply (MW)	4,087
4228		Curtailment (MWh)	0	Curtailment (MWh)	1,539	Curtailment (MWh)	0	Curtailment (MWh)	105	Curtailment (MWh)	0	Curtailment (MWh)	0
4229		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	8.50	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	2.25	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
4329	*Alt Diameter 16" / Otay Medium / L3010 80%*	*6.1.2.1*		*6.1.2.2*		*6.1.2.3*		*6.1.2.4*		*6.1.2.5*		*6.1.2.6*	

WORK PAPER TABLE - SCENARIO ANALYSIS ELECTRIC DEMAND AND OUTPUTS (SA 1.3)

EXAMPLE ELECTRIC DEMAND DAY DURING SEASONAL VARIATIONS WITH ELECTRIC SUPPLY FOR THE ALTERNATIVES AND RELATED CURTAILMENT

APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.		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	
1													
4330		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
4331		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
4332		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
4432	*Alt Diameter 16" / Otay Medium / L3010 Out*	*6.2.2.1*		*6.2.2.2*		*6.2.2.3*		*6.2.2.4*		*6.2.2.5*		*6.2.2.6*	
4433		Available Supply (MW)	3,132	Available Supply (MW)	3,243	Available Supply (MW)	3,019	Available Supply (MW)	2,794	Available Supply (MW)	3,806	Available Supply (MW)	3,847
4434		Curtailment (MWh)	0	Curtailment (MWh)	2,953	Curtailment (MWh)	0	Curtailment (MWh)	2,315	Curtailment (MWh)	0	Curtailment (MWh)	0
4435		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	10.50	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	9.25	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
4535	*Alt Diameter 16" / Otay Low / L3010 80%*	*6.1.3.1*		*6.1.3.2*		*6.1.3.3*		*6.1.3.4*		*6.1.3.5*		*6.1.3.6*	
4536		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
4537		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
4538		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
4638	*Alt Diameter 16" / Otay Low / L3010 Out*	*6.2.3.1*		*6.2.3.2*		*6.2.3.3*		*6.2.3.4*		*6.2.3.5*		*6.2.3.6*	
4639		Available Supply (MW)	3,094	Available Supply (MW)	3,094	Available Supply (MW)	2,570	Available Supply (MW)	2,570	Available Supply (MW)	3,245	Available Supply (MW)	3,399
4640		Curtailment (MWh)	0	Curtailment (MWh)	4,618	Curtailment (MWh)	1,450	Curtailment (MWh)	5,152	Curtailment (MWh)	0	Curtailment (MWh)	0
4641		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	12.00	Total # Hours w/ Outages	5.25	Total # Hours w/ Outages	16.75	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
4741	*Alt Diameter 16" / Otay Out / L3010 80%*	*6.1.4.1*		*6.1.4.2*		*6.1.4.3*		*6.1.4.4*		*6.1.4.5*		*6.1.4.6*	
4742		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
4743		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
4744		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
4844	*Alt Diameter 16" / Otay Out / L3010 Out*	*6.2.4.1*		*6.2.4.2*		*6.2.4.3*		*6.2.4.4*		*6.2.4.5*		*6.2.4.6*	
4845		Available Supply (MW)	2,907	Available Supply (MW)	2,907	Available Supply (MW)	2,570	Available Supply (MW)	2,570	Available Supply (MW)	2,570	Available Supply (MW)	2,570
4846		Curtailment (MWh)	417	Curtailment (MWh)	7,065	Curtailment (MWh)	1,450	Curtailment (MWh)	5,152	Curtailment (MWh)	150	Curtailment (MWh)	1,636
4947	*Alt Diameter 20" / Otay Full / L3010 80%*	*20.1.1.1*		*20.1.1.2*		*20.1.1.3*		*20.1.1.4*		*20.1.1.5*		*20.1.1.6*	
4948		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
4949		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
4950		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
5050	*Alt Diameter 20" / Otay Full / L3010 Out*	*20.2.1.1*		*20.2.1.2*		*20.2.1.3*		*20.2.1.4*		*20.2.1.5*		*20.2.1.6*	
5051		Available Supply (MW)	3,132	Available Supply (MW)	3,897	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
5052		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
5053		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
5153	*Alt Diameter 20" / Otay Medium / L3010 80%*	*20.1.2.1*		*20.1.2.2*		*20.1.2.3*		*20.1.2.4*		*20.1.2.5*		*20.1.2.6*	
5154		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
5155		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
5156		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
5256	*Alt Diameter 20" / Otay Medium / L3010 Out*	*20.2.2.1*		*20.2.2.2*		*20.2.2.3*		*20.2.2.4*		*20.2.2.5*		*20.2.2.6*	
5257		Available Supply (MW)	3,132	Available Supply (MW)	3,749	Available Supply (MW)	3,497	Available Supply (MW)	3,300	Available Supply (MW)	3,806	Available Supply (MW)	4,087
5258		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	28	Curtailment (MWh)	0	Curtailment (MWh)	0
5259		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	1.25	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
5359	*Alt Diameter 20" / Otay Low / L3010 80%*	*20.1.3.1*		*20.1.3.2*		*20.1.3.3*		*20.1.3.4*		*20.1.3.5*		*20.1.3.6*	
5360		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
5361		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
5362		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00

WORK PAPER TABLE - SCENARIO ANALYSIS ELECTRIC DEMAND AND OUTPUTS (SA 1.3)
EXAMPLE ELECTRIC DEMAND DAY DURING SEASONAL VARIATIONS WITH ELECTRIC SUPPLY FOR THE ALTERNATIVES AND RELATED CURTAILMENT
APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.		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	
1													
5462	*Alt Diameter 20" / Otay Low / L3010 Out*	*20.2.3.1*		*20.2.3.2*		*20.2.3.3*		*20.2.3.4*		*20.2.3.5*		*20.2.3.6*	
5463		Available Supply (MW)	3,132	Available Supply (MW)	3,600	Available Supply (MW)	3,065	Available Supply (MW)	2,840	Available Supply (MW)	3,751	Available Supply (MW)	3,905
5464		Curtailment (MWh)	0	Curtailment (MWh)	297	Curtailment (MWh)	0	Curtailment (MWh)	1,906	Curtailment (MWh)	0	Curtailment (MWh)	0
5465		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	3.50	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	8.25	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
5565	*Alt Diameter 20" / Otay Out / L3010 80%*	*20.1.4.1*		*20.1.4.2*		*20.1.4.3*		*20.1.4.4*		*20.1.4.5*		*20.1.4.6*	
5566		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
5567		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
5568		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
5668	*Alt Diameter 20" / Otay Out / L3010 Out*	*20.2.4.1*		*20.2.4.2*		*20.2.4.3*		*20.2.4.4*		*20.2.4.5*		*20.2.4.6*	
5669		Available Supply (MW)	3,132	Available Supply (MW)	3,413	Available Supply (MW)	2,570	Available Supply (MW)	2,570	Available Supply (MW)	3,020	Available Supply (MW)	2,963
5670		Curtailment (MWh)	0	Curtailment (MWh)	1,363	Curtailment (MWh)	1,450	Curtailment (MWh)	5,152	Curtailment (MWh)	0	Curtailment (MWh)	49
5771	*Alt Diameter 24" / Otay Full / L3010 80%*	*7.1.1.1*		*7.1.1.2*		*7.1.1.3*		*7.1.1.4*		*7.1.1.5*		*7.1.1.6*	
5772		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
5773		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
5774		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
5874	*Alt Diameter 24" / Otay Full / L3010 Out*	*7.2.1.1*		*7.2.1.2*		*7.2.1.3*		*7.2.1.4*		*7.2.1.5*		*7.2.1.6*	
5875		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
5876		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
5877		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
5977	*Alt Diameter 24" / Otay Medium / L3010 80%*	*7.1.2.1*		*7.1.2.2*		*7.1.2.3*		*7.1.2.4*		*7.1.2.5*		*7.1.2.6*	
5978		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
5979		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
5980		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
6080	*Alt Diameter 24" / Otay Medium / L3010 Out*	*7.2.2.1*		*7.2.2.2*		*7.2.2.3*		*7.2.2.4*		*7.2.2.5*		*7.2.2.6*	
6081		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
6082		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
6083		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
6183	*Alt Diameter 24" / Otay Low / L3010 80%*	*7.1.3.1*		*7.1.3.2*		*7.1.3.3*		*7.1.3.4*		*7.1.3.5*		*7.1.3.6*	
6184		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
6185		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
6186		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
6286	*Alt Diameter 24" / Otay Low / L3010 Out*	*7.2.3.1*		*7.2.3.2*		*7.2.3.3*		*7.2.3.4*		*7.2.3.5*		*7.2.3.6*	
6287		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
6288		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
6289		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
6389	*Alt Diameter 24" / Otay Out / L3010 80%*	*7.1.4.1*		*7.1.4.2*		*7.1.4.3*		*7.1.4.4*		*7.1.4.5*		*7.1.4.6*	
6390		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
6391		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
6392		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
6492	*Alt Diameter 24" / Otay Out / L3010 Out*	*7.2.4.1*		*7.2.4.2*		*7.2.4.3*		*7.2.4.4*		*7.2.4.5*		*7.2.4.6*	
6493		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,076	Available Supply (MW)	2,851	Available Supply (MW)	3,806	Available Supply (MW)	3,806

