Executive Summary – Contents

Executive Summary

This EIR/EIS does not make a recommendation regarding the approval or denial of the project. It is purely informational in content, and will be used by the CPUC and BLM in considering whether to approve the Proposed Project or any of the alternatives analyzed in this EIR/EIS.

ES.1 Background and Organization

ES.1.1 Background

The Sunrise Powerlink Project (SRPL) is a proposal by San Diego Gas & Electric Company (SDG&E or "the Applicant") to construct a 150-mile transmission line from SDG&E's Imperial Valley Substation near El Centro, Imperial County, to SDG&E's Peñasquitos Substation near Interstate 805, in coastal San Diego (see Figure ES-1).

On November 2, 2005, San Diego Gas & Electric Company (SDG&E) filed with the Bureau of Land Management (BLM) a Right-of-Way (ROW) Grant application. On December 14, 2005, SDG&E submitted to the California Public Utilities Commission (CPUC) an application (A.06-08-010) for a Certificate of Public Convenience and Necessity (CPCN), and subsequently, on August 4, 2006, submitted an amended application accompanied by its Proponent's Environmental Assessment (PEA) for the Sunrise Powerlink (SRPL) Transmission Line Project (Proposed Project or SRPL Project). The Proposed Project primarily consists of new electric transmission lines between the Imperial Valley Substation and the western portion of SDG&E's service area in San Diego and a new substation in central San Diego County, along with other system upgrades and modifications.

~~This~~ In January 2008, a Draft Environmental Impact Report/Environmental Impact Statement (Draft EIR/EIS) was ~~has been prepared~~ issued jointly by two agencies, the CPUC as Lead Agency under the California Environmental Quality Act (CEQA) and the U.S. Department of the Interior, BLM as federal Lead Agency under the National Environmental Policy Act (NEPA). The Draft EIR/EIS provide~~d~~s information about the environmental setting and impacts of the Proposed Project and 27 alternatives, as well as connected actions and future foreseeable projects. A 90-day public comment period on the Draft EIR/EIS ended on April 11, 2008.

As discussed below, this EIR/EIS evaluates a number of projects that are so closely related to the Proposed Project as to be considered part of the project for purposes of CEQA and NEPA analysis. One of these is a Sempra Generation (Sempra) wind project in northern Mexico's La Rumorosa area (with associated transmission and substation improvements in the U.S.). On December 18, 2007, just prior to publication of the Draft EIR/EIS, Sempra submitted an Application for a Presidential Permit (APP) to the U.S. Department of Energy (DOE) for the wind project. Whereas the Draft EIR/EIS had assumed the wind project would generate approximately 250 MW based on an existing Power Purchase Agreement between Sempra and Southern California Edison (SCE), Sempra's application disclosed a much larger project that could generate approximately 1,250 MW. Additionally, an Addendum to the APP filed on March 19, 2008 added construction of a new 230 kV transmission line to the project.

In response to this new information, CPUC and BLM issued a Recirculated Draft EIR/Supplemental Draft EIS in July 2008 to address: (1) new and revised analysis of the La Rumorosa Wind Project in Mexico and associated transmission/substation upgrades in the U.S.; (2) description and analysis of several trans-

mission line route revisions; (3) revision of components of the Environmentally Superior Alternatives for northern and southern transmission line routes. A 45-day public comment period on the Recirculated/ Supplemental Draft ended on August 25, 2008.

Both the Draft EIR/EIS and the Recirculated Draft EIR/Supplemental Draft EIS~~It~~ informeds~~s~~ the public about the project and its impacts, and provideds~~s~~ information to meet the needs of local, State, and federal permitting agencies required to consider the project proposed by SDG&E. The ~~EIR/EIS~~ Final EIR/EIS will be used by the CPUC in conducting the proceeding to determine whether to grant SDG&E's requested CPCN for the project and by the BLM to determine whether to grant SDG&E a ROW Grant on BLM-administered land in its Record of Decision and whether to amend its land use plan.

The Draft EIR/EIS and the Recirculated Draft EIR/Supplemental Draft EIS takes into account and reflects scoping comments, information, and points of concern offered by government officials and agencies, nongovernmental organizations, and members of the public. This input was gathered during an extensive public involvement and outreach process that is detailed in Section ES.4.

The Draft EIR/EIS, Recirculated Draft EIR/Supplemental EIS, and the Final ~~This~~ EIR/EIS presents an evaluation of the environmental impacts that would result from construction and operation of SDG&E's proposed Sunrise Powerlink Project. ~~It~~ They presents recommended mitigation measures that, if adopted, would avoid or minimize many of the significant environmental impacts identified. In accordance with CEQA and NEPA requirements, the~~is~~ Draft and Final EIR/EIS also identifies alternatives to the Proposed Project (including the No Project Alternative). These are alternatives that could avoid or minimize significant environmental impacts associated with the project as proposed by SDG&E, while meeting most, if not all, of the project ~~SDG&E's~~ objectives.

ES.1.2 Contents of the Final EIR/EIS

The Final EIR/EIS consists of the Draft EIR/EIS and the Recirculated Draft EIR/Supplemental Draft EIS, as revised in response to comments received on these documents. Additionally, it consists of all comments and recommendations received on the Draft EIR/EIS and the Recirculated Draft EIR/Supplemental Draft EIS, as well as responses of the Lead Agencies to significant environmental points raised in these comments. Complete lists of all persons, organizations, and public agencies commenting on the Draft EIR/EIS and the Recirculated Draft EIR/Supplemental Draft EIS are presented in Section 1 of the Final EIR/EIS. Section 2 presents comprehensive "General Responses" to issues raised numerous times in comments made by multiple commenters. The comments and responses to comments received on the Draft EIR/EIS are presented in Section 3;the comments and responses to comments received on the Recirculated Draft EIR/Supplemental Draft EIS are presented in Section 4.

Due to the size of the document, the Final EIR/EIS includes both paper and electronic components, divided as follows:

Printed Components

- Notice of Availability
- Executive Summary

- Comments on the Draft EIR/EIS and the Recirculated Draft EIR/Supplemental Draft EIS[1]
- Responses to Comments
- All maps and graphics that have been changed since their initial publication in the Draft or Recirculated/Supplemental Draft EIR/EIS.

Components Included on DVD

- The DVD includes all components that are printed (see list above), as well as the following items.
- The complete text of the Draft EIR/EIS and the Recirculated Draft EIR/Supplemental Draft EIS, with all Appendices and modifications as required based on comments. Modifications to these documents are indicated with ~~strikeout~~ (for eliminated text) and underlined text (showing new text added).
- All graphics that were printed in Draft EIR/EIS and the Recirculated Draft EIR/Supplemental Draft EIS and have not been modified are included on the DVD.
- Certain new or revised appendices are provided on DVD only. This includes:
  - Biology Appendix 8M: Management Indicator Species Reports
  - Biology Appendix 8P: Consolidated Matrix of Impacts
  - Biology Appendix 8Q: Riparian Conservation Area Reports
  - Biology Appendix 8R: 2008 Survey Results Summary
  - Appendix 14: Viewshed Analysis Report

ES.1.3 Changes to the Draft EIR/EIS and Recirculated Draft EIR/Supplemental Draft EIS

In response to comments on the Draft EIR/EIS and on the Recirculated Draft EIR/Supplemental Draft EIS, numerous changes have been made in this Final EIR/EIS. The following information has been added or revised in this Final EIR/EIS:

- BLM identifies its Agency Preferred Alternative (see Section ES.2.2).
- Segments of several transmission line route alternatives have been modified in order to reduce or avoid certain impacts. Section ES.6.5 lists the revisions and shows where each segment is described and analyzed.
- Components of the environmentally superior transmission line route alternatives have been modified to incorporate certain route revisions. Section ES.2 (Summary of Final EIR/EIS Conclusions) includes a description of the changes for each alternative. Section ES.7 (Comparison of Proposed Project and Retained Alternatives to Determine Overall Environmentally Superior Alternatives) explains which route revisions are incorporated into environmentally superior routes.
- Changes have been made to the text of many mitigation measures in response to comments. Changes are made in Section D where the full text of most measures first appears, in the mitigation monitoring tables at the end of each part of Section D, and in Appendix 12, which presents all mitigation measures and shows changes made since publication of the Draft EIR/EIS using ~~strikeout~~ and underline.

[1] Some comments included lengthy attachments, which are included on the DVD but are not printed in order to save paper. Section 1 of this Final EIR/EIS includes a listing of all comments and identifies those that are printed and those included only on DVD.

ES.2 Summary of ~~Draft~~ Final EIR/EIS Conclusions

The CPUC identified the Environmentally Superior Alternative, as required by CEQA Guidelines 15126.6(e)2, in the Draft EIR/EIS and in the Recirculated Draft EIR/Supplemental Draft EIS. That conclusion is reiterated in Section ES.2.1. In Section ES.2.2, the BLM identifies its Agency Preferred Alternative, as required by BLM Manual 1790-1, Ch. V(B)(4)(c) and Council on Environmental Quality (CEQ) Regulations for Implementing NEPA, Sec. 1502.14(e).

ES.2.1 CPUC Environmentally Superior Alternative

This Final EIR/EIS analyzes the environmental impacts of SDG&E's Proposed Project as well as alternatives that were developed as a result of public and agency input during the scoping process. The EIR/EIS presents an analysis for the Proposed Project and 27 alternatives to the Proposed Project, including 18 alternative route segments along the Proposed Project route, 4 routes following portions of the existing Southwest Powerlink (SWPL), two non-wires alternatives, two alternatives including components of the Lake Elsinore Advanced Pumped Storage (LEAPS) Project, and the No Project/No Action alternative. As documented in detail in the Alternatives Screening Report (see Appendix 1 to the Draft EIR/EIS), 70 additional alternatives were also considered but eliminated from detailed consideration.

The CEQA/NEPA criteria used to determine whether to include alternatives for analysis in the EIR/EIS were based on the following three factors: (1) meeting most project objectives; (2) reducing significant effects of the Proposed Project; and (3) being potentially feasible in terms of possible legal, regulatory or technical constraints. After an alternative was retained for analysis, the process used for comparison of alternatives was based solely on the environmental impacts of each alternative as defined in the EIR/EIS. The ranking of alternatives did not re-consider the extent to which each alternative met the original screening criteria.

~~The CPUC has identified the Environmentally Superior Alternative, as required by CEQA Guidelines 15126.6(e)2. In accordance with BLM planning regulations, BLM's Agency Preferred Alternative will be identified in the Final EIS (BLM Manual 1790-1, Ch. V(B)(4)(c)). The BLM will select a preferred alternative following analysis of public comments on the Draft EIS/EIR and further internal review of the Draft EIR/EIS. NEPA guidance states that the environmentally preferable alternative is the one that causes the least damage to the biological and physical environment, and best protects, preserves, and enhances historic, cultural and natural resources (NEPA's 40 Most Asked Questions, 6a).~~

The results of the comparisons of transmission and generation alternatives are presented below. The overall Environmentally Superior Alternative is listed first and the lowest ranked alternative is listed eighth. Additional ~~detail~~ information on these conclusions and how they were reached is presented in Section ES.6 of this Executive Summary and in greater detail in Section H of the Draft EIR/EIS, which has been updated in this Final EIR/EIS. The ranking is based only on the level of environmental effects as determined in the EIR/EIS analysis. Note that while the numbers of significant, unmitigable impacts presented for each alternative below are informative, they do not explain the relative extent and scale of impacts so they cannot be used alone to compare alternatives. The highest ranked transmission alternative that provides direct access to renewable resources in the Imperial Valley is the southern route identified as the Final Environmentally Superior Southern Route (made up of portions of the Interstate 8 Alternative, BCD Alternative with BCD South Option, ~~with~~ the Modified Route D Alternative, and several smaller route revisions) which avoids Anza-Borrego Desert State Park and areas along the Interstate 8 Alternative.

The Recirculated Draft EIR/Supplemental Draft EIS evaluated several transmission line route revisions along the Proposed Project and alternative routes. Some of those revisions are included in the environmentally superior routes described below; where they are included, the revision segments are listed. Descriptions and maps of most of the route revisions are presented in Section 3 of the Recirculated Draft EIR/Supplemental Draft EIS; other revisions with no new impacts are documented in revisions to the Draft EIR/EIS text.

Overall Environmentally Superior Alternative

1. New In-Area All-Source Generation Alternative

Description: One baseload and four peaking gas-fired power plants with fossil fuel-fired distributed generation facilities (about 800 ~~700~~ MW) plus San Diego County renewable generation (about 200 ~~300~~ MW of wind, solar photovoltaics, biomass/biogas; see Figure ES-2).

Rationale for Ranking: Has 32 ~~35~~ significant, unmitigable impacts but gas-fired generation would be concentrated at already disturbed sites and/or undeveloped sites in close proximity to existing transmission lines and natural gas pipelines and reclaimed water sources; only 11 miles of new transmission line. No effects on state parks or National Forest System lands. With smaller renewable components (with 150 acres of permanent habitat loss), ground disturbance and significant impacts to recreation areas and visual resources are reduced in comparison to the New In-Area Renewable Generation Alternative.

Environmental Ranking of other Transmission Projects and Alternatives

2. New In-Area Renewable Generation Alternative

Description: 1,000 MW of wind, solar thermal, solar photovoltaics, and biomass/biogas in San Diego County (see Figure ES-2).

Rationale for Ranking: Has 34 significant, unmitigable impacts resulting from substantial ground disturbance and visual impacts in and adjacent to recreation areas. No effects on National Forest System lands; visual impact of hypothetical Borrego Springs solar thermal facility would indirectly affect surrounding Anza-Borrego Desert State Park wilderness areas. Requires 47 miles of new transmission lines (with 1,600 acres of permanent habitat loss).

3. LEAPS Transmission-Only Alternative

Description: 32 miles of new 500 kV transmission line primarily on National Forest land in Riverside and Orange Counties; ~~48~~51-mile upgraded 230 kV line in existing corridor; new substation, switching station (see Figure ES-3). Meets two of three major project objectives; it does not provide direct access to the transmission grid for new renewable resources in the Imperial Valley.

Rationale for Ranking: Shortest transmission alternative. Has ~~30~~ 31 significant, unmitigable impacts to visual resources, recreation, land use, and historic facilities. Substantially greater wildfire risk than non-wires alternatives. Highly visible in Cleveland National Forest, through northern Lake Elsinore, and at crossings of Interstate 15. Much shorter length of new transmission line compared to other transmission alternatives results in reduced impacts when compared to other transmission alternatives in biological and cultural resources, air and water quality, and visual resources.