WORK PAPER TABLE - SCENARIO ANALYSIS ELECTRIC DEMAND AND OUTPUTS (SA 1.3)
EXAMPLE ELECTRIC DEMAND DAY DURING SEASONAL VARIATIONS WITH ELECTRIC SUPPLY FOR THE ALTERNATIVES AND RELATED CURTAILMENT
APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.		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	
1													
6494		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	1,819	Curtailment (MWh)	0	Curtailment (MWh)	0
6595	***Alt Diameter 30" / Otay Full / L3010 80%***	***8.1.1.1***		***8.1.1.2***		***8.1.1.3***		***8.1.1.4***		***8.1.1.5***		***8.1.1.6***	
6596		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
6597		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
6598		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
6698	***Alt Diameter 30" / Otay Full / L3010 Out***	***8.2.1.1***		***8.2.1.2***		***8.2.1.3***		***8.2.1.4***		***8.2.1.5***		***8.2.1.6***	
6699		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
6700		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
6701		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
6801	***Alt Diameter 30" / Otay Medium / L3010 80%***	***8.1.2.1***		***8.1.2.2***		***8.1.2.3***		***8.1.2.4***		***8.1.2.5***		***8.1.2.6***	
6802		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
6803		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
6804		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
6904	***Alt Diameter 30" / Otay Medium / L3010 Out***	***8.2.2.1***		***8.2.2.2***		***8.2.2.3***		***8.2.2.4***		***8.2.2.5***		***8.2.2.6***	
6905		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
6906		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
6907		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
7007	***Alt Diameter 30" / Otay Low / L3010 80%***	***8.1.3.1***		***8.1.3.2***		***8.1.3.3***		***8.1.3.4***		***8.1.3.5***		***8.1.3.6***	
7008		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
7009		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
7010		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
7110	***Alt Diameter 30" / Otay Low / L3010 Out***	***8.2.3.1***		***8.2.3.2***		***8.2.3.3***		***8.2.3.4***		***8.2.3.5***		***8.2.3.6***	
7111		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
7112		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
7113		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
7213	***Alt Diameter 30" / Otay Out / L3010 80%***	***8.1.4.1***		***8.1.4.2***		***8.1.4.3***		***8.1.4.4***		***8.1.4.5***		***8.1.4.6***	
7214		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
7215		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
7216		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
7316	***Alt Diameter 30" / Otay Out / L3010 Out***	***8.2.4.1***		***8.2.4.2***		***8.2.4.3***		***8.2.4.4***		***8.2.4.5***		***8.2.4.6***	
7317		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
7318		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
7419	***Alt Diameter 42" / Otay Full / L3010 80%***	***9.1.1.1***		***9.1.1.2***		***9.1.1.3***		***9.1.1.4***		***9.1.1.5***		***9.1.1.6***	
7420		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
7421		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
7422		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
7522	***Alt Diameter 42" / Otay Full / L3010 Out***	***9.2.1.1***		***9.2.1.2***		***9.2.1.3***		***9.2.1.4***		***9.2.1.5***		***9.2.1.6***	
7523		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
7524		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
7525		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
7625	***Alt Diameter 42" / Otay Medium / L3010 80%***	***9.1.2.1***		***9.1.2.2***		***9.1.2.3***		***9.1.2.4***		***9.1.2.5***		***9.1.2.6***	

WORK PAPER TABLE - SCENARIO ANALYSIS ELECTRIC DEMAND AND OUTPUTS (SA 1.3)
EXAMPLE ELECTRIC DEMAND DAY DURING SEASONAL VARIATIONS WITH ELECTRIC SUPPLY FOR THE ALTERNATIVES AND RELATED CURTAILMENT
APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.		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	
1													
7626		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
7627		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
7628		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
7728	*Alt Diameter 42" / Otay Medium / L3010 Out*	*9.2.2.1*		*9.2.2.2*		*9.2.2.3*		*9.2.2.4*		*9.2.2.5*		*9.2.2.6*	
7729		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
7730		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
7731		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
7831	*Alt Diameter 42" / Otay Low / L3010 80%*	*9.1.3.1*		*9.1.3.2*		*9.1.3.3*		*9.1.3.4*		*9.1.3.5*		*9.1.3.6*	
7832		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
7833		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
7834		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
7934	*Alt Diameter 42" / Otay Low / L3010 Out*	*9.2.3.1*		*9.2.3.2*		*9.2.3.3*		*9.2.3.4*		*9.2.3.5*		*9.2.3.6*	
7935		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
7936		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
7937		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
8037	*Alt Diameter 42" / Otay Out / L3010 80%*	*9.1.4.1*		*9.1.4.2*		*9.1.4.3*		*9.1.4.4*		*9.1.4.5*		*9.1.4.6*	
8038		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
8039		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
8040		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
8140	*Alt Diameter 42" / Otay Out / L3010 Out*	*9.2.4.1*		*9.2.4.2*		*9.2.4.3*		*9.2.4.4*		*9.2.4.5*		*9.2.4.6*	
8141		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
8142		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
8243	*L1600 In-Kind / Otay Full / L3010 80%*	*10.1.1.1*		*10.1.1.2*		*10.1.1.3*		*10.1.1.4*		*10.1.1.5*		*10.1.1.6*	
8244		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
8245		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
8246		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
8346	*L1600 In-Kind / Otay Full / L3010 Out*	*10.2.1.1*		*10.2.1.2*		*10.2.1.3*		*10.2.1.4*		*10.2.1.5*		*10.2.1.6*	
8347		Available Supply (MW)	3,132	Available Supply (MW)	3,392	Available Supply (MW)	3,485	Available Supply (MW)	3,260	Available Supply (MW)	3,806	Available Supply (MW)	4,087
8348		Curtailment (MWh)	0	Curtailment (MWh)	1,539	Curtailment (MWh)	0	Curtailment (MWh)	105	Curtailment (MWh)	0	Curtailment (MWh)	0
8349		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	8.50	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	2.25	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
8449	*L1600 In-Kind / Otay Medium / L3010 80%*	*10.1.2.1*		*10.1.2.2*		*10.1.2.3*		*10.1.2.4*		*10.1.2.5*		*10.1.2.6*	
8450		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
8451		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
8452		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
8552	*L1600 In-Kind / Otay Medium / L3010 Out*	*10.2.2.1*		*10.2.2.2*		*10.2.2.3*		*10.2.2.4*		*10.2.2.5*		*10.2.2.6*	
8553		Available Supply (MW)	3,132	Available Supply (MW)	3,243	Available Supply (MW)	3,019	Available Supply (MW)	2,794	Available Supply (MW)	3,806	Available Supply (MW)	3,847
8554		Curtailment (MWh)	0	Curtailment (MWh)	2,953	Curtailment (MWh)	0	Curtailment (MWh)	2,315	Curtailment (MWh)	0	Curtailment (MWh)	0
8555		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	10.50	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	9.25	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
8655	*L1600 In-Kind / Otay Low / L3010 80%*	*10.1.3.1*		*10.1.3.2*		*10.1.3.3*		*10.1.3.4*		*10.1.3.5*		*10.1.3.6*	
8656		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
8657		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
8658		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00

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APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.		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	
1													
8758	*L1600 In-Kind / Otay Low / L3010 Out*	*10.2.3.1*		*10.2.3.2*		*10.2.3.3*		*10.2.3.4*		*10.2.3.5*		*10.2.3.6*	
8759		Available Supply (MW)	3,094	Available Supply (MW)	3,094	Available Supply (MW)	2,570	Available Supply (MW)	2,570	Available Supply (MW)	3,245	Available Supply (MW)	3,399
8760		Curtailment (MWh)	0	Curtailment (MWh)	4,618	Curtailment (MWh)	1,450	Curtailment (MWh)	5,152	Curtailment (MWh)	0	Curtailment (MWh)	0
8761		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	12.00	Total # Hours w/ Outages	5.25	Total # Hours w/ Outages	16.75	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
8861	*L1600 In-Kind / Otay Out / L3010 80%*	*10.1.4.1*		*10.1.4.2*		*10.1.4.3*		*10.1.4.4*		*10.1.4.5*		*10.1.4.6*	
8862		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
8863		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
8864		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
8964	*L1600 In-Kind / Otay Out / L3010 Out*	*10.2.4.1*		*10.2.4.2*		*10.2.4.3*		*10.2.4.4*		*10.2.4.5*		*10.2.4.6*	
8965		Available Supply (MW)	2,907	Available Supply (MW)	2,907	Available Supply (MW)	2,570	Available Supply (MW)	2,570	Available Supply (MW)	2,570	Available Supply (MW)	2,570
8966		Curtailment (MWh)	417	Curtailment (MWh)	7,065	Curtailment (MWh)	1,450	Curtailment (MWh)	5,152	Curtailment (MWh)	150	Curtailment (MWh)	1,636
9067	*Otay Mesa Alternate / Otay Full / L3010 80%*	*11.1.1.1*		*11.1.1.2*		*11.1.1.3*		*11.1.1.4*		*11.1.1.5*		*11.1.1.6*	
9068		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
9069		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
9070		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
9170	*Otay Mesa Alternate / Otay Full / L3010 Out*	*11.2.1.1*		*11.2.1.2*		*11.2.1.3*		*11.2.1.4*		*11.2.1.5*		*11.2.1.6*	
9171		Available Supply (MW)	3,132	Available Supply (MW)	2,570	Available Supply (MW)	2,586	Available Supply (MW)	2,570	Available Supply (MW)	3,463	Available Supply (MW)	3,377
9172		Curtailment (MWh)	0	Curtailment (MWh)	12,380	Curtailment (MWh)	1,368	Curtailment (MWh)	5,152	Curtailment (MWh)	0	Curtailment (MWh)	0
9173		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	17.75	Total # Hours w/ Outages	5.25	Total # Hours w/ Outages	16.75	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
9273	*Otay Mesa Alternate / Otay Medium / L3010 80%*	*11.1.2.1*		*11.1.2.2*		*11.1.2.3*		*11.1.2.4*		*11.1.2.5*		*11.1.2.6*	
9274		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
9275		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
9276		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
9376	*Otay Mesa Alternate / Otay Medium / L3010 Out*	*11.2.2.1*		*11.2.2.2*		*11.2.2.3*		*11.2.2.4*		*11.2.2.5*		*11.2.2.6*	
9377		Available Supply (MW)	2,883	Available Supply (MW)	2,570	Available Supply (MW)	2,570	Available Supply (MW)	2,570	Available Supply (MW)	2,987	Available Supply (MW)	2,947
9378		Curtailment (MWh)	542	Curtailment (MWh)	12,380	Curtailment (MWh)	1,450	Curtailment (MWh)	5,152	Curtailment (MWh)	0	Curtailment (MWh)	70
9379		Total # Hours w/ Outages	5.25	Total # Hours w/ Outages	17.75	Total # Hours w/ Outages	5.25	Total # Hours w/ Outages	16.75	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	1.50
9479	*Otay Mesa Alternate / Otay Low / L3010 80%*	*11.1.3.1*		*11.1.3.2*		*11.1.3.3*		*11.1.3.4*		*11.1.3.5*		*11.1.3.6*	
9480		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
9481		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
9482		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
9582	*Otay Mesa Alternate / Otay Low / L3010 Out*	*11.2.3.1*		*11.2.3.2*		*11.2.3.3*		*11.2.3.4*		*11.2.3.5*		*11.2.3.6*	
9583		Available Supply (MW)	2,570	Available Supply (MW)	2,570	Available Supply (MW)	2,570	Available Supply (MW)	2,570	Available Supply (MW)	2,570	Available Supply (MW)	2,570
9584		Curtailment (MWh)	2,873	Curtailment (MWh)	12,380	Curtailment (MWh)	1,450	Curtailment (MWh)	5,152	Curtailment (MWh)	150	Curtailment (MWh)	1,636
9585		Total # Hours w/ Outages	9.25	Total # Hours w/ Outages	17.75	Total # Hours w/ Outages	5.25	Total # Hours w/ Outages	16.75	Total # Hours w/ Outages	1.75	Total # Hours w/ Outages	8.00
9685	*Otay Mesa Alternate / Otay Out / L3010 80%*	*11.1.4.1*		*11.1.4.2*		*11.1.4.3*		*11.1.4.4*		*11.1.4.5*		*11.1.4.6*	
9686		Available Supply (MW)	3,132	Available Supply (MW)	4,143	Available Supply (MW)	2,963	Available Supply (MW)	2,739	Available Supply (MW)	3,750	Available Supply (MW)	3,694
9687		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	1	Curtailment (MWh)	2,881	Curtailment (MWh)	0	Curtailment (MWh)	0
9688		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.25	Total # Hours w/ Outages	10.75	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
9788	*Otay Mesa Alternate / Otay Out / L3010 Out*	*11.2.4.1*		*11.2.4.2*		*11.2.4.3*		*11.2.4.4*		*11.2.4.5*		*11.2.4.6*	
9789		Available Supply (MW)	2,570	Available Supply (MW)	2,570	Available Supply (MW)	2,570	Available Supply (MW)	2,570	Available Supply (MW)	2,570	Available Supply (MW)	2,570

WORK PAPER TABLE - SCENARIO ANALYSIS ELECTRIC DEMAND AND OUTPUTS (SA 1.3)
EXAMPLE ELECTRIC DEMAND DAY DURING SEASONAL VARIATIONS WITH ELECTRIC SUPPLY FOR THE ALTERNATIVES AND RELATED CURTAILMENT
APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.		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	
1													
9790		Curtailment (MWh)	2,873	Curtailment (MWh)	12,380	Curtailment (MWh)	1,450	Curtailment (MWh)	5,152	Curtailment (MWh)	150	Curtailment (MWh)	1,636
9891	*LNG Storage / Otay Full / L3010 80%*	*13.1.1.1*		*13.1.1.2*		*13.1.1.3*		*13.1.1.4*		*13.1.1.5*		*13.1.1.6*	
9892		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
9893		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
9894		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
9994	*LNG Storage / Otay Full / L3010 Out*	*13.2.1.1*		*13.2.1.2*		*13.2.1.3*		*13.2.1.4*		*13.2.1.5*		*13.2.1.6*	
9995		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
9996		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
9997		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
10097	*LNG Storage / Otay Medium / L3010 80%*	*13.1.2.1*		*13.1.2.2*		*13.1.2.3*		*13.1.2.4*		*13.1.2.5*		*13.1.2.6*	
10098		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
10099		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
10100		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
10200	*LNG Storage / Otay Medium / L3010 Out*	*13.2.2.1*		*13.2.2.2*		*13.2.2.3*		*13.2.2.4*		*13.2.2.5*		*13.2.2.6*	
10201		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
10202		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
10203		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
10303	*LNG Storage / Otay Low / L3010 80%*	*13.1.3.1*		*13.1.3.2*		*13.1.3.3*		*13.1.3.4*		*13.1.3.5*		*13.1.3.6*	
10304		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
10305		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
10306		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
10406	*LNG Storage / Otay Low / L3010 Out*	*13.2.3.1*		*13.2.3.2*		*13.2.3.3*		*13.2.3.4*		*13.2.3.5*		*13.2.3.6*	
10407		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
10408		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
10409		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
10509	*LNG Storage / Otay Out / L3010 80%*	*13.1.4.1*		*13.1.4.2*		*13.1.4.3*		*13.1.4.4*		*13.1.4.5*		*13.1.4.6*	
10510		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
10511		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
10512		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
10612	*LNG Storage / Otay Out / L3010 Out*	*13.2.4.1*		*13.2.4.2*		*13.2.4.3*		*13.2.4.4*		*13.2.4.5*		*13.2.4.6*	
10613		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
10614		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
10715	*Alt Energy (Grid) / Otay Full / L3010 80%*	*14.1.1.1*		*14.1.1.2*		*14.1.1.3*		*14.1.1.4*		*14.1.1.5*		*14.1.1.6*	
10716		Available Supply (MW)	4,818	Available Supply (MW)	5,942	Available Supply (MW)	5,183	Available Supply (MW)	5,183	Available Supply (MW)	5,492	Available Supply (MW)	5,773
10717		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
10718		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
10818	*Alt Energy (Grid) / Otay Full / L3010 Out*	*14.2.1.1*		*14.2.1.2*		*14.2.1.3*		*14.2.1.4*		*14.2.1.5*		*14.2.1.6*	
10819		Available Supply (MW)	4,818	Available Supply (MW)	4,256	Available Supply (MW)	4,272	Available Supply (MW)	4,256	Available Supply (MW)	5,149	Available Supply (MW)	5,063
10820		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
10821		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
10921	*Alt Energy (Grid) / Otay Medium / L3010 80%*	*14.1.2.1*		*14.1.2.2*		*14.1.2.3*		*14.1.2.4*		*14.1.2.5*		*14.1.2.6*	

WORK PAPER TABLE - SCENARIO ANALYSIS ELECTRIC DEMAND AND OUTPUTS (SA 1.3)