4. Final Environmentally Superior Southern Route (SWPL) Alternative

Description: Interstate 8 Alternative with BCD Alternative and BCD South Option Revisions, Modified Route D Alternative (and three route options[2]). ~~110~~ 123 miles total (~~104~~ 114.5 miles overhead; ~~5.9~~ 8.3 miles underground; see Figure ES-4). Meets all major project objectives including reliability with respect to fire risk and collocation with SDG&E's existing Southwest Powerlink (SWPL), and allows for future transmission system expansion. Would encourage development of renewable generation in Imperial Valley with additional impacts.

Modifications Since Draft EIR/EIS: Elimination of Interstate 8 Alternative segment passing through Campo Reservation and replacement of that segment with the BCD Alternative Revision and BCD South Option Revision. Replacement of Star Valley Option with eastern end of underground segment in Alpine Boulevard if deemed feasible. Incorporates five route revisions along the Interstate 8 Alternative and three revisions that encompass much of the Modified Route D Alternative. See detailed discussion in Section ES.7.2.

Rationale for Ranking: ~~Has fewer (32) significant, unmitigable impacts than the Environmentally Superior Northern Route Alternative; s~~Substantially shorter (17.5 miles shorter) than Final Environmentally Superior Northern Route Alternative (or Proposed Project); avoids Anza-Borrego Desert State Park and cultural resources of regional concern; crosses 19.2 ~~16~~ miles of National Forest land but within acceptable land use zones and proposed Section 368[3] utility corridor. Collocated with existing 500 kV Southwest Powerlink for only 36 miles, in area of low fire risk. Overall more significant, unmitigable impacts (41) than the Environmentally Superior Northern Route (37) as a result of substantial visual impact analysis required by the USDA Forest Service.

5. Final Environmentally Superior Northern Route Alternative

Description: Proposed Project (75 miles) plus 8 alternatives (64 miles) replacing proposed segments, with ~~85~~ 88 miles overhead and ~~54~~ 53 miles of underground 230 kV transmission line (see Figure ES-3) for total of 141 miles. Meets all major project objectives. Would encourage development of renewable generation in Imperial Valley with additional impacts.

Modifications Since Draft EIR/EIS: Incorporates N6 Private Lands Revision, BLM Gifted Lands Reroute, the northern portion of the SDG&E Santa Ysabel Partial Underground Alternative Revision only if the Santa Ysabel All Underground Alternatives is found to be infeasible, and the Coastal Link System Upgrades Alternative Revision.

Rationale for Ranking: Has ~~39~~ 37 significant, unmitigable impacts. Requires extensive undergrounding to minimize visual impacts in scenic areas. Located underground through Anza-Borrego Desert State Park, requiring extended construction time and higher cost. Future transmission system expansion would likely require overhead transmission lines through the Park.

6. Proposed Project

Description: Route defined by SDG&E: 150 miles total (141 miles overhead; 9 miles underground 230 kV). One new substation; 4 substation upgrades; reconductor segment (see Figure ES-1). Meets all major project objectives. Would encourage development of renewable generation in Imperial Valley, with additional impacts.

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[2] Route options originally defined include BCD South Option and Chocolate Canyon Option. In the Final EIR/EIS the Star Valley Option is replaced by the Star Valley Option Revision, which would be required only if underground segment in eastern Alpine Boulevard is found to be infeasible.

[3] Energy Policy Act of 2005, Section 368, required designation of federal energy corridors. This alternative includes a corridor identified in West-wide Energy Corridor Draft Programmatic EIS, published by the Department of Energy in November 2007.

Rationale for Ranking: Has ~~50~~ 52 significant, unmitigable impacts. Greatest overall length of new transmission. New 500 kV line creates numerous direct impacts within Anza-Borrego Desert State Park including de-designation of State Wilderness, degradation of views and recreational opportunities, and impacts on Traditional Cultural Properties. Severe visual effects in Santa Ysabel Valley.

7. SDG&E's "Enhanced Northern Route" Alternative

Description: Route defined by SDG&E as its preferred route in comments on the Draft EIR/EIS: 148.6 miles total (139 miles overhead; 10 miles underground 230 kV). Follows Overhead 500 kV ABDSP within Existing 100-Foot ROW Alternative Revision within Anza-Borrego Desert State Park. Meets all major project objectives. Would encourage development of renewable generation in Imperial Valley, with greater impacts to the Park than Proposed Project the increased number and height of towers. Eliminates direct effect on State Wilderness. Incorporates five route revisions.

Rationale for Ranking: Has 44 significant, unmitigable impacts.[4] About one mile shorter than Proposed Project (148.6 miles). New 500 kV line would not require de-designation of State Wilderness but creates numerous direct impacts within Anza-Borrego Desert State Park, results in degradation of views and recreational opportunities, and more severe impacts on cultural resources and Traditional Cultural Properties than the Proposed Project within ABDSP. West of ABDSP, this alternative includes the CNF Alternative and the Oak Hollow Road Alternative; other than these differences within and adjacent to ABDSP, impacts would be the same as those of the Proposed Project.

~~7.~~8. LEAPS Generation and Transmission Alternative

Description: 32 miles of new 500 kV transmission line primarily on National Forest land in Riverside and Orange Counties; ~~48~~51-mile upgraded 230 kV line; new substation, switching station. New powerhouse, pumping/generation turbines, and reservoir. Meets two of three major project objectives; ~~-~~ does not provide direct access to the transmission grid for new renewable resources in the Imperial Valley.

Rationale for Ranking: Has 44 significant, unmitigable impacts. Generation facilities affect Forest land and City of Lake Elsinore, including residences and a school. Tailrace structure crosses Willard Fault; risk of dam and dike failure. Generation component causes loss of public access to over 100 acres of Forest land.

No Project/No Action Alternative. The No Project/No Action Alternative scenario includes a menu of likely development actions (with both generation and transmission components) that are considered to be more likely to occur in the absence of the Proposed Project. Most of these actions are also components of the alternatives ranked first, second, and third in the list above. The No Project/No Action Alternative would have fewer impacts than those of the Proposed Project, the Southern Route Alternative, and the LEAPS Generation and Transmission Alternative, and impacts equivalent to the alternatives ranked first, second, and third above. Only about 1,000 MW of in-basin generation or transmission import capacity would be required to replace the Proposed Project, so any one of the three top ranked alternatives would provide adequate resources. However, they may or may not all meet all three major project objectives, including provision of direct access to the transmission grid for new renewable resources in the Imperial Valley.

[4] The SDG&E Enhanced Northern Route has fewer significant unmitigable impacts than the Proposed Project only because fewer key viewpoints were established for visual resources analysis. Most of the viewpoints established for the Proposed Project within Anza-Borrego Desert State Park would also apply to this alternative.

CPUC Process After Final EIR/EIS. CEQA requires that the CPUC provide written responses to public agency comments at least 10 days prior to certifying the EIR (Public Resource Code 21092.5(a)). This is accomplished by sending the Final EIR/EIS to all agencies that commented.

The CPUC will determine the adequacy of the Final EIR/EIS, and if adequate, will certify the document as compliant with CEQA. The CPUC will issue a Proposed Decision on the Sunrise Powerlink Project, which will be announced and published concurrent with a scheduled CPUC Meeting. Each Commissioner may draft an Alternate Decision presenting differing conclusions or opinions. All five Commissioners will then vote on the Proposed Decision and any Alternate Decisions at a meeting of the full Commission. If the project or an alternative is approved, the CPUC will adopt a mitigation monitoring and reporting program to require monitoring of adopted mitigation measures and definition of mitigation monitoring procedures.

Within 30 days after the decision is issued by the CPUC, parties can apply for rehearing. For further information on the CPUC's decision-making process, call the CPUC Public Advisor at (866) 849-8390 or (415) 703-2074 or email public.advisor@cpuc.ca.gov.

ES.2.2 BLM Agency Preferred Alternative and Proposed Plan Amendment

In the Draft EIR/EIS, the CPUC identified the Environmentally Superior Alternative, as required by CEQA Guidelines Section 15126.6(d) and (e)(2). That determination is confirmed in the Final EIR/EIS in Section ES.2 above. BLM's Agency Preferred alternative was not identified in the Draft EIS, but is identified in the Final EIS in accordance with BLM planning regulations (BLM Manual 1790-1, Ch. V(B)(4)(c)).

Based on a careful review of the resource data in the Final EIR/EIS, full consideration of all public comments received, and a determination of which alternative best meets the agency project objectives, the BLM's Agency Preferred Alternative is the Final Environmentally Superior Southern Route (SWPL) Alternative. This alternative is described in Section ES.2.4 and depicted on Figure ES-4, including the BCD/BCD South Option Reroute, except and unless easements can be secured by SDG&E for the Interstate 8 Alternative between McCain Valley Road and the eastern end of the Modified Route D Alternative in place of the BCD/BCD South Option Reroute. In either configuration (the Interstate 8/Modified Route D or the Interstate 8/BCD/BCD South), the BLM's Agency Preferred alternative would achieve all three CPUC and BLM project objectives and most SDG&E project objectives described in Section ES.3.2 below.

The Interstate 8 Alternative west of McCain Valley Road is shorter in length, located in a less remote area, and would result in fewer significant, unmitigable impacts to biological resources, recreation, and visual resources than would the BCD/BCD South Option Reroute. Because SDG&E may not be able to secure easements for the Interstate 8 Alternative between McCain Valley Road and the eastern end of the Modified Route D Alternative, BLM proposes to amend the existing land use plan for Eastern San Diego County to provide a one-time exception to the plan requirement that new gas, electric, and water transmission facilities and cables for interstate communication be allowed only within designated corridors. The proposed plan amendment would apply to the public lands along the BCD/BCD South Option Reroute portion of the Final Environmentally Superior Southern Route (SWPL) Alternative.

BLM Process After Final EIR/EIS. As described in Draft EIR/EIS Section A.6.2, the BLM's decision regarding the approval of any route and plan amendment would be made in a Record of Decision to be issued in late 2008 or early 2009. The Final EIR/EIS and Proposed Land Use Plan Amendment

will be available for review for 30 calendar days from the date the Environmental Protection Agency (EPA) publishes the Notice of Availability in the Federal Register.

BLM regulations (43 CFR 1610.5-2) state that individuals and entities who participated in the planning process and have an interest that may be adversely affected by the approval of the proposed land use plan amendment may protest such approval. Protests are specific to the proposed land use plan amendment. Protests must be filed within the 30-day public availability period. E-mail and faxed protests will not be accepted as valid protests unless the protesting party also provides the original letter by either regular or overnight mail postmarked by the close of the protest period. Under these conditions, the BLM will consider the e-mail or faxed protest as an advance copy and it will receive full consideration. If you wish to provide the BLM with such advance notification, please direct faxed protests to the attention of the BLM protest coordinator at 202-452-5112, and e-mails to Brenda_Hudgens-Williams@blm.gov. All protests, including the follow-up letter (if e-mailing or faxing) must be in writing and mailed to the following address:

- Regular Mail: Director (210), Attention: Brenda Williams, P.O. Box 66538, Washington, DC 20035.
- Overnight Mail: Director (210), Attention: Brenda Williams, 1620 L Street, NW, Suite 1075, Washington, DC 20036.

Before including your phone number, e-mail address, or other personal identifying information in your protest, you should be aware that your entire protest — including your personal identifying information — may be publicly available at any time. While you can ask us in your protest to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

ES.3 Proposed Project and Project Objectives

ES.3.1 Description of the Proposed Project

Proposed Project. SDG&E proposes to construct a new 150-mile transmission line between Imperial and San Diego Counties. It would consist of a new 91-mile, single-circuit 500 kilovolt (kV) overhead electric transmission line between the existing Imperial Valley Substation (in Imperial County near the City of El Centro) to a proposed new Central East Substation (in central San Diego County, southwest of the intersection of County Highways S22 and S2). Between the proposed new Central East Substation and SDG&E's existing Peñasquitos Substation (in the City of San Diego), SDG&E would construct a new 59-mile 230 kV double-circuit and single-circuit transmission line, portions of which would be underground.

SDG&E has stated that a system goal for the Sunrise Powerlink Project is to bring a single 500 kV line as close to the SDG&E load center as is reasonably practical, then use 230 kV lines to distribute the power to major 230 kV load-serving substations within the San Diego load center.

Future Transmission System Expansion. The Central East Substation is designed to accommodate four 230 kV and one 500 kV transmission lines, in addition to the two 230 kV circuits and one 500 kV lines included as part of the Proposed Project. This EIR/EIS discloses the impacts of possible future transmission lines for the benefit of decision-makers and the public. However, any future transmission lines would require separate applications to the CPUC (and federal land agency, if applicable) and separate CEQA/NEPA processes.

Connected Actions and Indirect Effects. Additionally, this EIR/EIS evaluates ~~five~~ three projects that are so closely related to the Proposed Project as to be considered part of the project for purposes of CEQA and NEPA analysis. These projects are described in Section B.6 of the Draft EIR/EIS and include: the Stirling Energy Systems solar facility, ~~two components of the Imperial Irrigation District (IID) 230 kV transmission system upgrades,~~ the Esmeralda–San Felipe Geothermal Project (in the Truckhaven Geothermal Leasing Area), ~~the Jacumba 230/500 kV Substation,~~ and a 1,250 MW Sempra wind project in northern Mexico's La Rumorosa area (with associated transmission and substation improvements in the U.S.). Each of these projects would be subject to separate environmental review but are evaluated here for the benefit of decision-makers and the public. All of these projects are referred to as "connected actions" throughout the document, except the La Rumorosa wind project, which is identified as an "indirect effect" of the Proposed Project because it would be primarily located outside of the United States.[5] Figure ES-1 illustrates the general location of the Proposed Project, the Future Transmission System Expansion routes, and the Connected Actions/ ~~and project with~~ Indirect Effect~~s~~.

Components of the Proposed Project. The major components of the Proposed Project are described below by link, as defined in SDG&E's Application and PEA. Figure ES-1 shows the division of the route into these five links and Figures ES-5 through ES-9 display photographs illustrative of each link.

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[5] In *Border Power Plant Working Group v. Department of Energy*, 260 F.Supp.2d 997, 1017 (S.D.Cal. 2003), the court found that analysis of Mexican power plants as "connected actions" is inappropriate if the permitting federal agency does not have "independent jurisdiction over the non-federal action that was a potential effect of the proposed action." Because neither BLM nor CPUC have jurisdiction over the La Rumorosa wind project, it is evaluated as an "indirect effect" of the Proposed Project rather than a "connected action." Environmental impacts that would result from the La Rumorosa wind project are disclosed in this EIR/EIS to the extent known or reasonably assumed.