EXAMPLE ELECTRIC DEMAND DAY DURING SEASONAL VARIATIONS WITH ELECTRIC SUPPLY FOR THE ALTERNATIVES AND RELATED CURTAILMENT

APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.		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	
1													
10922		Available Supply (MW)	4,818	Available Supply (MW)	5,942	Available Supply (MW)	5,183	Available Supply (MW)	5,183	Available Supply (MW)	5,492	Available Supply (MW)	5,773
10923		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
10924		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
11024	*Alt Energy (Grid) / Otay Medium / L3010 Out*	*14.2.2.1*		*14.2.2.2*		*14.2.2.3*		*14.2.2.4*		*14.2.2.5*		*14.2.2.6*	
11025		Available Supply (MW)	4,569	Available Supply (MW)	4,256	Available Supply (MW)	4,256	Available Supply (MW)	4,256	Available Supply (MW)	4,672	Available Supply (MW)	4,633
11026		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
11027		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
11127	*Alt Energy (Grid) / Otay Low / L3010 80%*	*14.1.3.1*		*14.1.3.2*		*14.1.3.3*		*14.1.3.4*		*14.1.3.5*		*14.1.3.6*	
11128		Available Supply (MW)	4,818	Available Supply (MW)	5,942	Available Supply (MW)	5,183	Available Supply (MW)	5,183	Available Supply (MW)	5,492	Available Supply (MW)	5,773
11129		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
11130		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
11230	*Alt Energy (Grid) / Otay Low / L3010 Out*	*14.2.3.1*		*14.2.3.2*		*14.2.3.3*		*14.2.3.4*		*14.2.3.5*		*14.2.3.6*	
11231		Available Supply (MW)	4,256	Available Supply (MW)	4,256	Available Supply (MW)	4,256	Available Supply (MW)	4,256	Available Supply (MW)	4,256	Available Supply (MW)	4,256
11232		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
11233		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
11333	*Alt Energy (Grid) / Otay Out / L3010 80%*	*14.1.4.1*		*14.1.4.2*		*14.1.4.3*		*14.1.4.4*		*14.1.4.5*		*14.1.4.6*	
11334		Available Supply (MW)	4,818	Available Supply (MW)	5,829	Available Supply (MW)	4,649	Available Supply (MW)	4,424	Available Supply (MW)	5,436	Available Supply (MW)	5,380
11335		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
11336		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
11436	*Alt Energy (Grid) / Otay Out / L3010 Out*	*14.2.4.1*		*14.2.4.2*		*14.2.4.3*		*14.2.4.4*		*14.2.4.5*		*14.2.4.6*	
11437		Available Supply (MW)	4,256	Available Supply (MW)	4,256	Available Supply (MW)	4,256	Available Supply (MW)	4,256	Available Supply (MW)	4,256	Available Supply (MW)	4,256
11438		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
11539	*Alt Energy (Small) / Otay Full / L3010 80%*	*21.1.1.1*		*21.1.1.2*		*21.1.1.3*		*21.1.1.4*		*21.1.1.5*		*21.1.1.6*	
11540		Available Supply (MW)	4,818	Available Supply (MW)	5,942	Available Supply (MW)	5,183	Available Supply (MW)	5,183	Available Supply (MW)	5,492	Available Supply (MW)	5,773
11541		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
11542		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
11642	*Alt Energy (Small) / Otay Full / L3010 Out*	*21.2.1.1*		*21.2.1.2*		*21.2.1.3*		*21.2.1.4*		*21.2.1.5*		*21.2.1.6*	
11643		Available Supply (MW)	4,818	Available Supply (MW)	4,256	Available Supply (MW)	4,272	Available Supply (MW)	4,256	Available Supply (MW)	5,149	Available Supply (MW)	5,063
11644		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
11645		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
11745	*Alt Energy (Small) / Otay Medium / L3010 80%*	*21.1.2.1*		*21.1.2.2*		*21.1.2.3*		*21.1.2.4*		*21.1.2.5*		*21.1.2.6*	
11746		Available Supply (MW)	4,818	Available Supply (MW)	5,942	Available Supply (MW)	5,183	Available Supply (MW)	5,183	Available Supply (MW)	5,492	Available Supply (MW)	5,773
11747		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
11748		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
11848	*Alt Energy (Small) / Otay Medium / L3010 Out*	*21.2.2.1*		*21.2.2.2*		*21.2.2.3*		*21.2.2.4*		*21.2.2.5*		*21.2.2.6*	
11849		Available Supply (MW)	4,569	Available Supply (MW)	4,256	Available Supply (MW)	4,256	Available Supply (MW)	4,256	Available Supply (MW)	4,672	Available Supply (MW)	4,633
11850		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
11851		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
11951	*Alt Energy (Small) / Otay Low / L3010 80%*	*21.1.3.1*		*21.1.3.2*		*21.1.3.3*		*21.1.3.4*		*21.1.3.5*		*21.1.3.6*	
11952		Available Supply (MW)	4,818	Available Supply (MW)	5,942	Available Supply (MW)	5,183	Available Supply (MW)	5,183	Available Supply (MW)	5,492	Available Supply (MW)	5,773
11953		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
11954		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00

WORK PAPER TABLE - SCENARIO ANALYSIS ELECTRIC DEMAND AND OUTPUTS (SA 1.3)
EXAMPLE ELECTRIC DEMAND DAY DURING SEASONAL VARIATIONS WITH ELECTRIC SUPPLY FOR THE ALTERNATIVES AND RELATED CURTAILMENT
APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.		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	
1													
12054	***Alt Energy (Small) / Otay Low / L3010 Out***	***21.2.3.1***		***21.2.3.2***		***21.2.3.3***		***21.2.3.4***		***21.2.3.5***		***21.2.3.6***	
12055		Available Supply (MW)	4,256	Available Supply (MW)	4,256	Available Supply (MW)	4,256	Available Supply (MW)	4,256	Available Supply (MW)	4,256	Available Supply (MW)	4,256
12056		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
12057		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
12157	***Alt Energy (Small) / Otay Out / L3010 80%***	***21.1.4.1***		***21.1.4.2***		***21.1.4.3***		***21.1.4.4***		***21.1.4.5***		***21.1.4.6***	
12158		Available Supply (MW)	4,818	Available Supply (MW)	5,829	Available Supply (MW)	4,649	Available Supply (MW)	4,424	Available Supply (MW)	5,436	Available Supply (MW)	5,380
12159		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
12160		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
12260	***Alt Energy (Small) / Otay Out / L3010 Out***	***21.2.4.1***		***21.2.4.2***		***21.2.4.3***		***21.2.4.4***		***21.2.4.5***		***21.2.4.6***	
12261		Available Supply (MW)	4,256	Available Supply (MW)	4,256	Available Supply (MW)	4,256	Available Supply (MW)	4,256	Available Supply (MW)	4,256	Available Supply (MW)	4,256
12262		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
12363	***Offshore / Otay Full / L3010 80%***	***15.1.1.1***		***15.1.1.2***		***15.1.1.3***		***15.1.1.4***		***15.1.1.5***		***15.1.1.6***	
12364		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
12365		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
12366		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
12466	***Offshore / Otay Full / L3010 Out***	***15.2.1.1***		***15.2.1.2***		***15.2.1.3***		***15.2.1.4***		***15.2.1.5***		***15.2.1.6***	
12467		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
12468		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
12469		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
12569	***Offshore / Otay Medium / L3010 80%***	***15.1.2.1***		***15.1.2.2***		***15.1.2.3***		***15.1.2.4***		***15.1.2.5***		***15.1.2.6***	
12570		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
12571		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
12572		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
12672	***Offshore / Otay Medium / L3010 Out***	***15.2.2.1***		***15.2.2.2***		***15.2.2.3***		***15.2.2.4***		***15.2.2.5***		***15.2.2.6***	
12673		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
12674		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
12675		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
12775	***Offshore / Otay Low / L3010 80%***	***15.1.3.1***		***15.1.3.2***		***15.1.3.3***		***15.1.3.4***		***15.1.3.5***		***15.1.3.6***	
12776		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
12777		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
12778		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
12878	***Offshore / Otay Low / L3010 Out***	***15.2.3.1***		***15.2.3.2***		***15.2.3.3***		***15.2.3.4***		***15.2.3.5***		***15.2.3.6***	
12879		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
12880		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
12881		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
12981	***Offshore / Otay Out / L3010 80%***	***15.1.4.1***		***15.1.4.2***		***15.1.4.3***		***15.1.4.4***		***15.1.4.5***		***15.1.4.6***	
12982		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
12983		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
12984		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
13084	***Offshore / Otay Out / L3010 Out***	***15.2.4.1***		***15.2.4.2***		***15.2.4.3***		***15.2.4.4***		***15.2.4.5***		***15.2.4.6***	
13085		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087

WORK PAPER TABLE - SCENARIO ANALYSIS ELECTRIC DEMAND AND OUTPUTS (SA 1.3)
EXAMPLE ELECTRIC DEMAND DAY DURING SEASONAL VARIATIONS WITH ELECTRIC SUPPLY FOR THE ALTERNATIVES AND RELATED CURTAILMENT
APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.		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	
1													
13086		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
13187	*Blythe to Santee 1 / Otay Full / L3010 80%*	*16.1.1.1*		*16.1.1.2*		*16.1.1.3*		*16.1.1.4*		*16.1.1.5*		*16.1.1.6*	
13188		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
13189		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
13190		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
13290	*Blythe to Santee 1 / Otay Full / L3010 Out*	*16.2.1.1*		*16.2.1.2*		*16.2.1.3*		*16.2.1.4*		*16.2.1.5*		*16.2.1.6*	
13291		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
13292		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
13293		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
13393	*Blythe to Santee 1 / Otay Medium / L3010 80%*	*16.1.2.1*		*16.1.2.2*		*16.1.2.3*		*16.1.2.4*		*16.1.2.5*		*16.1.2.6*	
13394		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
13395		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
13396		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
13496	*Blythe to Santee 1 / Otay Medium / L3010 Out*	*16.2.2.1*		*16.2.2.2*		*16.2.2.3*		*16.2.2.4*		*16.2.2.5*		*16.2.2.6*	
13497		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
13498		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
13499		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
13599	*Blythe to Santee 1 / Otay Low / L3010 80%*	*16.1.3.1*		*16.1.3.2*		*16.1.3.3*		*16.1.3.4*		*16.1.3.5*		*16.1.3.6*	
13600		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
13601		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
13602		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
13702	*Blythe to Santee 1 / Otay Low / L3010 Out*	*16.2.3.1*		*16.2.3.2*		*16.2.3.3*		*16.2.3.4*		*16.2.3.5*		*16.2.3.6*	
13703		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
13704		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
13705		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
13805	*Blythe to Santee 1 / Otay Out / L3010 80%*	*16.1.4.1*		*16.1.4.2*		*16.1.4.3*		*16.1.4.4*		*16.1.4.5*		*16.1.4.6*	
13806		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
13807		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
13808		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
13908	*Blythe to Santee 1 / Otay Out / L3010 Out*	*16.2.4.1*		*16.2.4.2*		*16.2.4.3*		*16.2.4.4*		*16.2.4.5*		*16.2.4.6*	
13909		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
13910		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
14011	*Blythe to Santee 2 / Otay Full / L3010 80%*	*17.1.1.1*		*17.1.1.2*		*17.1.1.3*		*17.1.1.4*		*17.1.1.5*		*17.1.1.6*	
14012		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
14013		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
14014		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
14114	*Blythe to Santee 2 / Otay Full / L3010 Out*	*17.2.1.1*		*17.2.1.2*		*17.2.1.3*		*17.2.1.4*		*17.2.1.5*		*17.2.1.6*	
14115		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
14116		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
14117		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
14217	*Blythe to Santee 2 / Otay Medium / L3010 80%*	*17.1.2.1*		*17.1.2.2*		*17.1.2.3*		*17.1.2.4*		*17.1.2.5*		*17.1.2.6*	