Imperial Valley Link (Imperial County and easternmost San Diego County)

- **Length and location**: 60.9 miles from Imperial Valley Substation (west of El Centro) to the eastern boundary of Anza-Borrego Desert State Park.
- **Existing land ownership**: Primarily private land (28.4 miles) and BLM land (31.4 miles).
- **Existing land use:** Agriculture (13.5 miles), open space and recreation (46.2 miles) and undeveloped private property.
- **Number and type of towers proposed:** ~~205~~ 206 new 500 kV towers (average height of 160 feet)
- **Right-of-way requirements**: New 200-foot Right of Way (ROW); 49.4 miles of new access roads.
- **Other Components:** Upgrades to the existing SDG&E Imperial Valley Substation

Anza-Borrego Link (Anza-Borrego Desert State Park)

- **Length and location**: 22.6 miles entirely within Anza-Borrego Desert State Park boundaries.
- **Existing land ownership:** Nearly all under jurisdiction of California State Park and Recreation Department; small segments of private land inholdings.
- **Existing land use:** Entirely recreational open space; direct effect on 50.2 acres of land designated as State Wilderness.
- **Number and type of towers proposed:** ~~141~~ 144 new structures including 127 new 500 kV towers (average height of 130 feet); existing 92 kV (east of Narrows Substation) and 69 kV (west of Narrows Substation) lines would be installed underground along SR78 or would be added to the 500 kV towers as an "underbuild." The existing wood poles would be removed.
- **Right-of-way requirements**: Follows an existing ROW within the Park, but would require that SDG&E obtain at least an additional 50 feet of ROW from the State Park; 8 miles of new access roads.

Central Link (Central San Diego County)

- **Length and location**: 27.3 miles long (7.4 miles of 500 kV line; 19.9 miles of 230 kV line) in communities of Ranchita and San Felipe.
- **Existing land ownership**: Major ownership is Vista Irrigation District (8.7 miles), private property (11.1 miles), and SDG&E (0.1 miles).
- **Existing land use:** Primarily undeveloped open space and low-density residential (22 miles), agriculture (5.1 miles), roads (0.3 miles), and park land (0.2 miles).
- **Number and type of towers proposed:** Thirty ~~five~~ six new single-circuit 500 kV lattice towers would average 160 feet tall, and 123 new double circuit 230 kV towers would average 120 feet tall. The 500 kV line would follow SDG&E's existing 69 kV transmission line ROW through Grapevine Canyon for approximately four miles, the existing 69 kV circuit would be removed from the wood poles and attached (underbuilt) to the 500 kV structures through this segment.
- **Right-of-way requirements**: New 200-300 foot ROW required; 36.4 miles of new access roads. The Central Link would include portions of both the 500 kV and 230 kV transmission lines.
- **Other components:** Central East Substation (106 acres of disturbance) to accommodate 500 kV and 230 kV transmission lines and 500/230 kV transformer banks. Relocation of existing 69 kV transmission line (9 miles).

Inland Valley Link (West-Central San Diego County)

- **Length and location**: 25.5 miles through the communities of Santa Ysabel and Ramona, and through Marine Corps Air Station Miramar.
- **Existing land ownership**: Approximate mileage as follows: SDG&E ROW (16.9 miles), BLM (1.2 miles), Department of Defense – Marine Corps Air Station (MCAS) Miramar (0.7 miles), Vista Irrigation District [VID] 0.1 miles), San Diego County (1.1 miles), and private land (6.1 miles).
- **Existing land use:** Undeveloped open space and low-density residential (13.1 miles), agricultural land (1 mile), recreation (7 miles) and public roadways (4.2 miles of underground segments).
- **Number and type of towers proposed:** ~~125~~ 123 new double circuit 230 kV towers (averaging 120 feet tall); two cable poles (to transition from overhead to underground) at each end of underground segment.
- **Right-of-way requirements**: 13 miles of new ROW (60-200 feet wide); nearly 8 miles of new access roads.

Coastal Link (Western San Diego County)

- **Length and location**: 13.6 miles with new towers in communities of Rancho Peñasquitos and Torrey Hill (City of San Diego).
- **Existing land ownership**: SDG&E ROW (11.8 miles), private property (0.1 miles), City of San Diego (1.4 miles), MCAS Miramar (0.3 miles).
- **Existing land use:** Commercial (0.1 miles), existing corridor in open space and parks passing through primarily residential areas (12 miles), and utilities and transportation (1.8 miles).
- **Number and type of towers proposed:** new single circuit 230 kV line on ~~48~~ 50 new double circuit towers averaging 120 feet tall to support new single circuit 230 kV line (replacing existing H-frame structures).
- **Right-of-way requirements**: Existing ROW except within Los Peñasquitos Preserve; 0.4 miles of new access roads.
- **Other components:** Modifications to the existing Sycamore Canyon and Peñasquitos Substations.

Other System Upgrades

- Reconductoring[6] of the existing 69 kV transmission line between Sycamore Canyon and Elliot Substations.
- Modifications to the San Luis Rey and South Bay Substations would occur within existing fence lines.

[6] Reconductoring is the installation of new, higher capacity wires (conductors) generally on existing towers. Some new towers would be required when existing towers cannot support the greater weight of the new conductors.

Figure ES-5. Photographs Illustrating Imperial Valley Link
CLICK HERE TO VIEW

Figure ES-6. Photographs Illustrating Anza-Borrego Link
CLICK HERE TO VIEW

Figure ES-7. Photographs Illustrating Central Link
CLICK HERE TO VIEW

Figure ES-8. Photographs Illustrating Inland Valley Link
CLICK HERE TO VIEW

Figure ES-9. Photographs Illustrating Coastal Link
CLICK HERE TO VIEW

ES.3.2 SDG&E's Proposed Purpose and Need and Project Objectives

SDG&E states in its Application and PEA that it developed the Sunrise Powerlink Transmission Project for three major reasons (1) to bring renewable energy resources to San Diego County from Imperial County by providing transmission access to remote areas that have the potential for significant development of renewable energy sources; (2) to improve electric reliability within the San Diego area by providing additional transmission during peak loading and for the region's growing economy; and (3) to reduce congestion and power supply costs of delivering electricity to ratepayers (SDG&E, 2006a).

Purpose and Need for the Proposed Project

According to SDG&E's application, the SRPL Project is needed to:

- **Maintain Reliability**. The Sunrise Powerlink Project will enable the San Diego transmission system to satisfy the reliability requirements of the California Independent System Operator ("CAISO").
- **Promote Renewable Energy**. The Sunrise Powerlink Project will provide California consumers more economical access to the renewable resources in Imperial Valley, encourage the development of these resources, and provide access for wind resource development in southeastern San Diego County.
- **Reduce Energy Costs**. In addition to maintaining grid reliability and improving access to renewable energy resources, this cost-effective project will provide savings for California electricity customers under normal operating conditions. Savings would result from access to lower cost sources of power in the desert southwest and reduced reliance on older, less-efficient in-area generation.

SDG&E's Project Objectives

As stated by SDG&E (in PEA Section 3.1), the eight objectives for building the SRPL are to:

1. Ensure that SDG&E's transmission system satisfies reliability criteria.
2. Provide transmission facilities with a voltage level and transfer capability that (a) allows for prudent system expandability to meet both anticipated short-term (2010) and long-term (2015 and beyond) load growth and (b) supports regional expansion of the electric grid.
3. Provide transmission capability for Imperial Valley renewable resources for SDG&E customers to assist in meeting or exceeding California's 20% renewable energy source mandate by 2010 and the Governor's proposed goal of 33% by 2020.
4. Reduce the above-market costs associated with maintaining reliability in the San Diego area while mitigating the potential exercise of local market power, particularly the costs associated with older generators such as the South Bay and Encina Power Plants.
5. Improve regional transmission system infrastructure.
6. Obtain electricity generated by diverse fuel sources and decrease the dependence on increasingly scarce and costly natural gas.
7. Avoid, to the extent feasible, the taking and relocation of homes, businesses or industries, in the siting of the transmission line, substation and associated facilities.
8. Minimize the need for new or expanded transmission line ROW.

CPUC and BLM Project Objectives

Having taken into consideration the eight objectives set forth by SDG&E above, the CPUC and BLM identified the following three basic project objectives:

- **Basic Project Objective 1**: to maintain reliability in the delivery of power to the San Diego region;
- **Basic Project Objective 2**: to reduce the cost of energy in the region; and
- **Basic Project Objective 3**: to accommodate the delivery of renewable energy to meet State and federal renewable energy goals from geothermal and solar resources in the Imperial Valley and wind and other sources in San Diego County.

ES.4 Summary of Public Involvement Activities

~~Prior to the publication of the Draft EIR/EIS,~~ During preparation of the Draft EIR/EIS and the Recirculated Draft EIR/Supplemental Draft EIS, the CPUC and BLM implemented an extensive public participation process for the proposed Sunrise Powerlink Project. Section ES.4.1 summarizes the outreach efforts and public meetings and Section ES.4.2 summarizes major concerns described identified by the public and agencies during the public scoping periods.

A total of 860 people attended the meetings during the October 2006 and February 2007 scoping periods. Nearly 1,300 scoping comments were submitted (written and oral) between October 2006 and October 2007.

ES.4.1 Notices, Meetings, and Consultation

Notices, meetings, and consultations that occurred as part of the Draft EIR/EIS and Recirculated Draft EIR/Supplemental Draft EIS scoping and public information process are summarized below.

~~Public Notification and~~ Scoping Process: August 2006 to ~~January 2008~~ November 2007

- **August 2006.** The NEPA scoping process began with the BLM's publication of the Notice of Intent (NOI) to prepare an EIS in the Federal Register on August 31, 2006. A copy of the NOI was made available on the project website.
- **September 2006.** The CEQA 30-day scoping process for the Sunrise Powerlink Project began with the CPUC's issuance of the Notice of Preparation (NOP) of an EIR on September 15, 2006. The CPUC mailed over 6,600 copies of the NOP to public agencies and members of the general public, including 236 representatives of over 65 different agencies, 52 environmental groups, 64 tribal government representatives, and 41 elected officials.
- **October 2006.** In October 2006, the CPUC and BLM held a total of seven public scoping meetings to collect input for the scope and content of the EIR/EIS and for alternatives and mitigation measures to consider. Newspaper advertisements appeared in 11 local and regional newspapers between September 15 and 22, 2006.
- **November 2006.** Approximately 323 comments on the NOP were received from public, private, and tribal agencies and from members of the public. In November 2006, Part One of the Scoping Report was issued and 284 copies of the Scoping Report were distributed to agencies, parties on the CPUC's Service List, and individuals who requested copies. The Scoping Report was available for review at 26 repositories, on the Internet, and by mail.

- **January 2007.** A notice was distributed announcing the preliminary identification of alternatives to analyze in the EIR/EIS, the EIR/EIS publication schedule, and a second round of public meetings. This notice was sent to over 12,000 individuals and agency representatives. Announcements appeared in eight newspapers between January 20 and February 2, 2007. In February 2007, the CPUC and BLM held eight additional public scoping meetings to collect input on alternatives.
- **March 2007.** Approximately 445 comments on the preliminary selection of alternatives were received from public, private, and tribal agencies and from members of the public. In March 2007, Part Two of the Scoping Report was issued and 430 printed copies of the Scoping Report were distributed to agencies, parties on the CPUC's Service List, and individuals who requested copies. The Scoping Report was available for review at 26 repositories, on the Internet, and by mail.
- **March 2007**. On March 16, 2007, a notice was mailed to over 12,000 parties, announcing the conclusions on alternatives to be fully analyzed in the EIR/EIS. The March Notice was based on the feedback received from the public and agencies summarized above, along with research conducted by the EIR/EIS team.
- **May 2007.** As a result of continuing consultation with the Cleveland National Forest, a new route alternative called the Modified Route D Alternative was designed using portions of an alternative that were was considered and eliminated in March 2007. On May 16, 2007, a notice describing the new alternative and the rationale for its consideration was mailed to over 12,000 persons, organizations, and agencies on the project EIR/EIS mailing list. A third 30-day comment period opened.
- **October/November 2007**. Over 90 comments were received on the Proposed Project and alternatives, primarily related to the Modified Route D Alternative, outside of the formal scoping periods. These were from individuals, organizations, agencies, and SDG&E and were published on the project website in November.

Attendance at Scoping Meetings and Agency Consultations

Over 260 members of the public and representatives from organizations and government agencies attended the October 2006 scoping meetings and approximately 600 members of the public and representatives from organizations and government agencies attended the February 2007 meetings. The CPUC and BLM conducted 17 consultation meetings with agencies and local jurisdictions to discuss the Proposed Project and consider their comments and concerns.

Notification and Public Meetings on the Draft EIR/EIS

- **January 2008.** A Notice of Availability (NOA) of the Draft EIR/EIS was mailed to all members of the project EIR/EIS mailing list as of January 2008 to announce the release of the document and its 90 day public comment period, and provide information on how to obtain or view the EIR/EIS.
- **January 2008.** Announcements of the availability of the Draft EIR/EIS and the schedule for public workshops and hearings were published in 11 newspapers in Imperial and San Diego County, including two Spanish language newspapers.
- **January 28 – February 1, 2008**. Nine public workshops were held so members of the public could discuss the contents of the Draft EIR/EIS with CPUC and BLM representatives, and EIR/EIS authors. Meetings were held in El Centro, Alpine, Temecula, San Diego (Rancho Peñasquitos), Warner Springs, Ramona, Pine Valley, and Borrego Springs.

- **February 25-27, 2008**. Five Public Participation Hearings were held by Commissioner Grueneich and Administrative Law Judge Steven Weissman in San Diego, Pine Valley, Borrego Springs, Ramona, and Julian.
- **May 12, 2008.** Two additional Public Participation Hearings were held by Commissioner Grueneich and Administrative Law Judge Steven Weissman in Borrego Springs.

Notification and Public Meetings on the Recirculated Draft EIR/Supplemental Draft EIS

- **July 2008.** A Notice of Availability (NOA) of the Recirculated Draft EIR/Supplemental Draft EIS was mailed to all members of the project EIR/EIS mailing list as of July 2008 to announce the release of the document and its 45 day public comment period, and provide information on how to obtain or view the document.
- **July 2008.** Announcements of the availability of the Recirculated Draft EIR/Supplemental Draft EIS and the schedule for public workshops were published in 12 newspapers in Imperial and San Diego County, including three Spanish language newspapers.
- **August 4, 2008**. Two public workshops were held in Jacumba, California, so members of the public could discuss the contents of the Recirculated Draft EIR/Supplemental Draft EIS with CPUC and BLM representatives, and EIR/EIS authors.

Notification of the Final EIR/EIS

- **October 2008.** A Notice of Availability (NOA) of the Final EIR/EIS was mailed to all members of the project EIR/EIS mailing list as of October 2008 to announce the release of the document and BLM's 30 day protest period, and provide information on how to obtain or view the EIR/EIS.
- **October 2008.** Announcements of the availability of the Final EIR/EIS were published in 3 newspapers in Imperial and San Diego County, including a Spanish language newspaper.