WORK PAPER TABLE - SCENARIO ANALYSIS ELECTRIC DEMAND AND OUTPUTS (SA 1.3)

EXAMPLE ELECTRIC DEMAND DAY DURING SEASONAL VARIATIONS WITH ELECTRIC SUPPLY FOR THE ALTERNATIVES AND RELATED CURTAILMENT

APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.		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	
1													
14218		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
14219		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
14220		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
14320	***Blythe to Santee 2 / Otay Medium / L3010 Out***	***17.2.2.1***		***17.2.2.2***		***17.2.2.3***		***17.2.2.4***		***17.2.2.5***		***17.2.2.6***	
14321		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
14322		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
14323		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
14423	***Blythe to Santee 2 / Otay Low / L3010 80%***	***17.1.3.1***		***17.1.3.2***		***17.1.3.3***		***17.1.3.4***		***17.1.3.5***		***17.1.3.6***	
14424		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
14425		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
14426		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
14526	***Blythe to Santee 2 / Otay Low / L3010 Out***	***17.2.3.1***		***17.2.3.2***		***17.2.3.3***		***17.2.3.4***		***17.2.3.5***		***17.2.3.6***	
14527		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
14528		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
14529		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
14629	***Blythe to Santee 2 / Otay Out / L3010 80%***	***17.1.4.1***		***17.1.4.2***		***17.1.4.3***		***17.1.4.4***		***17.1.4.5***		***17.1.4.6***	
14630		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
14631		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
14632		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
14732	***Blythe to Santee 2 / Otay Out / L3010 Out***	***17.2.4.1***		***17.2.4.2***		***17.2.4.3***		***17.2.4.4***		***17.2.4.5***		***17.2.4.6***	
14733		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
14734		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
14835	***Cactus City to SD / Otay Full / L3010 80%***	***18.1.1.1***		***18.1.1.2***		***18.1.1.3***		***18.1.1.4***		***18.1.1.5***		***18.1.1.6***	
14836		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
14837		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
14838		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
14938	***Cactus City to SD / Otay Full / L3010 Out***	***18.2.1.1***		***18.2.1.2***		***18.2.1.3***		***18.2.1.4***		***18.2.1.5***		***18.2.1.6***	
14939		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
14940		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
14941		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
15041	***Cactus City to SD / Otay Medium / L3010 80%***	***18.1.2.1***		***18.1.2.2***		***18.1.2.3***		***18.1.2.4***		***18.1.2.5***		***18.1.2.6***	
15042		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
15043		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
15044		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
15144	***Cactus City to SD / Otay Medium / L3010 Out***	***18.2.2.1***		***18.2.2.2***		***18.2.2.3***		***18.2.2.4***		***18.2.2.5***		***18.2.2.6***	
15145		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
15146		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
15147		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
15247	***Cactus City to SD / Otay Low / L3010 80%***	***18.1.3.1***		***18.1.3.2***		***18.1.3.3***		***18.1.3.4***		***18.1.3.5***		***18.1.3.6***	
15248		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
15249		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
15250		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00

WORK PAPER TABLE - SCENARIO ANALYSIS ELECTRIC DEMAND AND OUTPUTS (SA 1.3)
EXAMPLE ELECTRIC DEMAND DAY DURING SEASONAL VARIATIONS WITH ELECTRIC SUPPLY FOR THE ALTERNATIVES AND RELATED CURTAILMENT
APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.		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	
1													
15350	*Cactus City to SD / Otay Low / L3010 Out*	*18.2.3.1*		*18.2.3.2*		*18.2.3.3*		*18.2.3.4*		*18.2.3.5*		*18.2.3.6*	
15351		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
15352		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
15353		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
15453	*Cactus City to SD / Otay Out / L3010 80%*	*18.1.4.1*		*18.1.4.2*		*18.1.4.3*		*18.1.4.4*		*18.1.4.5*		*18.1.4.6*	
15454		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
15455		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
15456		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
15556	*Cactus City to SD / Otay Out / L3010 Out*	*18.2.4.1*		*18.2.4.2*		*18.2.4.3*		*18.2.4.4*		*18.2.4.5*		*18.2.4.6*	
15557		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
15558		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
15659	*Second Pipeline Along L3010 / Otay Full / L3010 80%*	*19.1.1.1*		*19.1.1.2*		*19.1.1.3*		*19.1.1.4*		*19.1.1.5*		*19.1.1.6*	
15660		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
15661		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
15662		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
15762	*Second Pipeline Along L3010 / Otay Full / L3010 Out*	*19.2.1.1*		*19.2.1.2*		*19.2.1.3*		*19.2.1.4*		*19.2.1.5*		*19.2.1.6*	
15763		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
15764		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
15765		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
15865	*Second Pipeline Along L3010 / Otay Medium / L3010 80%*	*19.1.2.1*		*19.1.2.2*		*19.1.2.3*		*19.1.2.4*		*19.1.2.5*		*19.1.2.6*	
15866		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
15867		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
15868		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
15968	*Second Pipeline Along L3010 / Otay Medium / L3010 Out*	*19.2.2.1*		*19.2.2.2*		*19.2.2.3*		*19.2.2.4*		*19.2.2.5*		*19.2.2.6*	
15969		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
15970		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
15971		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
16071	*Second Pipeline Along L3010 / Otay Low / L3010 80%*	*19.1.3.1*		*19.1.3.2*		*19.1.3.3*		*19.1.3.4*		*19.1.3.5*		*19.1.3.6*	
16072		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
16073		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
16074		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
16174	*Second Pipeline Along L3010 / Otay Low / L3010 Out*	*19.2.3.1*		*19.2.3.2*		*19.2.3.3*		*19.2.3.4*		*19.2.3.5*		*19.2.3.6*	
16175		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
16176		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
16177		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
16277	*Second Pipeline Along L3010 / Otay Out / L3010 80%*	*19.1.4.1*		*19.1.4.2*		*19.1.4.3*		*19.1.4.4*		*19.1.4.5*		*19.1.4.6*	
16278		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087
16279		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0
16280		Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00	Total # Hours w/ Outages	0.00
16380	*Second Pipeline Along L3010 / Otay Out / L3010 Out*	*19.2.4.1*		*19.2.4.2*		*19.2.4.3*		*19.2.4.4*		*19.2.4.5*		*19.2.4.6*	
16381		Available Supply (MW)	3,132	Available Supply (MW)	4,256	Available Supply (MW)	3,497	Available Supply (MW)	3,497	Available Supply (MW)	3,806	Available Supply (MW)	4,087

WORK PAPER TABLE - SCENARIO ANALYSIS ELECTRIC DEMAND AND OUTPUTS (SA 1.3)

EXAMPLE ELECTRIC DEMAND DAY DURING SEASONAL VARIATIONS WITH ELECTRIC SUPPLY FOR THE ALTERNATIVES AND RELATED CURTAILMENT

APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.		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	
1													
16382		Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0	Curtailment (MWh)	0

WORK PAPER TABLE - SCENARIO ANALYSIS SUMMARY OF OUTPUTS (SA 1.5)

SUMMARY OF SCENARIO ANALYSIS OUTCOMES FOR % CURTAILMENT TO CUSTOMERS AND CUSTOMERS OR METERS AFFECTED

APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.						Curtailment %			Customers Affected		
2	Project Alternate	L3010 Status	Scenarios Analyzed	Customer Class	% of Scenarios in Curtailment	Min	Max	Avg	Min	Max	Avg
3	A	B	C	D	E	F	G	H	I	J	K
4	L1600 (Pre/Post Hydrotesting)	Complete Outage	24	Gas Non-Core Non-EG	88%	68%	100%	86.0%			
5				Gas Electric Generation (EG)	79%	7%	100%	51.6%			
6				Gas Core	25%	4%	57%	6.5%	33,352	496,479	56,422
7				Electric	63%	0%	14%	4.3%	2,665	200,930	59,984
8		Derated to 80%	24	Gas Non-Core Non-EG	8%	11%	76%	3.6%			
9				Gas Electric Generation (EG)	0%	0%	0%	0.0%			
10				Gas Core	0%	0%	0%	0.0%	0	0	0
11				Electric	0%	0%	0%	0.0%	0	0	0
12	L3602 (Proposed Project)	Complete Outage	24	Gas Non-Core Non-EG	0%	0%	0%	0.0%			
13				Gas Electric Generation (EG)	0%	0%	0%	0.0%			
14				Gas Core	0%	0%	0%	0.0%	0	0	0
15				Electric	0%	0%	0%	0.0%	0	0	0
16		Derated to 80%	24	Gas Non-Core Non-EG	0%	0%	0%	0.0%			
17				Gas Electric Generation (EG)	0%	0%	0%	0.0%			
18				Gas Core	0%	0%	0%	0.0%	0	0	0
19				Electric	0%	0%	0%	0.0%	0	0	0
20	L1600 (During Hydrotesting)	Complete Outage	24	Gas Non-Core Non-EG	96%	100%	100%	95.8%			
21				Gas Electric Generation (EG)	96%	28%	100%	85.8%			
22				Gas Core	71%	7%	100%	41.6%	60,119	868,838	361,471
23				Electric	83%	2%	19%	8.1%	21,550	262,272	112,989
24		Derated to 80%	24	Gas Non-Core Non-EG	42%	12%	100%	30.6%			
25				Gas Electric Generation (EG)	21%	5%	82%	7.4%			
26				Gas Core	0%	0%	0%	0.0%	0	0	0
27				Electric	8%	0%	8%	0.3%	2,440	112,734	4,799
28	Alternate Diameter Pipeline 10"	Complete Outage	24	Gas Non-Core Non-EG	96%	92%	100%	95.5%			
29				Gas Electric Generation (EG)	92%	5%	100%	77.5%			
30				Gas Core	50%	10%	86%	23.1%	84,319	744,718	200,920
31				Electric	75%	1%	19%	7.3%	19,934	262,272	101,932
32		Derated to 80%	24	Gas Non-Core Non-EG	25%	16%	100%	17.6%			
33				Gas Electric Generation (EG)	13%	7%	52%	3.6%			
34				Gas Core	0%	0%	0%	0.0%	0	0	0
35				Electric	4%	6%	6%	0.3%	90,313	90,313	3,763
36	Alternate Diameter Pipeline 12"	Complete Outage	24	Gas Non-Core Non-EG	96%	66%	100%	93.9%			
37				Gas Electric Generation (EG)	88%	21%	100%	73.9%			
38				Gas Core	42%	3%	80%	17.6%	28,265	695,070	152,860
39				Electric	67%	3%	19%	6.8%	35,092	262,272	94,844
40		Derated to 80%	24	Gas Non-Core Non-EG	21%	20%	100%	14.7%			
41				Gas Electric Generation (EG)	8%	15%	39%	2.3%			
42				Gas Core	0%	0%	0%	0.0%	0	0	0
43				Electric	4%	4%	4%	0.2%	58,403	58,403	2,433
44	Alternate Diameter Pipeline 16"	Complete Outage	24	Gas Non-Core Non-EG	88%	55%	100%	84.8%			
45				Gas Electric Generation (EG)	79%	1%	100%	48.7%			
46				Gas Core	25%	1%	54%	5.5%	5,325	471,655	47,877
47				Electric	54%	1%	13%	3.9%	19,607	183,210	55,144
48		Derated to 80%	24	Gas Non-Core Non-EG	4%	60%	60%	2.5%			
49				Gas Electric Generation (EG)	0%	0%	0%	0.0%			
50				Gas Core	0%	0%	0%	0.0%	0	0	0
51				Electric	0%	0%	0%	0.0%	0	0	0
52	Alternate Diameter Pipeline 20"	Complete Outage	24	Gas Non-Core Non-EG	71%	23%	100%	61.9%			
53				Gas Electric Generation (EG)	54%	4%	100%	26.4%			
54				Gas Core	8%	19%	29%	2.0%	168,162	248,239	17,350
55				Electric	29%	1%	9%	1.4%	9,493	130,224	19,928
56		Derated to 80%	24	Gas Non-Core Non-EG	0%	0%	0%	0.0%			
57				Gas Electric Generation (EG)	0%	0%	0%	0.0%			
58				Gas Core	0%	0%	0%	0.0%	0	0	0
59				Electric	0%	0%	0%	0.0%	0	0	0
60	Alternate Diameter Pipeline 24"	Complete Outage	24	Gas Non-Core Non-EG	33%	20%	100%	25.4%			
61				Gas Electric Generation (EG)	13%	19%	70%	5.6%			
62				Gas Core	0%	0%	0%	0.0%	0	0	0
63				Electric	4%	7%	7%	0.3%	95,660	95,660	3,986
64		Derated to 80%	24	Gas Non-Core Non-EG	0%	0%	0%	0.0%			
65				Gas Electric Generation (EG)	0%	0%	0%	0.0%			
66				Gas Core	0%	0%	0%	0.0%	0	0	0
67				Electric	0%	0%	0%	0.0%	0	0	0
68	Alternate Diameter Pipeline 30"	Complete Outage	24	Gas Non-Core Non-EG	0%	0%	0%	0.0%			
69				Gas Electric Generation (EG)	0%	0%	0%	0.0%			
70				Gas Core	0%	0%	0%	0.0%	0	0	0
71				Electric	0%	0%	0%	0.0%	0	0	0
72		Derated to 80%	24	Gas Non-Core Non-EG	0%	0%	0%	0.0%			
73				Gas Electric Generation (EG)	0%	0%	0%	0.0%			
74				Gas Core	0%	0%	0%	0.0%	0	0	0
75				Electric	0%	0%	0%	0.0%	0	0	0
76	Alternate Diameter Pipeline 42"	Complete Outage	24	Gas Non-Core Non-EG	0%	0%	0%	0.0%			
77				Gas Electric Generation (EG)	0%	0%	0%	0.0%			
78				Gas Core	0%	0%	0%	0.0%	0	0	0
79				Electric	0%	0%	0%	0.0%	0	0	0
80		Derated to 80%	24	Gas Non-Core Non-EG	0%	0%	0%	0.0%			
81				Gas Electric Generation (EG)	0%	0%	0%	0.0%			
82				Gas Core	0%	0%	0%	0.0%	0	0	0

WORK PAPER TABLE - SCENARIO ANALYSIS SUMMARY OF OUTPUTS (SA 1.5)

SUMMARY OF SCENARIO ANALYSIS OUTCOMES FOR % CURTAILMENT TO CUSTOMERS AND CUSTOMERS OR METERS AFFECTED

APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.						Curtailment %			Customers Affected		
2	Project Alternate	L3010 Status	Scenarios Analyzed	Customer Class	% of Scenarios in Curtailment	Min	Max	Avg	Min	Max	Avg
3	A	B	C	D	E	F	G	H	I	J	K
83				Electric	0%	0%	0%	0.0%	0	0	0
84	L1600 In-Kind Replacement	Complete Outage	24	Gas Non-Core Non-EG	88%	55%	100%	84.8%			
85				Gas Electric Generation (EG)	79%	1%	100%	48.7%			
86				Gas Core	25%	1%	54%	5.5%	5,325	471,655	47,877
87				Electric	54%	1%	13%	3.9%	19,607	183,210	55,144
88		Derated to 80%	24	Gas Non-Core Non-EG	4%	60%	60%	2.5%			
89				Gas Electric Generation (EG)	0%	0%	0%	0.0%			
90				Gas Core	0%	0%	0%	0.0%	0	0	0
91				Electric	0%	0%	0%	0.0%	0	0	0
92	Otay Mesa Alternate	Complete Outage	24	Gas Non-Core Non-EG	96%	100%	100%	95.8%			
93				Gas Electric Generation (EG)	96%	28%	100%	85.8%			
94				Gas Core	71%	7%	100%	41.6%	60,119	868,838	361,471
95				Electric	83%	2%	19%	8.1%	21,550	262,272	112,989
96		Derated to 80%	24	Gas Non-Core Non-EG	42%	12%	100%	30.6%			
97				Gas Electric Generation (EG)	21%	5%	82%	7.4%			
98				Gas Core	0%	0%	0%	0.0%	0	0	0
99				Electric	8%	0%	8%	0.3%	2,440	112,734	4,799
100	LNG Storage Alternate	Complete Outage	24	Gas Non-Core Non-EG	96%	100%	100%	95.8%			
101				Gas Electric Generation (EG)	96%	28%	100%	85.8%			
102				Gas Core	71%	7%	100%	41.6%	60,119	868,838	361,471
103				Electric	0%	0%	0%	0.0%	0	0	0
104		Derated to 80%	24	Gas Non-Core Non-EG	42%	12%	100%	30.6%			
105				Gas Electric Generation (EG)	21%	5%	82%	7.4%			
106				Gas Core	0%	0%	0%	0.0%	0	0	0
107				Electric	0%	0%	0%	0.0%	0	0	0
108	Alt Energy Alternate (Grid-Scale)	Complete Outage	24	Gas Non-Core Non-EG	96%	100%	100%	95.8%			
109				Gas Electric Generation (EG)	96%	28%	100%	85.8%			
110				Gas Core	71%	7%	100%	41.6%	60,119	868,838	361,471
111				Electric	0%	0%	0%	0.0%	0	0	0
112		Derated to 80%	24	Gas Non-Core Non-EG	42%	12%	100%	30.6%			
113				Gas Electric Generation (EG)	21%	5%	82%	7.4%			
114				Gas Core	0%	0%	0%	0.0%	0	0	0
115				Electric	0%	0%	0%	0.0%	0	0	0
116	Alt Energy Alternate (Smaller-Scale)	Complete Outage	24	Gas Non-Core Non-EG	96%	100%	100%	95.8%			
117				Gas Electric Generation (EG)	96%	28%	100%	85.8%			
118				Gas Core	71%	7%	100%	41.6%	60,119	868,838	361,471
119				Electric	0%	0%	0%	0.0%	0	0	0
120		Derated to 80%	24	Gas Non-Core Non-EG	42%	12%	100%	30.6%			
121				Gas Electric Generation (EG)	21%	5%	82%	7.4%			
122				Gas Core	0%	0%	0%	0.0%	0	0	0
123				Electric	0%	0%	0%	0.0%	0	0	0
124	Offshore Route	Complete Outage	24	Gas Non-Core Non-EG	0%	0%	0%	0.0%			
125				Gas Electric Generation (EG)	0%	0%	0%	0.0%			
126				Gas Core	0%	0%	0%	0.0%	0	0	0
127				Electric	0%	0%	0%	0.0%	0	0	0
128		Derated to 80%	24	Gas Non-Core Non-EG	0%	0%	0%	0.0%			
129				Gas Electric Generation (EG)	0%	0%	0%	0.0%			
130				Gas Core	0%	0%	0%	0.0%	0	0	0
131				Electric	0%	0%	0%	0.0%	0	0	0
132	Blythe to Santee Alternate 1	Complete Outage	24	Gas Non-Core Non-EG	0%	0%	0%	0.0%			
133				Gas Electric Generation (EG)	0%	0%	0%	0.0%			
134				Gas Core	0%	0%	0%	0.0%	0	0	0
135				Electric	0%	0%	0%	0.0%	0	0	0
136		Derated to 80%	24	Gas Non-Core Non-EG	0%	0%	0%	0.0%			
137				Gas Electric Generation (EG)	0%	0%	0%	0.0%			
138				Gas Core	0%	0%	0%	0.0%	0	0	0
139				Electric	0%	0%	0%	0.0%	0	0	0
140	Blythe to Santee Alternate 2	Complete Outage	24	Gas Non-Core Non-EG	0%	0%	0%	0.0%			
141				Gas Electric Generation (EG)	0%	0%	0%	0.0%			
142				Gas Core	0%	0%	0%	0.0%	0	0	0
143				Electric	0%	0%	0%	0.0%	0	0	0
144		Derated to 80%	24	Gas Non-Core Non-EG	0%	0%	0%	0.0%			
145				Gas Electric Generation (EG)	0%	0%	0%	0.0%			
146				Gas Core	0%	0%	0%	0.0%	0	0	0
147				Electric	0%	0%	0%	0.0%	0	0	0
148	Cactus City to San Diego Alternate	Complete Outage	24	Gas Non-Core Non-EG	0%	0%	0%	0.0%			
149				Gas Electric Generation (EG)	0%	0%	0%	0.0%			
150				Gas Core	0%	0%	0%	0.0%	0	0	0
151				Electric	0%	0%	0%	0.0%	0	0	0
152		Derated to 80%	24	Gas Non-Core Non-EG	0%	0%	0%	0.0%			
153				Gas Electric Generation (EG)	0%	0%	0%	0.0%			
154				Gas Core	0%	0%	0%	0.0%	0	0	0
155				Electric	0%	0%	0%	0.0%	0	0	0
156	Second Pipeline Along L3010 Alternate	Complete Outage	24	Gas Non-Core Non-EG	0%	0%	0%	0.0%			
157				Gas Electric Generation (EG)	0%	0%	0%	0.0%			
158				Gas Core	0%	0%	0%	0.0%	0	0	0
159				Electric	0%	0%	0%	0.0%	0	0	0
160		Derated to	24	Gas Non-Core Non-EG	0%	0%	0%	0.0%			
161				Gas Electric Generation (EG)	0%	0%	0%	0.0%			