Native American Consultation

The BLM sent letters of consultation on July 5, 2006, July 13, 2006, ~~and~~ September 5, 2007, and January 23, 2008 to 60 representatives of 27 tribal governments potentially affected by the Proposed Project and to representatives of 26 tribal governments potentially affected by project alternatives. The following ~~five~~ tribes responded: Campo Band of Kumeyaay Indians, Ewiiaapaayp Band of Kumeyaay Indians, Pala Band of Mission Indians, Santa Ysabel Band of Diegueño Indians, Pechanga Band of Luiseño Indians, and Viejas Band of Kumeyaay Indians. Government-to-government consultation meetings were held with the Campo Band of Kumeyaay Indians, Ewiiaapaayp Band of Kumeyaay Indians, Santa Ysabel Band of Diegueño Indians, Viejas Band of Kumeyaay Indians, San Pasqual Band of Diegueño Indians, Pauma/Yuima Band of Mission Indians, Barona Group of the Capitan Grande Band of Mission Indians, and La Jolla Band of Luiseño Mission Indians.

At the time of publication of the Final EIR/EIS, t~~T~~he CPUC and BLM continue to be~~are~~ involved in ongoing tribal consultations regarding the Sunrise Powerlink Project. On September 4, 2008, the BLM sent a letter to representatives of tribal governments announcing a series of four meetings with area tribes as listed below. These meetings are intended to allow tribal representatives to have additional participation in the National Historic Preservation Act Section 106 process that the BLM is carrying out with the State Historic Preservation Office:

- September 29, 2008: El Centro
- September 30, 2008: El Cajon
- October 1, 2008: Escondido
- October 2, 2008: Temecula

Facilitation of Project Information

An EIR/EIS e-mail address list was created, and a telephone hotline and Internet site for project information were established. The Internet site was used to post all the public environmental documents (including the~~is~~ Draft and Final EIR/EIS) and to announce upcoming public meetings. All public notices appeared on the CPUC's project website:

http://www.cpuc.ca.gov/Environment/info/aspen/sunrise/sunrise.htm

Throughout the process, the EIR/EIS team ~~can be~~ has been available for questions and comments ~~reached~~ at: (866) 711-3106 or by e-mail at sunrise@aspeneg.com.

ES.4.2 Areas of Controversy / Public Scoping Issues

Private citizens provided the majority of the comments during the scoping processes. In addition to private individuals and groups, comments were received from organizations and government agencies. The issues raised during the public scoping process are described in detail in two Scoping Reports (available on the CPUC's Project website), and are summarized below.

Purpose and Need. Commenters questioned the Proposed Project's ability to provide transmission capability for delivering Imperial Valley renewable resources because this renewable energy source is not yet developed. Imperial County Planning and Development Services commented that no application had been submitted or approved for any of these potential renewable energy sources relied upon by the project. Agencies, organizations, and private citizens expressed concern about the project's potential to be used to import power from Mexico. Many commenters felt that the need for the project had not been established and that the focus should be on generation of power within the area (in-area generation) rather than importing energy from other regions. Commenters provided information on the workability of in-area generation. One company's representative explained that during the energy crisis, it was the independent energy producers and SDG&E that supplied energy for the region. Commenters suggested that in-area generation was the preferred and only feasible option.

Safety Issues and Fire Risk. The Forest Service and property owners near existing, proposed, and potential transmission line corridors were concerned with the potential for the proposed transmission line to start wildfires and to inhibit firefighting capabilities near the transmission line. Commenters requested a thorough analysis of how the SRPL project could contribute to fire risk.

Impacts to Property Values and Business Revenues. A number of residents expressed concern that the placement of towers near their homes and in their communities would be detrimental to the value of their property. Some homeowner groups requested that transmission lines be placed underground in their neighborhoods. Concern was expressed over the impact of the project on dairy businesses in Imperial County. The Imperial Irrigation District expressed concern over possible economic impacts of the project on agriculture.

Effects on Public and Park Lands. Comments both in the public meeting and through letters expressed concerns about the use of public lands for the Proposed Project and alternative routes. Concerns centered on the use of Anza Borrego Desert State Park (ABDSP) and the Cleveland National Forest (CNF) land for project ROW. California State Parks, environmental organizations, and community groups were strongly opposed to any use of ABDSP for the project. They requested the identification of alternatives that avoided the Park. San Diego County staff was concerned about the large number of parks and preserves affected by the project.

De-designation of Wilderness. A major concern is the Proposed Project's location within State Wilderness and the required precedent-setting de-designation of wilderness land that would need to occur to allow for a wider transmission corridor and the relocation of the existing corridor within ABDSP to avoid a cultural site. There were major concerns from community and environmental groups that the project would have significant impacts to biological resources within ABDSP. Commenters have asked that a thorough evaluation of recreation and biological resources be conducted in order to effectively mitigate potential impacts to these resources.

Conflicts with Existing or Planned Land Uses. Concerns were raised by several developers and land owners that the Proposed Project and alternative routes could adversely affect future developments that are being planned. Among these were the Proposed Project's impact on the Imperial Gateway Development project and other development projects along the Interstate 8 Alternative in San Diego County.

Human Environment Issues and Concerns. Some public comments focused on the potential effect of the project on the human environment, especially in neighborhoods where new towers and lines would be placed within an existing corridor with existing towers and lines. Concerns were with regard to the health and safety impacts of electric and magnetic fields (EMFs), health risks associated with prolonged exposure to high voltage electric fields, impacts to property values, safety and fire risk issues, noise (including corona noise), construction impacts, and conflicts with planned uses.

EMF and Dairy Operations. Commenters believe that the transmission lines would be detrimental to the dairy industry, and would have significant impacts on operations at an existing dairy.

Construction Impacts. The City of San Diego requested that construction be planned to avoid impacts to wildlife and that workers be trained to avoid impacts to wildlife.

Alternatives. A substantial number of alternative routes were suggested by citizens, organizations, and agencies. Comments from California State Parks and others expressed interest in alternatives that avoided the ABDSP. Comments from Cleveland National Forest expressed interest in alternatives that avoided the CNF. Preference for the I-8 Alternative route with a particular reroute was expressed by the Campo Band of Kumeyaay Indians and the Ewiiaapaayp Band of Kumeyaay Indians.

Modified Route D Alternative. After the Modified Route D Alternative was suggested by Cleveland National Forest, a third public comment period was held (May-June 2007) for this new alternative. Due to subsequent adjustments to the route, another comment period was held in September and October 2007, and commenters noted concerns about this alternative's proximity to residences and its effect on the rural setting of the area. Concerns were also expressed about effects on the biological, cultural, and geological resources at "The Narrows," and the risk of fire caused by power lines in this fire-prone area. In addition, planned development in this area was noted.

Environmental Review and Decision-Making Process: Public Involvement. Concerns were expressed about the number and timing of scoping meetings. Because of the large distance spanned by the project, some commenters stated that the meetings were too far apart and not convenient. The CNF submitted

requests for additional time to respond to the NOP. The Sierra Club and the Center for Biological Diversity filed a motion requesting the scoping period be extended and that additional scoping meetings be held to address impacts as well as alternatives. In response, the CPUC Administrative Law Judge Weissman ruled that there be a second 30-day scoping period at the earliest practical time that focused on preliminary alternative identification.

Cumulative Impacts. Concerns were expressed that the project would result in cumulatively significant harm by permitting completion of "full loop" transmission alternative; that SRPL and "full loop" are closely related. Commenters suggested that the EIR/EIS consider cumulative harm of the "full loop" alternative on people and nature.

Biological Resources Issues. Many comments addressed potential impacts to wildlife, habitats, and the pristine and undeveloped condition of the landscape. There were significant concerns expressed by resource agencies and environmental groups that the project would have major impacts on biological resources within ABDSP and in areas covered under the San Diego Multiple-Species Conservation Program Plan. It was noted that the project has the potential to impact native plants and bighorn sheep, raptors, gnatcatcher, least Bell's vireo, and southwestern willow flycatcher and their habitats. Commenters asked that a thorough evaluation of biological resources be conducted in order to effectively mitigate potential impacts to such resources. The U.S. Fish and Wildlife Service requested that protocol surveys for sensitive species be completed prior to release of the Draft EIR/EIS to ensure that biological resource issues are effectively addressed and mitigated in the draft document. The U.S. Fish and Wildlife Service and California Department of Fish and Game requested mitigation measures be evaluated based on the implementation of measures for other projects.

Cultural Resources Issues. Four comment letters were received from tribal governments and one from the Native American Heritage Commission (NAHC). The NAHC expressed concern on behalf of tribes in San Diego and Imperial Counties about the lack of information and inadequate consultation and urged the BLM to be proactive in providing tribes adequate opportunity for consultation on the Proposed Project.

Visual Resources Issues. The County of San Diego expressed concerns with the visual impacts of the project, and suggested alternatives to the far north, outside San Diego County, or to the far south within San Diego County. Many individuals and community groups expressed concerns over the visual impacts to their residences, communities, and the San Diego County backcountry, including a decrease in tourism revenue as a result of visual impacts. Caltrans expressed concerns about visual impacts to scenic highways and impacts to cultural resources within Caltrans rights-of-way. It requested that the EIR/EIS identify scenic highway design and eligibility, and develop visual simulations of views from State highways.

Water Resources Issues. State Water Resources Control Board expressed concern regarding riparian corridors and other waters, and requested that all waters of the State affected by the project be identified, and that the board be consulted on mitigation measures concerning State water.

Air Quality Issues. The Imperial County Air Pollution Control Board of Directors expressed opposition to the construction of transmission lines between Imperial Valley Substation and San Diego. It expressed concern that the project would allow further fossil-fuel burning facilities to be built in the Mexicali Valley, where air quality standards are not as stringent as those in California, and could further degrade air quality in Imperial Valley and thereby negatively impact the health of residents.

Regulatory Compliance. Caltrans commented that work performed in Caltrans ROWs will require an Encroachment Permit. It also requested that all areas where impacts occur on State ROWs be clearly delineated in the report and in maps.

ES.5 Impacts of the Proposed Project

This section identifies the significant, unmitigable impacts of the Proposed Project. The primary purpose of an EIR/EIS is to identify any significant effects of a project, as proposed. Knowledge of the significant impacts from the Proposed Project guides the identification of mitigation measures and of alternatives that reduce these impacts.

The Proposed Project as a whole would have ~~50~~ 52 **significant unmitigable impacts** in one or more geographic areas for: biological resources, visual resources, land use, wilderness and recreation, agricultural resources, cultural and paleontological resources, noise, air quality, socioeconomics, public services and utilities, and fire and fuels management. Additionally, there would be significant impacts that could be mitigated to a level that is less than significant. Other impacts that are adverse but not significant would not require mitigation. Following is a summary of the resource areas in which significant and unmitigable impacts have been identified.

Significant and Unmitigable Effects of the Proposed Project

Biological resources	11	Land Use	1
Visual resources *	19	Agriculture	3
Cultural resources	5	Noise	3
Wilderness and recreation	4 ~~3~~	Socioeconomics, public services, utilities	1
Air quality	2	Fire and fuels management	3

* Note that the number of significant visual resources is partly defined by the number of key viewpoints identified for each route so this number is not necessarily indicative of the severity of impacts and can result in uneven comparisons if considered alone.

This section first describes biological, air quality, agricultural, and noise impacts of the Proposed Project, because they are evaluated on a regional basis or the same impact conclusions apply to all areas of the project. It then describes the specific effects of the Proposed Project on specific resources within each of the five project links. Please note that some impacts occur in more than one geographic area, so more than 52 ~~50~~ impacts are described below when presented by Link for the Proposed Project.

ES.5.1 Regional and Project-wide Impacts

Air Quality. The Air Quality analysis identifies two significant and unmitigable impacts that would result from construction and operation of the Proposed Project:

- **Greenhouse gas (GHG) emissions** that would occur as a result of project-related construction activities and operation, maintenance, and inspection activities. These emissions would be partially offset by the small indirect net decrease in carbon dioxide (CO_2) emissions from power plants during line operation. Over the life of the Proposed Project, high GHG emissions during the years of construction would be followed by much lower GHG emissions during the years of activity necessary to support transmission line operation. As power plant operation shifts to accommodate the new transmission line and renewable resources replace conventional power plants, indirect GHG reductions are forecasted to occur. ~~But because t~~Total construction GHG emissions exceed the GHG reductions achieved due to avoided power plant emissions over ~~40~~ 12 years of transmission line operation. Because the amount and timing of the avoided power plant emissions is uncertain and dependent on actual development of renewable resources, the EIR/EIS finds that the Proposed Project would cause an overall net increase in GHG emissions and a significant climate change impact.

Also, electrical equipment associated with the new transmission system would result in the potential escape of sulfur hexafluoride (SF_6), a potent GHG, and because the proposed transmission system equipment would cause a net increase in SF_6 emissions, this impact would be significant and unavoidable.

- **Construction emissions** would create emissions of ozone precursors, particulate matter, and carbon monoxide, resulting from generation of dust and exhaust emissions of criteria pollutants and toxic air contaminants.

Mitigation measures are proposed to reduce construction and operation emissions, including measures to suppress dust at all work or staging areas and on public roads, use low-emission construction equipment, obtain emissions offsets, offset construction- and operation-phase greenhouse gas emissions with carbon credits, and avoid sulfur hexafluoride emissions. However, the GHG impacts would remain significant because carbon credit trading markets are not fully formed or regulated, and the relationship of credits to real GHG reductions is not enforceable. Construction impacts would remain significant because even with the identified measures, dust and exhaust emissions would exceed significance thresholds.

Biological Resources. In all links, significant unmitigable impacts would result from the loss of native vegetation, loss of listed or sensitive plants, or a direct loss of habitat for listed or sensitive plants, and loss of listed or sensitive wildlife or its habitat. These effects are defined in detail by acres of affected habitat, encompassing three separate impact discussions in the Biological Resources section, and they are considered to be significant because the overall amount of permanent habitat loss is nearly ~~500~~ 600 acres,[7] an amount that may not be available for replacement in the quantities and specific types of habitat that are affected. In addition, a new overhead transmission creates a potential for collision of birds, especially raptors, with the conductors.

Agriculture. In all areas except the Anza-Borrego Link, the installation of transmission towers would result in significant and unmitigable impacts due to loss of farmland in two categories: California Department of Conservation (DOC) Farmland (approximately 62~~3~~44 acres) and Williamson Act lands (approximately 104 ~~157~~ acres). In addition, the presence of the transmission line would permanently interfere with about 69 ~~167~~ acres of active agricultural operations, and in the Imperial Valley the transmission line would interfere with aerial spraying applications.

Noise. Noise impacts would be similar for all areas of the project where sensitive receptors would be in proximity to the line. The significant and unmitigable noise impacts would be:

- Construction noise would substantially increase ambient noise levels in the vicinity of the proposed overhead line, along the project route, and along all transport access routes.
- Corona noise caused by operation of the new 500 kV or 230 kV transmission line would substantially elevate the current ambient noise levels within 500 feet of the 500 kV or 230 kV edge of ROW.
- Maintenance activities would involve noise at levels identical to transmission line construction, requiring use of helicopters and other equipment within 200 feet of sensitive receptors.

[7] Note that impact acreages have been recalculated to verify original data and based on SDG&E's redefinition of permanent and temporary impacts prior to publication of the Final EIR/EIS.

ES.5.2 Imperial Valley Link Impacts

The 60.9-mile Proposed Project segment in the Imperial Valley Link would have **22 significant and unmitigable impacts**, as summarized below.

Biological Resources

- Specific sensitive species that would be affected: flat-tailed horned lizard and Peninsular bighorn sheep.
- Maintenance activities would result in significant and unmitiable disturbance to or mortality of Peninsular bighorn sheep

Visual Resources

- The installation of new 500 kV transmission towers would affect travelers on local roads, recreationists, and local residents, and would be inconsistent with Interim BLM VRM Class III management objectives at the Superstition Hills.

Wilderness and Recreation

- Presence of the transmission structures and corona noise would diminish the value of the recreational experience for users of the Juan Bautista de Anza Trail and campers on BLM land in the Imperial Valley Link.

Cultural Resources

- Construction would adversely affect known historic properties, unknown significant buried resources, and sites known to contain Native American human remains.
- A total of 159 known cultural resources are located within the 150-foot-wide survey corridor for this segment of the Proposed Project.

ES.5.3 Anza-Borrego Link Impacts

The Anza-Borrego Link includes 22.6 miles within the boundaries of Anza-Borrego Desert State Park. The Proposed Project in the Anza-Borrego Link would have **35 significant and unmitigable impacts**, as summarized below.

Biological Resources

- Specific sensitive species that would be affected include: flat-tailed horned lizard, Peninsular bighorn sheep, golden eagle, quino checkerspot butterfly, and barefoot banded gecko.
- A higher potential for bird collision would result with the new transmission line, because of the significant migration of Swainson's hawk and other raptors through the Park area.
- Maintenance activities would also result in significant and unmitigable disturbance to or mortality of Peninsular bighorn sheep.

Visual Resources

- The installation of new 500 kV transmission towers would result in increased structure contrast, industrial character, view blockage, and skylining from eight locations that represent the majority of public views through the SR78 and Grapevine Canyon areas of the Park.

Wilderness and Recreation

- De-designation of approximately 50.2 acres of State Wilderness land would be required for the wider ROW and avoidance of a cultural resource.
- Construction (noise, dust and heavy equipment traffic) could create disturbance that would dissuade recreationists from visiting the Park and negatively affect visitor enjoyment.
- Construction equipment would potentially temporarily preclude access to recreation areas.
- Corona noise (buzzing or crackling) from the 500 kV transmission line would detract from the quiet and solitude now experienced at Tamarisk Grove Campground and Yaqui Wells Primitive Camp, and by hikers in Grapevine Canyon.
- The Park experience, which now provides desert solitude and expansive natural vistas, would be reduced with the 500 kV overhead transmission line, irreparably diminishing its recreational value and reducing Park visitation.
- Park officials have stated that Tamarisk Grove Campground may have to be closed and relocated due to significant reduction in the recreational experience at the campground.
- A significant reduction in visitation and access to recreation and wilderness areas would potentially result in significant and unmitigable revenue impacts to businesses related to the tourism industry and at the Visitors' Center.

Cultural Resources

- Construction would adversely affect known historic properties, unknown significant buried resources, and sites known to contain Native American human remains.
- A total of 109 known cultural resources are located within the 150-foot-wide survey corridor for this segment. Due to the remote and undeveloped setting, many of the sites in this area retain an unusually high sense of integrity of setting and feeling.
- The transmission line corridor would pass through and cause an adverse change to a highly valued Traditional Cultural Property (one large area that contains numerous prehistoric and some historic sites, including a large prehistoric site complex with human remains). This site is considered to be of extremely high value to the Native American community.

Socioeconomics

- Construction-period disturbances to recreational activities may temporarily reduce access and visitation to portions of ABDSP, resulting in potentially significant impacts to businesses related to the tourism industry within ABDSP. In addition, negative impacts on the Park tourism industry would potentially result in lost revenue to ABDSP itself due to the collection of fewer parking and camping fees.

Fire and Fuels Management

- In the western half of ABDSP, the Ranchita Fireshed is found to have a significant risk of fire in two impact areas. The presence of the overhead transmission line would reduce the effectiveness of firefighting and increase the probability that a wildfire would occur.

ES.5.4 Central Link Impacts

This segment of the Proposed Project includes 27.3 miles of new transmission line (both 500 kV and 230 kV) and the new Central East Substation. The project in the Central Link would create **25 significant and unmitigable impacts from the transmission line and 14 significant and unmitigable impacts from construction of the proposed Central East Substation**, as summarized below.

Biological Resources

- Specific sensitive species that would be affected in the Central Link include: golden eagle and quino checkerspot butterfly.

Visual Resources

- The installation of new 500 and 230 kV transmission towers would result in increased structure contrast, industrial character, view blockage, and skylining from five locations within the very scenic areas of Ranchita and Santa Ysabel.

Wilderness and Recreation

- Presence of the new 500 and 230 kV transmission structures and corona noise would diminish the value of the recreational experience for users of the Pacific Crest Trail, San Felipe Hills Wilderness Study Area, San Dieguito River Park, and Santa Ysabel Open Space Preserve within the Central Link.

Cultural Resources

- Construction would adversely affect known historic properties, unknown significant buried resources, and sites known to contain Native American human remains.
- A total of 49 known cultural resources are located within the survey corridor.

Fire and Fuels Management

- San Felipe Fireshed has a significant risk of fire in two impact areas. The presence of the overhead transmission line would reduce the effectiveness of firefighting and increase the probability that a wildfire would occur.

ES.5.5 Inland Valley Link Impacts

This 25.5-mile segment of the Proposed Project includes a new overhead 230 kV transmission line and underground construction through San Diego Country Estates. The project in the Inland Valley Link would create **23 significant and unmitigable impacts**, as summarized below.

Biological Resources

- Specific sensitive species that would be affected in the Central Link include: golden eagle and quino checkerspot butterfly.

Visual Resources

- The installation of new 230 kV transmission towers would result in increased structure contrast, industrial character, view blockage, and skylining from two locations, along SR67 and near the San Vicente Road transition station.

Wilderness and Recreation

- Presence of the new 230 kV transmission structures and corona noise would diminish the value of the recreational experience for users of the five open space preserves within the Inland Valley Link: Mt. Gower, Barnett Ranch, Boulder Oaks, San Vicente Highlands, and Sycamore Canyon Open Space Preserves.

Cultural Resources

- Construction would adversely affect known historic properties, unknown significant buried resources, and sites known to contain Native American human remains.
- A total of 23 known cultural resources are located within the survey corridor.

Fire and Fuels Management

In the Inland Valley Link there is an extremely high fire risk, so a new transmission line would create significant impacts:

- Santa Ysabel, Ramona, and Poway Firesheds: The presence of the overhead 230 kV transmission line would reduce the effectiveness of firefighting, and the presence of the transmission line would increase the probability that a wildfire would occur.
- Ramona and Poway Firesheds: Construction and/or maintenance activities would significantly increase the probability of a wildfire.

Environmental Justice

- There are two high-minority census areas within the Barona Reservation that would be affected by the significant and unmitigable impacts of the project. Therefore, the Proposed Project would disproportionately impact high-minority populations.

ES.5.6 Coastal Link Impacts

This 13.6-mile segment of the Proposed Project includes a new overhead and underground 230 kV transmission line between Sycamore Canyon Substation (MP 136.3) and Peñasquitos Substation (MP 149.9). The project in the Coastal Link would create **12 significant and unmitigable impacts**, as summarized below.

Cultural Resources

- Construction would adversely affect known historic properties, unknown significant buried resources, and sites known to contain Native American human remains.
- A total of 15 known cultural resources are located within the survey corridor.

Fire and Fuels Management

- In the Poway Fireshed, the presence of the overhead 230 kV transmission line would reduce the effectiveness of firefighting and construction and/or maintenance activities would significantly increase the probability of a wildfire.
- In the Peñasquitos and Poway Firesheds, the presence of the transmission line would increase the probability that a wildfire would occur.

ES.5.7 Connected Actions and Indirect Effects

As described above, this EIR/EIS evaluates ~~five~~ three projects which are so closely related to the Proposed Project as to be considered part of the project: the Stirling Energy Systems solar facility, ~~two components of the Imperial Irrigation District (IID) 230 kV transmission system upgrades,~~ the Esmeralda–San Felipe Geothermal Project (in the Truckhaven Geothermal Leasing Area), ~~the Jacumba 69/ 230/500 kV Substation,~~ and a Sempra Energy 1,250 MW wind project in northern Mexico's La Rumorosa area that includes new and upgraded transmission lines and substations in the U.S.. The major impacts associated with these projects are the following:

- The extensive ground disturbance required by the La Rumorosa wind and Stirling solar thermal projects, which require thousands of acres of ground disturbance in sensitive desert ecosystems. Stirling components would cover as many as 8,000 acres (permanent loss of habitat would be 2,500 acres).
- The severe effects on visual and recreational resources, because wind and solar thermal facilities would be developed in areas with expansive and scenic views.
- Because all ~~five~~ three ~~connected actions~~ of these projects require new transmission lines, the types of impacts defined above for the Proposed Project would also occur at or adjacent to each facility.

ES.5.8 Future Transmission System Expansion

The construction of the Proposed Project (or any transmission alternative) would likely be followed (in 10 or more years) by another expansion of SDG&E's transmission system, at minimum at the 230 kV level and possibly also at 500 kV. These future lines could follow a variety of corridors in San Diego County. The impacts of this potential transmission system expansion are ~~defined~~ analyzed in Sections D and E of the EIR/EIS. While the locations of the impacts would vary, affecting different populations and habitats, the same types of impacts would occur as those summarized in Sections ES.5.1 to ES.5.6 above.

ES.6 Alternatives to the Proposed Project

ES.6.1 CEQA and NEPA Requirements for Selection of Alternatives

The EIR/EIS analyzed 27 alternatives to the Proposed Project, including 18 alternative route segments along the Proposed Project route, 4 routes following portions of the existing Southwest Powerlink (SWPL), two non-wires alternatives, two alternatives including components of the Lake Elsinore Advanced Pumped Storage (LEAPS) Project, and the No Project/No Action alternative. An additional 70 alternatives were considered in a screening process and eliminated from further review. ~~The EIR/EIS includes full consideration of 27 alternatives to the Proposed Project. An additional 70 alternatives were considered in a screening process and eliminated from further review.~~

ES.6.1.1 Reasonable Range of Alternatives

Both CEQA and NEPA require the evaluation of a reasonable range of alternatives to a proposed project.

CEQA Guidelines (Section 15126(a)) state that "An EIR shall describe a reasonable range of alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives." CEQA Guidelines Section 15364 defines feasibility as ". . . capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors."

The Council on Environmental Quality's (CEQ) NEPA Regulations (40 C.F.R. 1502.14) provide that an EIS must present the environmental impacts of the proposed action and alternatives in comparative form, defining the issues and providing a clear basis for choice by decision-makers and the public. The CEQ has stated that "[r]easonable alternatives include those that are practical or feasible from the technical and economic standpoint and using common sense rather than simply desirable from the standpoint of the applicant." (CEQ, 1983).

Consideration of a No Project or No Action Alternative is a requirement of both CEQA and NEPA. The No Project/No Action Alternative is ~~discussed~~ analyzed fully in the EIR/EIS. A scenario has been developed to define the actions that may be implemented if the Proposed Project is not approved or constructed. This is described further in Section ES.6.4.

ES.6.1.2 Alternatives Screening Process – Consideration of Alternatives for Evaluation or Elimination

Many potential alternatives to the Proposed Project were suggested by the general public, organizations, and federal, State, and local agencies during public scoping and in comments on the Draft EIR/EIS and the Recirculated Draft EIR/Supplemental Draft EIS. Other potential alternatives were developed by EIR/EIS preparers or presented by SDG&E in its PEA and in comments on the Draft EIR/EIS. In total, nearly 100 potential alternatives were identified, ranging from minor adjustments to SDG&E's Proposed Project route or location, to entirely different transmission line routes, to alternative energy technologies, as well as non-wires and system alternatives.

The EIR/EIS used the following screening criteria to select a reasonable range of alternatives. Would the alternative:

(1) **Meet most of the basic project objectives**

(2) **Be potentially feasible considering economic, environmental, legal, social, and technological factors; and**

(3) **Substantially lessen or avoid any of the significant effects of the Proposed Project**.

After an alternative has been retained for analysis, the process for comparison of alternatives is based solely on the environmental impacts of each alternative as compared with the Proposed Project and other alternatives. The comparison process does not re-consider the extent to which each alternative met the original screening criteria.

Other factors considered, in accordance with CEQA Guidelines (Section 15126.6(f)), were site suitability, economic viability, availability of infrastructure, general plan consistency, other regulatory limitations, jurisdictional boundaries, and proponent's control over alternative sites. Economic factors or costs of the alternatives were not considered in the screening of alternatives because CEQA Guidelines require

consideration of alternatives capable of eliminating or reducing significant environmental effects even though they may "impede to some degree the attainment of project objectives, or would be more costly" (Section 15126.6(b)).

The detailed results of the alternatives screening analysis are contained in Appendix 1 of the EIR/EIS (Alternatives Screening Report). The relative merits of all alternatives are summarized below.

ES.6.2 Alternatives Fully Evaluated in the EIR/EIS

The 27 alternatives listed below were retained for detailed analysis in this EIR/EIS. These alternatives are briefly described in Section C.4 of the EIR/EIS and in greater detail in Section 4 of Appendix 1. Each of these alternatives is evaluated within each environmental issue area of Sections D and E of this EIR/EIS. The alternatives are illustrated on Figure ES-10; detailed maps of each alternative are presented in Section D, Section E, and Appendix 1 of this EIR/EIS.

The environmental impacts of those alternatives that consist of minor routing adjustments to SDG&E's Proposed Project route are evaluated within Section D of the EIR/EIS, following the analysis of impacts of the Proposed Project itself in each environmental issue area. The environmental impacts of those alternatives that consist of entirely different transmission line routes, alternative energy technologies, "non-wires" alternatives, and system alternatives are discussed in Section E of the EIR/EIS.