WORK PAPER TABLE - SCENARIO ANALYSIS SUMMARY OF OUTPUTS (SA 1.5)

SUMMARY OF SCENARIO ANALYSIS OUTCOMES FOR % CURTAILMENT TO CUSTOMERS AND CUSTOMERS OR METERS AFFECTED

APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.						Curtailment %			Customers Affected		
1											
2	Project Alternate	L3010 Status	Scenarios Analyzed	Customer Class	% of Scenarios in Curtailment	Min	Max	Avg	Min	Max	Avg
3	A	B	C	D	E	F	G	H	I	J	K
162		80%	24	Gas Core	0%	0%	0%	0.0%	0	0	0
163				Electric	0%	0%	0%	0.0%	0	0	0

WORK PAPER TABLE - SCENARIO ANALYSIS HEAT MAP OF CURTAILMENT LEVELS (SA 1.4)
EXAMPLE ELECTRIC DEMAND FOR DAY DURING SEASONAL VARIATIONS WITH ELECTRIC SUPPLY FOR THE ALTERNATIVES
APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

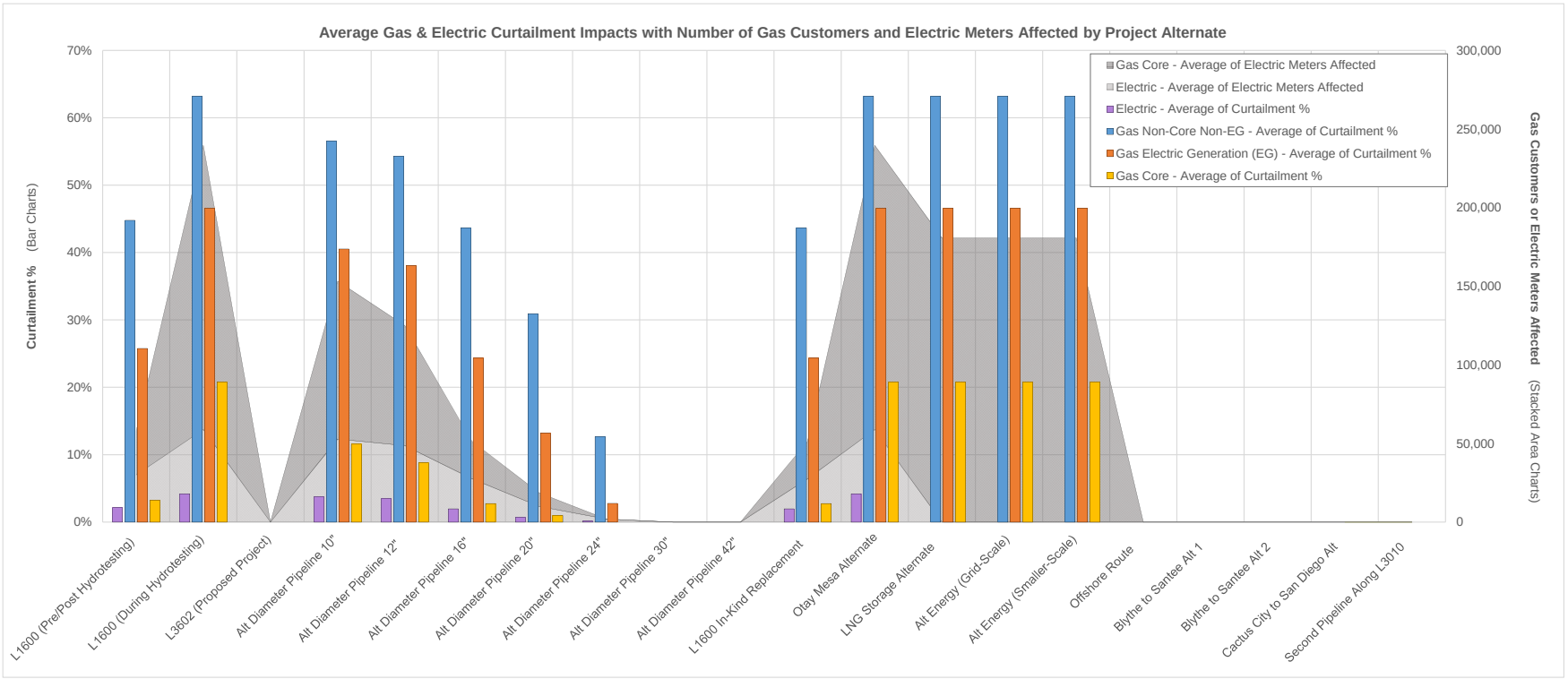
Line No.							
1	**Dynamic dropdown list for heatmap of curtailment:**						
2	Project Alternate	Line 1600 (During Hydrotesting)				Curtailment Avg:	0%
3	Line 3010 Status	Line 3010 at 80% Supply		% of Scenarios in Curtailment:	0%	Curtailment Min:	0%
4	Output Type	Non-Core [%]		Count of Scenarios in Curtailment:	0	Curtailment Max:	0%
5							
6	Curtailment Type: Non-Core [%]	1. Example Summer Low-EG Day	2. Example Summer High-EG Day	3. Example Winter Day	4. Winter 1-in-10 Year Day	5. Example Spring Day	6. Example Fall Day
7	Otay Mesa Full Supply	0.00	0.00	0.00	0.00	0.00	0.00
8	Otay Mesa Medium Supply	0.00	0.00	0.00	0.00	0.00	0.00
9	Otay Mesa Low Supply	0.00	0.00	0.00	0.00	0.00	0.00
10	Otay Mesa No Supply	0.00	0.00	0.00	0.00	0.00	0.00
11							
12	Color Scale:						
13	Lowest value		Highest value				
14							
15							
16							
17	**WORK PAPER TABLE - SCENARIO ANALYSIS HEAT MAP OF CURTAILMENT LEVELS (SA 1.XX)**						
18	EXAMPLE ELECTRIC DEMAND FOR DAY DURING SEASONAL VARIATIONS WITH ELECTRIC SUPPLY FOR THE ALTERNATIVES						
19	AMENDED APPLICATION, VOLUME III - COST-EFFECTIVENESS ANALYSIS						
20							
21	Otay Mesa Supply	1. Example Summer Low-EG Day	2. Example Summer High-EG Day	3. Example Winter Day	4. Winter 1-in-10 Year Day	5. Example Spring Day	6. Example Fall Day
22							
23	***Line 1600 (Pre/Post Hydrotesting)***						
54	***Line 3602 (Proposed Project)***						
85	***Line 1600 (During Hydrotesting)***						
116	***Alternate Diameter Pipeline 10"***						
147	***Alternate Diameter Pipeline 12"***						
178	***Alternate Diameter Pipeline 16"***						
209	***Alternate Diameter Pipeline 20"***						
240	***Alternate Diameter Pipeline 24"***						
271	***Alternate Diameter Pipeline 30"***						
302	***Alternate Diameter Pipeline 42"***						
333	***L1600 In-Kind Replacement***						
364	***Otay Mesa Alternate***						
395	***LNG Storage Alternate***						
426	***Alt Energy Alternate (Grid-Scale)***						
457	***Alt Energy Alternate (Smaller-Scale)***						
488	***Offshore Route***						
519	***Blythe to Santee Alternate 1***						
550	***Blythe to Santee Alternate 2***						
581	***Cactus City to San Diego Alternate***						
612	***Second Pipeline Along L3010 Alternate***						
643	***Electric Curtailment Heat Maps***						