Imperial Valley Link Alternatives

- FTHL Eastern Alternative
- SDG&E West of Dunaway Alternative
- SDG&E West Main Canal – Huff Road Modification Alternative

Anza-Borrego Link Alternatives

- Partial Underground 230 kV ABDSP SR78 to S2 Alternative (with All Underground Option).
- Overhead 500 kV ABDSP within Existing 100-Foot ROW (with East of Tamarisk Grove Campground 150-Foot Option)

Central Link Alternatives

- Santa Ysabel Existing ROW Alternative
- Santa Ysabel Partial Underground Alternative
- Santa Ysabel All Underground Alternative
- SDG&E Mesa Grande Alternative

Inland Valley Link Alternatives

- CNF Existing 69 kV Route Alternative
- Oak Hollow Road Underground Alternative
- San Vicente Transition Alternative
- Chuck Wagon Road Alternative

Coastal Link Alternatives

- Pomerado Road to Miramar Area North Alternative
- Los Peñasquitos Canyon Preserve and Mercy Road Alternative
- Black Mountain to Park Village Road Underground Alternative
- Coastal Link System Upgrade Alternative

Substation Alternatives to Central East Substation

- Top of the World Substation Alternative

Southwest Powerlink (SWPL) Alternatives

- Interstate 8 Alternative (with five segment options)
- BCD Alternative (with South BCD Option)
- Route D Alternative (North of I-8)
- Modified Route D Alternative (South of I-8) (with Star Valley Option)

Non Wires Alternatives

- New In-Area Renewable Generation (wind, solar thermal, solar photovoltaics, and biomass/biogas)
- New In-Area All-Source Generation (renewable components and conventional [gas-fired] generation).

Full Project Route and System Alternatives

- LEAPS Transmission-Only Alternative
- LEAPS Generation and Transmission Alternative

No Project / No Action Alternative

- A variety of renewable and conventional generation projects and smaller transmission projects including "Mexico Light" and the "Path 44 Upgrade"

ES.6.3 Alternatives Eliminated From Further Consideration

In addition to the 27 alternatives evaluated, 70 other alternatives were considered and eliminated by a screening process. Figure ES-11 illustrates the alternatives eliminated. Reasons for elimination are described in Appendix 1 and include (a) inability to meet most basic project objectives, (b) infeasibility due to legal, technical, or regulatory reasons, or inability to reduce overall environmental impacts in comparison to the Proposed Project. The eliminated alternatives are described and evaluated in Section 3.1 of Appendix 1, and are listed below.

Imperial Valley Link Route Segment Alternatives

- SDG&E Desert Western Route Alternative
- SDG&E Segment 1/Imperial Valley via 92 kV Alternative
- Imperial Valley FTHL Alternative
- SDG&E Imperial Valley FTHL Modification Alternative
- SDG&E Bullfrog Farms Alternative
- Huff Road Bullfrog Farms Alternative
- New River Alternative

Anza-Borrego Link Route Segment Alternatives

- SDG&E 100-Foot ROW Shorter Structure Alternative
- SDG&E Segment A/Northern Borrego Springs via S22 Alternative
- SDG&E Segment 4/ABDSP via S2 Alternative
- SDG&E SR78 West of Anza Alternative
- SDG&E ABDSP North Side of SR78 Alternative
- SDG&E Borrego Valley Alternative
- SDG&E Borrego Valley Underground Alternative
- SDG&E SR78 Julian Alternative
- SDG&E ABDSP SR78 to S2 Central Alternative
- Overhead 230 kV ABDSP Alternative
- HVDC Light Underground Alternative

Central Link Route Segment Alternatives

- SDG&E Central East Substation to SR79 Alternative
- SDG&E Warners S2 to SR79 Alternative
- SDG&E San Dieguito Park Alternative
- Volcan Mountain Alternative

Inland Valley Link Route Segment Alternatives

- SDG&E Segment 10/Inland Valley SR78 Alternative
- SDG&E Creelman Alternative
- West of San Vicente Road Underground Alternative

Coastal Link Route Segment Alternatives

- Northwest Corner Alternative
- Mannix-Dormouse Road Alternative
- SDG&E Segment 12 Poway Substation to Peñasquitos Substation Alternative
- SDG&E Segment 13 Scripps Ranch Alternative
- SDG&E Segment 14 Poway Alternative
- SDG&E Segment 15 Warren Canyon Alternative
- SDG&E Segment 16 North of Peñasquitos Alternative
- Pomerado Road to Miramar Area North – Combination Underground/Overhead Alternative
- MCAS Miramar – All Underground and Underground /Overhead Alternative
- MCAS Miramar – Combination Underground/Overhead Alternative
- Rancho Peñasquitos Boulevard Bike Path Alternative
- Carmel Valley Road Alternative
- State Route 56 Alternative
- MP 146.5 to Peñasquitos Substation Underground and Consolidation Alternative
- Scripps-Poway Parkway to State Route 56 Alternative
- Scripps-Poway Parkway - Pomerado Road Underground Alternative

Substation Alternatives to Central East Substation

- SDG&E Central South Substation Alternative
- Mataguay Substation Alternative
- SDG&E Warners West Substation Alternative
- Warners Substation Alternative

Southwest Powerlink (SWPL) Alternatives

- West of Forest Alternative
- SDG&E Route B Alternative
- SDG&E Route Segment C Alternative
- SDG&E Route Segment BC Alternative
- West of Forest - Otay Segment Alternative

Full Project Route and System Alternatives

- SDG&E Southwest Powerlink (SWPL) No. 2 Alternative
- Convert SWPL to DC Alternative
- Upgrade Series Capacitors along SWPL
- SDG&E 230 kV CFE Alternative
- Serrano/Valley-Central 500 kV Alternative
- Valley-Rainbow 500 kV Alternatives [Include Devers-Pala, Devers-Ramona, Coachella-Ramona-Miguel, Devers-Miguel via Northern San Diego County, and Devers-Miguel via Imperial County]
- V-R Serrano-Talega Alternative
- Valley-Central 500 kV Alternative

Figure ES-10. Alternatives Retained
CLICK HERE TO VIEW

Figure ES-11. Alternatives Eliminated
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- SDG&E 500 kV Full Loop or Full Loop North Alternatives [Includes Imperial Valley (IV)-Ramona 500 kV; IV-Rainbow 500 kV; and IV-East of Escondido 500 kV]
- Northern Service Territory Upgrades Alternatives [Includes SONGS Light and SONGS Heavy 230 kV Alternatives]
- SDG&E Imperial Valley-Central 230 kV ("Four 230 kV Circuits") Alternative
- HTLS Composite Conductor Alternative
- All Underground 230 kV or 500 kV Alternative
- Green Path Coordinated Projects Alternative

Non-Wires Alternatives

- Non-Renewable Distributed Generation Alternative
- Energy Efficiency Alternative
- Demand Response Alternative
- All Solar Alternative

ES.6.4 No Project Alternative

The effects of not implementing a project also must be considered under CEQA Guidelines (Section 15126.6(e). This is called the No Project Alternative. Similarly, NEPA requires the consideration of a No Action Alternative (40 C.F.R. 1502.14(c)). The analysis of the No Project Alternative must discuss the existing conditions at the time the Notice of Preparation was published (October 21, 2005), as well as: "what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services" (CEQA Guidelines Section 15126.6 (e)(2)). In other words, the scenario evaluates the outcomes or actions that likely would ~~likely~~ take place without the project.

Under the No Project/No Action Alternative, construction and operation of SRPL would not occur. It is reasonable to conclude that t~~T~~he absence of the Proposed Project may lead SDG&E or other developers to undertake other predictable actions to achieve the objectives of the Proposed Project or similar competitive objectives. The events or actions that are reasonably expected to occur in the foreseeable future under the No Project/No Action Alternative include the following options:

- Increased solar photovoltaic and distributed generation (DG) deployment
- New conventional generation (one new combined cycle power plant and four new peaker power plants
- New renewable generation (wind generation in the Crestwood area, solar thermal generation in the Borrego Springs area, biomass/biogas projects in San Diego and Fallbrook)
- Lake Elsinore Advanced Pumped Storage (LEAPS) and Talega-Escondido/Valley Serrano [TE/VS] Transmission Project
- Path 44 Upgrades (transmission system upgrades within Southern California Edison system in Orange County)
- Mexico Light 230 kV Project (transmission system upgrade in northern Mexico).

Note that the Green Path Project (proposed jointly by the Los Angeles Department of Water and Power and the Imperial Irrigation District) is expected to proceed regardless of the outcome of the Sunrise Powerlink Transmission Project, so it is not considered as part of the No Project Alternative. It was also eliminated as an alternative since it was determined not to meet most of the SRPL objectives.

ES.6.5 Transmission Line Route Revisions

Based on comments on the Draft EIR/EIS and the Recirculated Draft EIR/EIS, several transmission line route revisions were suggested by SDG&E or developed in consultation with the CPUC, BLM and U.S. Forest Service. Route descriptions, maps, and impact analysis for these revisions are presented in sections of the Draft EIR/EIS (as modified in response to comments) and the Recirculated Draft EIR/Supplemental Draft EIS, as shown in Table ES-1.

Table ES-1. Transmission Line Route Revisions

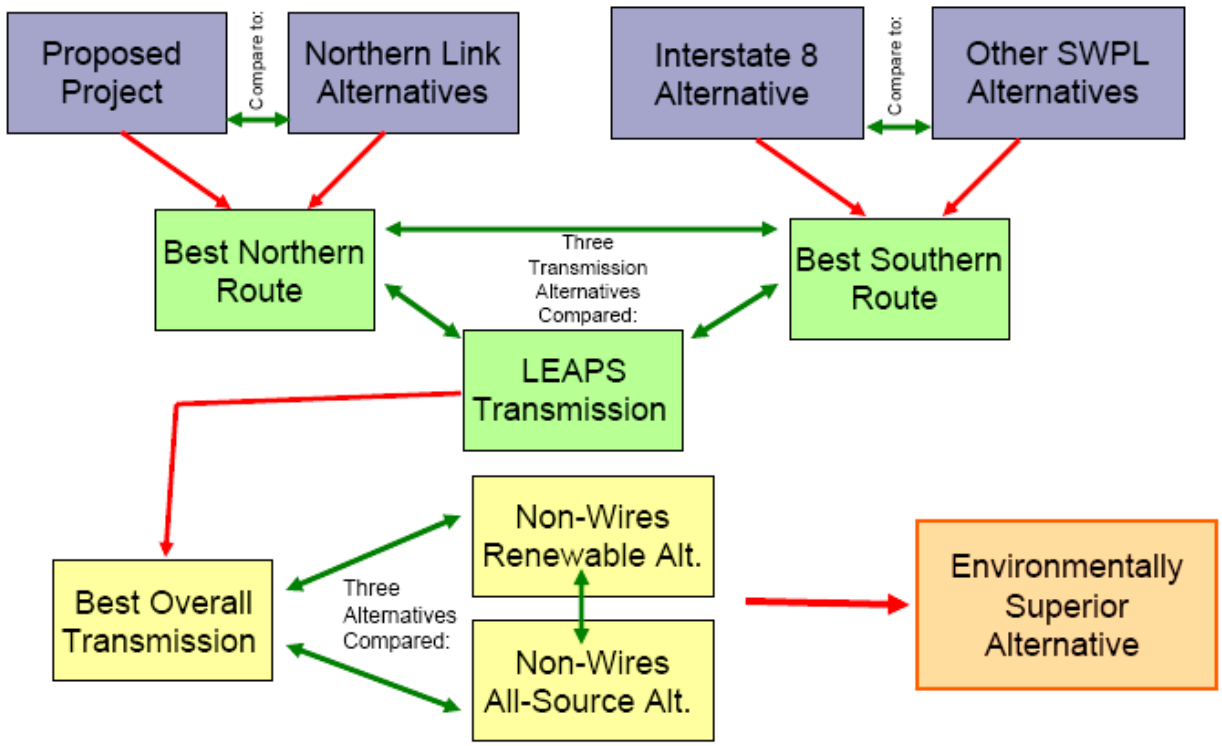
Route Title	Modifies Which Route?	Analysis Location
Reroutes Evaluated in the Recirculated Draft EIR/Supplemental Draft EIS		
BLM Gifted Lands Reroute	Proposed Project, Imperial Valley Link	Section 3.1.1
Northern Grapevine Canyon Reroute	Proposed Project, Central Link	Section 3.1.2
Top of the World Substation Alternative Revision	Top of the World Substation Alternative	Section 3.2.1
SDG&E Santa Ysabel Partial Underground Alternative Revision	Santa Ysabel Partial Underground Alternative	Section 3.2.2
Coastal Link System Upgrades Alternative Revision	Coastal Link System Upgrade Alternative	Section 3.2.3
Jacumba SWPL Breakaway Point Reroute	Interstate 8 Alternative	Section 3.3.1
BCD Alternative and BCD South Option Revisions	BCD Alternative and BCD South Option	Section 3.3.2
Highway 67 Hansen Quarry Reroute	Interstate 8 Alternative	Section 3.3.4
Cameron Reroute	Modified Route D Alternative	Section 3.3.5
Western Modified Route D Alternative Reroute	Modified Route D Alternative	Section 3.3.7
Star Valley Option Revision	Star Valley Option	Section 3.3.8
High Meadows Reroute	Interstate 8 Alternative	Section 3.3.3
Reroutes Evaluated in the Draft EIR/EIS (as revised in this Final EIR/EIS)		
Overhead 500 kV ABDSP Within Existing ROW Alternative Revision	Overhead 500 kV ABDSP Within Existing ROW Alternative	Section D.5.15.2
Central East Substation Ingress/Egress	Proposed Project, Central Link	Section D.4.7
Around Narrows Substation Revision	Overhead 500 kV ABDSP Within Existing ROW Alternative	Section D.4.15.2
N6 Private Land Revision	Proposed Project, Imperial Valley Link	Section D.4.5
SWPL Archaeological Site Reroute	Interstate 8 Alternative	Section E.1.7.2
Pacific Crest Trail Option C/D	Modified Route D Alternative	Section E.4
Chocolate Canyon Option Revision	Chocolate Canyon Option	Section E.1.3.2

ES.7 Comparison of Proposed Project and Retained Alternatives to Determine Overall Environmentally Superior Alternatives

Alternatives ~~are~~ were compared in the Draft EIR/EIS in Section H, which has been updated in this Final EIR/EIS. Both CEQA and NEPA require the ~~EIR/EIS~~Lead Agencies to identify the "Environmentally Superior" ~~or~~ and "Agency Preferred" Alternative. The flow chart below depicts the methodology used to determine the overall "Environmentally Superior Alternative~~,~~," including 18 alternative route segments along the Proposed Project route, 4 routes following portions of the existing Southwest Powerlink (SWPL), two non-wires alternatives, two alternatives including components of the Lake Elsinore Advanced Pumped Storage (LEAPS) Project, and the No Project/No Action alternative

First, t~~T~~he analysis ~~first~~ compared the Proposed Project ~~and~~ with the routing alternatives along the Proposed Project route, link by link, to select a "best Northern Route" identified as the Environmentally Superior Northern Route Alternative. The same approach was used to select a "best Southern Route" identified as the Environmentally Superior Southern Route Alternative, from among various alternatives that would use some portion of the existing SWPL corridor. The Environmentally Superior Southern Route Alternative would primarily utilize ~~is comprised of~~ the Interstate 8 Alternative~~, which would form a continuous alignment, and other alternatives that could replace various segments of that alignment~~.

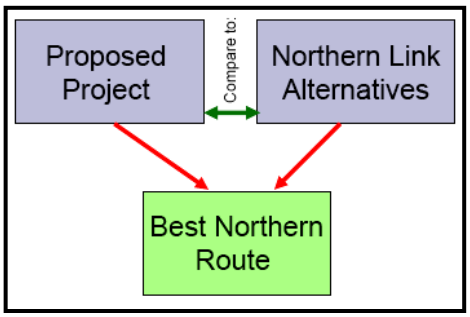
Next, t~~T~~he best Northern Route, best Southern Route, and the LEAPS Transmission-Only Alternative were ~~then~~ compared to each other to determine the "Best Overall Transmission Alternative," identified as the Environmentally Superior Transmission Line Alternative. Finally, a comparison was made between the Best Overall Transmission Alternative and both the Non-Wires Renewable Alternative and the Non-Wires All-Source Alternative. This allowed for determination of the overall Environmentally Superior Alternative. ~~Note that the~~ BLM did not ~~has not yet~~ define~~d~~ its Agency Preferred Alternative in the Draft EIR/EIS, but it is stated in this Final EIR/EIS (see Section ES.2.2). ~~so t~~The determinations presented in the Draft EIR/EIS represented the overall Environmentally Superior Alternative as determined by the CPUC only.



The following sections present the comparison of alternatives process and a discussion of impacts leading to the overall Environmentally Superior Alternative:

- **Section ES.7.1: Comparison of Proposed Project and Northern Route Alternatives**. Major impacts of the Proposed Project are described, and alternatives are addressed by Link. The outcome is the identification of the Environmentally Superior Northern Route Alternative arrived at by selecting the superior segments of the Proposed Project and the northern route alternatives that minimize impacts in each segment, including SDG&E's Enhanced Northern Route Alternative as defined in SDG&E's comments on the Draft EIR/EIS.
- **Section ES.7.2: Comparison of Southern Route Alternatives.** The Interstate 8 Alternative is compared to ~~its~~ the various segment options identified in the EIR/EIS to identify the superior Interstate 8 Alternative. This superior alternative is compared with the other southern route alternatives. Major impacts of the alternatives are described. The outcome is the identification of the Environmentally Superior Southern Route Alternative arrived at by combining superior segments of the various southern alternatives.
- **Section ES.7.3: Comparison of LEAPS Transmission-Only Alternative with LEAPS Transmission and Generation Alternative.** These two alternatives are compared to determine the Environmentally Superior LEAPS Alternative.
- **Section ES.7.4: Comparison of Environmentally Superior Northern Route, Southern Route, and LEAPS Transmission Alternatives**. This comparison determines the environmentally superior transmission line route.
- **Section ES.7.5: Comparison of the environmentally superior transmission line route with the "Non-Wires Alternatives"** (the In-Area Renewable Generation Alternative and the In-Area All-Source Generation Alternative). This comparison determines the Overall Environmentally Superior Alternative.
- **Section ES.7.6: Comparison of the Overall Environmentally Superior Alternative with the No Project/No Action Alternative.**

ES.7.1 Comparison of Proposed Project and the Northern Link Alternatives



This section of the summary compares the 17 routing alternatives to the Proposed Project identified along the northern corridor, as illustrated in Figure ES-12 through Figure ES-16. Smaller reroutes and route revisions were also incorporated, as described below and illustrated on the maps. For simplicity, this route is called the Northern Route (or Northern Link Alternatives) in this section. The alternatives would replace various segments of the Proposed Project, resulting in a single route comprised of segments of the Proposed Project and alternatives to the project. The result of this comparison is what is considered the least environmentally damaging northern route, called the Final Environmentally Superior Northern Route.

As a result of the comparison of the Proposed Project and alternatives, the Final Environmentally Superior Northern Route Alternative was identified. It is a combination of the Proposed Project with various segment alternatives. Between various segments of the Proposed Project the following alternatives would be adopted, each replacing the corresponding section of the Proposed Project alignment.

Figure ES-12. Imperial Valley Link Alternatives Retained
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Figure ES-13. Anza-Borrego Link Alternatives Retained
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Figure ES-14. Central Link Alternatives Retained
CLICK HERE TO VIEW

Figure ES-15. Inland Valley Link Alternatives Retained
CLICK HERE TO VIEW

Figure ES-16. Coastal Link Alternatives Retained
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The conclusions in Sections ES.7.1.1 through ES.7.1.6 for the Proposed Project and northern route alternatives result in identification of an Environmentally Superior Northern Route Alternative. Its various components are listed below. Eight segments of the Proposed Project would be retained, representing 79.4 miles out of the 150 miles of originally proposed route. The Final Environmentally Superior Northern Route Alternative is illustrated in Figure ES-4. It consists of:

- **Proposed Project**, *except* where it is altered by the following alternatives and route revisions (as defined in Section 3 of the Recirculated Draft EIR/Supplemental Draft EIS):
  - **FTHL Eastern Alternative** (Imperial Valley Link)
  - **West Main Canal–Huff Road Modification Alternative** (Imperial Valley Link)
  - N6 Private Land Revision
  - BLM Gifted Lands Reroute
  - **Partial Underground 230 kV ABDSP SR78 to S2 Alternative with both the All Underground ABDSP Option and the Underground Along S2 Option** (Anza-Borrego Link, extending into Central Link)
  - **Santa Ysabel All Underground Alternative** (Central Link) [8]
  - **CNF Existing 69 kV Route Alternative** (Inland Valley Link)
  - **Oak Hollow Underground Alternative** (Inland Valley Link)
  - **Chuck Wagon Road Alternative** (Inland Valley Link)
  - **Coastal Link System Upgrade Alternative Revision** (Coastal Link)
  - **Top of the World Substation Alternative Revision** (if required, Central Link)

ES.7.1.1 Imperial Valley Link

The Proposed Project in the Imperial Valley Link would extend for nearly 61 miles from the Imperial Valley Substation to the eastern boundary of Anza-Borrego Desert State Park (ABDSP). In this link the new line would be on BLM lands and on or adjacent to agricultural land. As illustrated in Figure ES-12, there are three route alternatives, all in the El Centro area. Each would be an alternative to relatively short segments of the proposed alignment.

FTHL Eastern Alternative – would replace six miles of the Proposed Project just north of the Imperial Valley Substation. It avoids almost two miles of proposed 500 kV transmission line within the Flat-Tailed Horned Lizard (FTHL) Management area found here. It also reduces visual impacts on the Yuha Basin Area of Critical Environmental Concern (ACEC) and potential impacts on prehistoric cultural resources sites. An additional benefit is that it avoids conflict with land development projects in the area.

> **Conclusion:** The FTHL Eastern Alternative is superior to the corresponding Proposed Project segment.

[8] If the Santa Ysabel All Underground Alternative is determined to be infeasible, the Mesa Grande Alternative with the northern segment of the SDG&E Santa Ysabel Partial Underground Alternative Revision and the southern segment of the Santa Ysabel Partial Underground Alternative would be environmentally superior after the Santa Ysabel All Underground Alternative

SDG&E West of Dunaway Alternative – a 6.1-mile overhead 500 kV alternative that would replace 3.9 miles of the Proposed Project in the area just north of the Imperial Valley Substation. It reduces impacts to agricultural resources and decreases the likelihood of corona noise affecting residential properties. However, its greater length increases overall construction impacts and visibility, including greater effects on native habitat. It would also affect more flat-tailed horned lizard habitat and more known cultural resources. Significant visual impacts from the Dunaway Off Highway Vehicle (OHV) Staging Area and from Dunaway Road north and south of Interstate 8 (I-8) would occur under this alternative.

Conclusion: The SDG&E West of Dunaway Alternative is inferior to both the Proposed Project and the FTHL Eastern Alternative because it would have greater impacts overall.

SDG&E West Main Canal – Huff Road Modification Alternative – a 4.9 mile long alternative that would replace 5 miles of the Proposed Project. It would follow the IID Westside Main Canal to the east-northeast, and then turn north on Huff Road in the area just north of the Interstate 8 and west of El Centro. This alternative avoids direct effects to Bullfrog Farms Dairy and to a proposed development at the Raceway. It also slightly reduces impacts to flat-tailed horned lizard habitat. However, there would be greater visibility as compared to the Proposed Project due to its proximity to well-traveled roadways.

Conclusion: The SDG&E West Main Canal – Huff Road Modification Alternative is superior to the Proposed Project because it avoids direct effects on developed agricultural lands (dairy).

N6 Private Land Revision – This revision was proposed by SDG&E as a reroute of the Proposed Project about 20 miles north of the Imperial Valley Substation. The revised route would minimize land use impacts by moving the route to BLM land instead of bisecting a privately owned parcel. It would also avoid cultural resources. No new impacts would be created, so the revision has been incorporated into the Proposed Project as a mitigation reroute, as well as into SDG&E's "Enhanced" Northern Route. In addition, this reroute would be incorporated into the Environmentally Superior Northern Alternative, as is shown on Figure ES-4.

BLM Gifted Land Revision – This short revision was proposed by SDG&E as to revise the Proposed Project route about 10 miles east of Anza-Borrego Desert State Park. It would move the transmission towers off a Caltrans habitat mitigation parcel and would avoid affecting a parcel acquired by BLM from a private party.

Overall Conclusion for Imperial Valley Link

The Proposed Project with specific segments replaced by the FTHL Eastern Alternative, ~~and~~ the SDG&E West Main Canal – Huff Road Modification Alternative, the N6 Private Land Revision and the BLM Gifted Land Revision is the Environmental Superior Alternative in the Imperial Valley Link. These segments minimize direct effects on agricultural operations and reduce effects on FTHL habitat.

ES.7.1.2 Anza-Borrego Link

The Proposed Project in the Anza-Borrego Link is 22.6 miles long, entirely within Anza-Borrego Desert State Park (ABDSP). Figure ES-13 shows the location of the proposed route and alternatives within this link. Two alternatives were developed, each with a modifying option. Two route revisions were evaluated within ABDSP; each is described below. The alternatives and their options were designed to reduce

significant and unmitigable construction and operational impacts within ABDSP, especially effects on State-designated Wilderness.

Partial Underground 230 kV ABDSP SR78 to S2 Alternative – would eliminate all but one mile of the overhead transmission line within ABDSP by installing most of the transmission line underground as a 230 kV line and rerouting it away from Grapevine Canyon. Putting nearly all of the alignment underground would reduce the visual, wilderness, and recreation impacts found with the Proposed Project. It would eliminate 28 miles of significant visual impacts through ABDSP, along Scenic Highway 79, and through Grapevine Canyon. The underground location and avoidance of Grapevine Canyon would eliminate recreation impacts at Tamarisk Grove Campground and the Yaqui Well Primitive camping area and eliminate significant corona noise effects of the 500 kV proposed route within the Park. However, this alternative would create much greater ground disturbance, though mainly within existing roads. It also requires construction of one mile of overhead 230 kV transmission line within State-designated Wilderness and creates about 10 miles of new significant visual impacts along Highway S2. It would also cross the active Earthquake Valley Fault Zone several times, resulting in a potential for damage from fault rupture. The requirement to de-designate State Wilderness would remain, but in an area adjacent to Highway SR79.

A new substation adjacent to the existing San Felipe Substation east of the Park would be required to covert the transmission line from 500 kV to 230 kV in order to underground it. This would eliminate the need for the proposed Central East Substation. However, over 100 noise-sensitive rural residential properties are located within 1,000 feet of this alternative ROW, consisting of homes near the San Felipe Substation, within ABDSP, and along Highway S2. In addition, any future 230 kV and/or 500 kV lines likely would have to be overhead, in the Park or elsewhere.

> **Conclusion:** The Partial Underground 230 kV ABDSP SR78 to S2 Alternative is superior to the Proposed Project because it would eliminate many significant unmitigable impacts to ABDSP.

Partial Underground 230 kV ABDSP SR78 to S2 Alternative with All Underground Option – the option would modify the Partial Underground 230 kV ABDSP SR78 to S2 Alternative by eliminating the two overhead segments. The transmission line would be underground through the Park and along Highway S2. This avoids all direct impacts to State-designated Wilderness and preserves recreational and visual values of the affected areas of ABDSP, Pacific Crest Trail, and San Dieguito River Park. It also avoids significant impacts to recreation areas, rural residences, visual resources, and agricultural resources within San Felipe Valley, including the potential Traditional Cultural Property of the San Felipe Valley itself. However, it would require a greater length of road disturbance during construction, increasing short-term disturbance to biological resources, traffic/transportation, public services and utilities, noise, air quality, and water quality. It also has a greater potential for effects on buried cultural resources and would cross and parallel the Earthquake Valley Fault, creating a higher risk of transmission line failure in a major earthquake.

> **Conclusion:** The All Underground Option is superior to both the Proposed Project and the Partial Underground 230 kV ABDSP SR78 to S2 Alternative. Benefits of eliminating permanent visual and wilderness/recreation impacts outweigh the risk of fault rupture in an earthquake, because earthquake recurrence intervals on this fault are unknown, so may not occur within the operational lifetime of the transmission line

Overhead 500 kV ABDSP within Existing ROW Alternative – would remain in the existing ROW within ABDSP, including Grapevine Canyon. Undergrounding of the existing 69 kV and 92 kV lines as proposed would not occur with this alternative; however, those lines would be underbuilt on Delta lattice towers. This alternative was recommended by SDG&E as it would remain within the existing

ROW, and new towers would not be located within State-designated Wilderness. This alternative would have greater visual impacts because structures would be slightly more complex in design (Delta configuration), the route would be closer to SR78 and would require more road spans within ABDSP, and the alternative would require more towers than would be needed for the Proposed Project. The alternative would have significant direct impacts at the Tamarisk Grove Campground, due to the proximity of towers to individual campsites and the removal of some existing trees. ~~However,~~ The transmission towers or right-of-way would not encroach~~ment~~ on designated wilderness, but ~~would not occur~~ a few pull sites and access roads would be within wilderness adjacent to the right-of-way. ~~and d~~Direct effects on an important cultural resources complex in western ABDSP would be ~~lessened~~ increased.