WORK PAPER TABLE - SCENARIO ANALYSIS GRAPH (SA 1.6)

GRAPH OF CURTAILMENT IMPACTS FOR EACH ALTERNATE WITH GAS CUSTOMERS AND ELECTRIC METERS AFFECTED

APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.



WORK PAPER TABLE - SCENARIO ANALYSIS SCORING (SA 1.7)

TABLE OF AVERAGE GAS CURTAILMENT % FOR GAS CUSTOMERS & ELECTRIC OUTAGES FOR ELECTRIC CUSTOMERS RANKED BY AVERAGE CURTAILMENT %

APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.		Avg Curtailment %				Normalized Average Curtailment				Benefits Evaluation Model Scoring of Avg Curtailment %			
1													
2	A	B	C	D	E	F	G	H	I	J	K	L	M
3	Project Alternate	Gas Non-Core Non-EG	Gas Electric Generation (EG)	Gas Core	Electric	Gas Non-Core Non-EG	Gas Electric Generation (EG)	Gas Core	Electric	Gas Non-Core Non-EG	Gas Electric Generation (EG)	Gas Core	Electric
4	L1600 (Pre/Post Hydrotesting)	44.8%	25.8%	3.2%	2.1%	71%	55%	16%	51%	2	3	5	3
5	L1600 (During Hydrotesting)	63.2%	46.6%	20.8%	4.2%	100%	100%	100%	100%	1	1	1	1
6	L3602 (Proposed Project)	0.0%	0.0%	0.0%	0.0%	0%	0%	0%	0%	5	5	5	5
7	Alt Diameter Pipeline 10"	56.6%	40.5%	11.6%	3.8%	89%	87%	56%	90%	1	1	3	1
8	Alt Diameter Pipeline 12"	54.3%	38.1%	8.8%	3.5%	86%	82%	42%	83%	1	1	3	1
9	Alt Diameter Pipeline 16"	43.7%	24.3%	2.8%	2.0%	69%	52%	13%	47%	2	3	5	3
10	Alt Diameter Pipeline 20"	30.9%	13.2%	1.0%	0.7%	49%	28%	5%	17%	3	4	5	5
11	Alt Diameter Pipeline 24"	12.7%	2.8%	0.0%	0.1%	20%	6%	0%	3%	4	5	5	5
12	Alt Diameter Pipeline 30"	0.0%	0.0%	0.0%	0.0%	0%	0%	0%	0%	5	5	5	5
13	Alt Diameter Pipeline 42"	0.0%	0.0%	0.0%	0.0%	0%	0%	0%	0%	5	5	5	5
14	L1600 In-Kind Replacement	43.7%	24.3%	2.8%	2.0%	69%	52%	13%	47%	2	3	5	3
15	Otay Mesa Alternate	63.2%	46.6%	20.8%	4.2%	100%	100%	100%	100%	1	1	1	1
16	LNG Storage Alternate	63.2%	46.6%	20.8%	0.0%	100%	100%	100%	0%	1	1	1	5
17	Alt Energy (Grid-Scale)	63.2%	46.6%	20.8%	0.0%	100%	100%	100%	0%	1	1	1	5
18	Alt Energy (Smaller-Scale)	63.2%	46.6%	20.8%	0.0%	100%	100%	100%	0%	1	1	1	5
19	Offshore Route	0.0%	0.0%	0.0%	0.0%	0%	0%	0%	0%	5	5	5	5
20	Blythe to Santee Alt 1	0.0%	0.0%	0.0%	0.0%	0%	0%	0%	0%	5	5	5	5
21	Blythe to Santee Alt 2	0.0%	0.0%	0.0%	0.0%	0%	0%	0%	0%	5	5	5	5
22	Cactus City to San Diego Alt	0.0%	0.0%	0.0%	0.0%	0%	0%	0%	0%	5	5	5	5
23	Second Pipeline Along L3010	0.0%	0.0%	0.0%	0.0%	0%	0%	0%	0%	5	5	5	5
24													
25					Max	63.2%	46.6%	20.8%	4.2%				
26													

Average Curtailment Percentage

Returns the average curtailment to each gas customer class and electric meters by project alternate, under all 48 scenarios evaluated for that alternate.

Normalization

The scores in this table have been normalized against the maximum curtailment percentage under each customer class.

For example, (Column F - Line 4) = (Column B - Line 4) / (Column F - Line 25)

Benefits Evaluation Model Scoring

This table scored the Alternatives 1 through 5 using data in the 'Normalized Average Curtailment' table.

Scores are ranked as 1 being worst (curtailment >= 80%) and 5 being best (curtailment <= 20%)

WORK PAPER TABLE - SCENARIO ANALYSIS GRAPH DATA SET (SA 1.8)

DATA SET OF CURTAILMENT IMPACTS WITH GAS CUSTOMERS AND ELECTRIC METERS AFFECTED FOR GRAPH INPUT

APPLICATION 15-09-013 VOLUME III – COST-EFFECTIVENESS ANALYSIS (CORRECTED FEBRUARY 2017)

Line No.											
1		Column Labels									
2		Electric		Gas Non-Core Non-EG		Gas Electric Generation (EG)		Gas Core		Total Average of Curtailment %	Total Average of Electric Meters Affected
3	Row Labels	Average of Curtailment %	Average of Electric Meters Affected	Average of Curtailment %	Average of Electric Meters Affected	Average of Curtailment %	Average of Electric Meters Affected	Average of Curtailment %	Average of Electric Meters Affected		
4	L1600 (Pre/Post Hydrotesting)	0.021422862	29992.00627	0.447922939	0	0.257788988	0	0.03246967	28210.88279	0.189901115	14550.72226
5	L1600 (During Hydrotesting)	0.042067286	58894.2007	0.63212371	0	0.465656104	0	0.208019672	180735.3956	0.336966693	59907.39906
6	L3602 (Proposed Project)	0	0	0	0	0	0	0	0	0	0
7	Alt Diameter Pipeline 10"	0.037748364	52847.71015	0.565558889	0	0.405443448	0	0.115625752	100460.0471	0.281094113	38326.93932
8	Alt Diameter Pipeline 12"	0.03474192	48638.68849	0.543171389	0	0.380634018	0	0.087968353	76430.24831	0.26162892	31267.2342
9	Alt Diameter Pipeline 16"	0.019694133	27571.78659	0.436655018	0	0.243303859	0	0.02755221	23938.40683	0.181801305	12877.54835
10	Alt Diameter Pipeline 20"	0.007117018	9963.824973	0.309465936	0	0.13191479	0	0.009984639	8675.033794	0.114620596	4659.714692
11	Alt Diameter Pipeline 24"	0.001423519	1992.926133	0.126914633	0	0.027847924	0	0	0	0.039046519	498.2315333
12	Alt Diameter Pipeline 30"	0	0	0	0	0	0	0	0	0	0
13	Alt Diameter Pipeline 42"	0	0	0	0	0	0	0	0	0	0
14	L1600 In-Kind Replacement	0.019694133	27571.78659	0.436655018	0	0.243303859	0	0.02755221	23938.40683	0.181801305	12877.54835
15	Otay Mesa Alternate	0.042067286	58894.2007	0.63212371	0	0.465656104	0	0.208019672	180735.3956	0.336966693	59907.39906
16	LNG Storage Alternate	0	0	0.63212371	0	0.465656104	0	0.208019672	180735.3956	0.326449871	45183.84889
17	Alt Energy (Grid-Scale)	0	0	0.63212371	0	0.465656104	0	0.208019672	180735.3956	0.326449871	45183.84889
18	Alt Energy (Smaller-Scale)	0	0	0.63212371	0	0.465656104	0	0.208019672	180735.3956	0.326449871	45183.84889
19	Offshore Route	0	0	0	0	0	0	0	0	0	0
20	Blythe to Santee Alt 1	0	0	0	0	0	0	0	0	0	0
21	Blythe to Santee Alt 2	0	0	0	0	0	0	0	0	0	0
22	Cactus City to San Diego Alt	0	0	0	0	0	0	0	0	0	0
23	Second Pipeline Along L3010	0	0	0	0	0	0	0	0	0	0
24	**Grand Total**	**0.011298826**	**15818.35653**	**0.301348119**	**0**	**0.20092587**	**0**	**0.06706256**	**58266.50017**	**0.145158844**	**18521.21418**