Overhead 500 kV ABDSP Within Existing ROW Alternative Revision. This revision was suggested by SDG&E in its comments on the Draft EIR/EIS and implements the recommendations of Draft EIR/EIS Mitigation Measure WR-4b (Minimize area of project facilities within wilderness lands). It modifies the locations of pull sites and access roads to remain outside of State Wilderness (see Figure ES-13). It would apply to the Overhead 500 kV ABDSP Within Existing 100-Foot Corridor Alternative and is included in SDG&E's "Enhanced" Northern Route within ABDSP. However, this reroute is not incorporated into the Environmentally Superior Northern Alternative.

> **Conclusion:** The Overhead 500 kV ABDSP within Existing ROW Alternative and the Revision of that alternative ~~is~~ are both inferior to the Partial Underground 230 kV ABDSP SR78 to S2 Alternative and its all underground option. ~~It~~ They have ~~has~~ greater impacts than the Proposed Project in nearly every environmental issue area, except ~~it has~~ they have the benefit of eliminating direct encroachment on State-designated wilderness lands.

Overhead 500 kV ABDSP within Existing ROW Alternative with East of Tamarisk Grove Campground 150-Foot Option – option would follow the Proposed Project route up to Tamarisk Grove Campground rather than the existing ROW along SR78. These two corridors are within a few hundred feet of each other. West from Tamarisk Grove Campground, the alignment would be as in the Proposed Project. This option eliminates several overhead crossings of SR78 and reduces effects on the Campground itself, in comparison to use of the entire existing ROW. It also reduces the proximity to SR78 and reduces tree trimming at Tamarisk Grove Campground as well as reduces corona noise at that location. Overall, impact would be similar to those of the Overhead 500 kV ABDSP within Existing ROW Alternative.

> **Conclusion**: The East of Tamarisk Grove Campground 150-Foot Option is superior to the Overhead 500 kV ABDSP within Existing ROW Alternative as originally defined because it reduces visual, transportation, and recreational effects associated with expanding the existing right-of-way.

Around Narrows Substation Reroute. This reroute was suggested by SDG&E due to updated engineering, and would apply to the Proposed Project and SDG&E's "Enhanced" Northern Route in the vicinity of the Narrows Substation within ABDSP. The reroute is shown in Figure ES-13. The reroute would result in aerial encroachment over Caltrans ROW, but it would reduce health and worker safety concerns by not crossing over the existing 69/92 kV equipment within the substation. No other new impacts would be created or reduced. The reroute is incorporated into the Proposed Project as a mitigation reroute, and is a component of SDG&E's "Enhanced" Northern Route. This reroute has not been incorporated into the Environmentally Superior Northern Alternative.

Conclusion for Anza-Borrego Link Overall

The Partial Underground 230 kV ABDSP SR78 to S2 Alternative with the All Underground Option is the Environmentally Superior Alternative in the Anza-Borrego Link. This alternative/option would eliminate the Proposed Project alignment and installation of 130-foot towers in ABDSP, resulting in the fewest significant impacts in the Anza-Borrego Link.

Neither of the route revisions is incorporated into the environmentally superior alternative in Anza-Borrego Desert State Park, although both are incorporated into **SDG&E's Enhanced Northern Route.** This route would remain within the 100 foot ROW defined by the existing 69 kV line, eliminating direct impacts on State Wilderness but increasing cultural resources, visual resources, and biological resources impacts in comparison with the Proposed Route and the Environmentally Superior Alternative within the Park.

ES.7.1.3 Central Link

The Central Link extends for the western boundary of ABDSP to just southwest of the community of Santa Ysabel. In addition to the Proposed Project, there are four alternatives in this link, all in the Santa Ysabel Valley, with the exception of an alternative substation site that would be located west of the proposed Central East Substation. The Partial Underground 230 kV ABDSP SR78 to S2 Alternative with the All Underground Option extends into this link, but is discussed above as part of the Anza-Borrego Link. The alternatives were developed primarily to reduce significant visual impacts to Santa Ysabel Valley. The alternatives in the Central Link are shown on Figure ES-14.

Santa Ysabel Existing ROW Alternative – would follow an existing 69 kV transmission line corridor along both sides of SR79. This route would pass east of the existing Santa Ysabel Substation and continue to follow the existing 69 kV line south of SR78 until it rejoins the Proposed Project alignment. It would be shorter and less visible than the Proposed Project. In addition, being located in an existing corridor and would not require relocation of the existing 69 kV line. However, it would impact more residences and exposes more people (along SR79) to the visual impact of the line as compared to the Proposed Project. Expansion of the existing 69 kV corridor would have greater overall impacts to native habitats, oak woodlands, and sensitive riparian habitats. This alternative also traverses Santa Ysabel Open Space Preserve and San Dieguito River Park and passes close to the historic Chapel of Santa Ysabel.

> **Conclusion**: The Santa Ysabel Existing ROW Alternative is an inferior alternative to the other Santa Ysabel area alternatives because it would be more visually prominent, create greater impacts to the Chapel of Santa Ysabel, and would pass in close proximity to the greatest number of residences.

Santa Ysabel Partial Underground Alternative – would begin where the Proposed Project would join Mesa Grande Road, on the western side of Santa Ysabel Valley and would transition underground. From there it would travel underground in roads, rejoining the proposed route at the south end of Santa Ysabel Valley, where it would transition overhead. The route would be 0.7 miles longer than the proposed route. This partial underground alternative reduces significant visual impacts to the relatively undeveloped Santa Ysabel Valley and would have less impact to upland habitats and native vegetation, since the underground line would be located primarily within existing paved roads. The underground facilities would eliminate bird collision impacts and eliminates transmission towers located within golden eagle foraging habitat. It also eliminates permanent impacts to agricultural land. Except for transition structures, this alternative eliminates all overhead structures and visual impacts between Mesa Grande

Road and south end of the valley. Underground installation reduces fire risk. Obstacles to firefighters are eliminated, and vegetation management is no longer necessary for fire protection. However the partial underground alternative increases overall emissions and noise of construction with excavation. It would pass directly west of the Chapel of Santa Ysabel a historic complex and California Historical Landmark recommended eligible for national and state recognition. This increases the likelihood of encountering unrecorded human remains during construction. It also passes within 0.25-miles of a leaking underground fuel tank site and a service station with three active underground storage tanks.

Conclusion: The Santa Ysabel Partial Underground Alternative is superior to the Proposed Project as a result of the underground location reducing visual and biological impacts.

Santa Ysabel All Underground Alternative – would diverge from the Proposed Project at the intersection of SR76 and SR78. It would start as an overhead 230 kV line and would transition to underground and be installed underground in the SR79 through the Santa Ysabel Valley, rejoining the proposed route south of Santa Ysabel. This alternative also reduces significant visual impacts to the scenic Santa Ysabel Valley and has the benefits described for the Santa Ysabel Partial Underground Alternative. However, it creates a significant risk of fault rupture due to the proximity of the underground line to the active Elsinore Fault.

A portion of SR79 may be located on Santa Ysabel Reservation land, and placement of an underground transmission line within the State highway may require approval from Caltrans, Bureau of Indian Affairs, and/or Santa Ysabel Band of Diegueño Indians. As construction would be entirely in the road rather than overhead, at ~~this~~ the time the Draft EIR/EIS was published, it ~~is~~ was assumed that approval would be granted and this alternative ~~w~~ could be feasible. As also stated in the Recirculated Draft EIR/Supplemental Draft EIS, the Santa Ysabel All Underground Alternative (replacing the Proposed Project from MP 100 to MP 109) is the environmentally preferred alternative. However, if the Santa Ysabel All Underground Alternative is determined to be infeasible, the Mesa Grande Alternative with the northern portion only of SDG&E Santa Ysabel Partial Underground Revision (near the Santa Ysabel Mission) and the remainder of the Santa Ysabel Partial Underground Alternative would be constructed to replace the Santa Ysabel All Underground Alternative.

SDG&E Santa Ysabel All Underground Alternative Revision – includes a northern and southern segment that would modify the Santa Ysabel All Underground Alternative as defined in the Draft EIR/EIS. The northern segment would result in the 230 kV transmission line being installed underground west of SR79 to avoid potential effects on cultural resources near the Mission. The southern segment was designed by SDG&E to minimize effects on traffic and stay out of the highway, and to follow property lines south of SR78.

Conclusion: The Santa Ysabel All Underground Alternative is superior to the Proposed Project because it eliminates highly visible towers in this scenic valley. ~~and, because of its~~ The Santa Ysabel All Underground Alternative is shorter overall than the Proposed Project with the Mesa Grande Alternative and the Santa Ysabel Partial Underground Alternative ~~length~~ and reduces visual impacts, so it is also superior to Santa Ysabel Partial Underground Alternative.

If the Santa Ysabel All Underground Alternative is determined to be infeasible, the Mesa Grande Alternative with the northern portion only of SDG&E Santa Ysabel Partial Underground Revision (near the Santa Ysabel Mission) and the remainder of the Santa Ysabel Partial Underground Alternative would be the environmentally superior route constructed to replace the Santa Ysabel All Underground Alternative.

SDG&E Mesa Grande Alternative – a two-mile alternative would diverge from the Proposed Project route east of Mesa Grande Road and travel overhead along the lower portion of the slope, rejoining the Proposed Project, on the south side of Mesa Grande Road. This alternative was proposed by the landowner and SDG&E to reduce the visibility of the Proposed Project overhead line near Mesa Grande Road. The route would be slightly shorter, reducing ground disturbance and associated impacts. It would reduce impacts to oak woodlands and chaparral habitats and have a slight reduction in impacts to native vegetation. Its location, lower on the hill as compared to the Proposed Project, would reduce visual impacts.

> **Conclusion**: The SDG&E Mesa Grande Alternative is superior to the Proposed Project, because it reduces visual impacts and would be shorter.

Conclusion for Central Link Overall

The Proposed Project, with adoption of the Partial Underground 230 kV ABDSP SR78 to S2 Alternative with All Underground Option, which continues from the Anza-Borrego Link, and the Santa Ysabel All Underground Alternative is the Environmentally Superior Central Link Alternative. However, the Santa Ysabel All Underground Alternative component of the superior alternative would pass through lands of the Santa Ysabel Indians who retain sovereign rights to determine whether they would negotiate easements to construct and operate transmission lines across their lands. In the absence of such easements, the Santa Ysabel All Underground Alternative would not be feasible but it could be replaced with the Mesa Grande Alternative, the northern portion of SDG&E's Santa Ysabel All Underground Alternative Revision, and the southern portion of the Santa Ysabel Partial Underground Alternative. Although the environmental impacts of the Santa Ysabel All Underground Alternative would be less than those of the Santa Ysabel Partial Underground Alternative with the Mesa Grande Alternative, this alternative route is feasible. It also would be superior to the Proposed Project through the valley.

ES.7.1.4 Inland Valley Link

The Proposed Project in the Inland Valley Link passes through Ramona. Four alternatives were developed principally to reduce visual impacts to residences along the Inland Valley Link. The alternatives are shown on Figure ES-15.

CNF Existing 69 kV Route Alternative – This 0.5-mile alternative segment would follow the existing 69 kV corridor for approximately 0.5 miles through Cleveland National Forest (CNF), rather than creating a new corridor on private land. It eliminates a jog in the alignment that was originally in the Proposed Project to avoid CNF land. With this alternative, the alignment would be 0.5-miles shorter than the Proposed Project, would use existing access roads, and would eliminate relocation of the existing 69 kV transmission line. Although CNF land in this location is relatively remote, the land that would be crossed is assigned a High Scenic Integrity Objective (SIO) by the CNF, creating an inconsistency with the established Forest Plan.

> **Conclusion:** CNF Existing 69 kV Route Alternative is superior to the Proposed Project. The alternative would follow an existing ROW, use existing access roads, be 0.5-miles shorter, and not require relocation of the existing 69 kV line. Impacts to all issue areas (except visual, agricultural, and water resources) are similar or reduced as compared to the Proposed Project.

Oak Hollow Road Underground Alternative – would require 0.6 miles of additional underground 230 kV transmission line through a residential area. The existing 69 kV would remain overhead. This alternative was recommended by the landowners and would extend the proposed underground segment

to the east of Mount Gower County Open Space Preserve, remaining underground through the rural residential valley. Undergrounding of the transmission line in this relatively short stretch would be primarily within existing roads, so would reduce native habitat and vegetation impacts compared to the Proposed Project. The Oak Hollow Road Underground would reduce visual impacts and would move the transition structure farther west, to a more remote location. Additional undergrounding would, however, increase ground disturbance, construction noise, and air emissions.

> **Conclusion:** Oak Hollow Road Underground Alternative is superior to the Proposed Project. It reduces or eliminates visual, fire, and bird collision impacts, even though construction impacts would be greater.

San Vicente Transition Alternative – would move the Proposed Project's overhead/underground transition structure from its proposed location adjacent to San Vicente Road to a less visible location approximately 0.3 miles west. This would reduce visibility of the transition structure from San Vicente Road and reduce land use disturbance. Greater undergrounding in paved roads reduces impacts to native vegetation and likelihood of bird collision, and the visibility of the transition structures would be reduced. It also decreases the length of overhead transmission line within the Barnett Ranch Open Space Preserve, reducing recreation impacts. There would be temporary increased traffic impacts from 2,100 feet of additional underground construction in San Vicente Road.

> **Conclusion**: San Vicente Transition Alternative is superior the Proposed Project. It would reduce visual, recreation, and land use impacts.

Chuck Wagon Road Alternative – would eliminate the Proposed Project's overhead segment through the Barnett Ranch Open Space Preserve by creating a new corridor of both underground and overhead transmission line. It eliminates a transition structure along San Vicente Road and avoids impacts to 1.7 acres of Barnett Ranch Open Space Preserve. Half of the alignment would be underground, lessening impacts to vegetation and potential for bird collision. It also eliminates approximately four miles of significant visual impacts, as well as recreation impacts to Barnett Ranch Open Space Preserve. Obstacles to firefighting are reduced. However, it would be located mostly within a designated critical habitat for the southwestern arroyo toad. The alternative would affect approximately 25 residences as compared to 14 residences under the Proposed Project.

> **Conclusion:** The Chuck Wagon Road Alternative is superior to the Proposed Project and the San Vicente Transition Alternative. It would reduce significant visual impacts and has fewer biological resources, recreation, cultural resources, and noise impacts.

Conclusion for Inland Valley Link Overall

The Proposed Project, with particular segments replaced by the CNF Existing 69 kV Route Alternative, Oak Hollow Road Underground Alternative, and Chuck Wagon Road Alternative is the Environmentally Superior Alternative in the Inland Valley Link. These alternatives would minimize visual and land use impacts, and would reduce fire risk by increasing the extent of undergrounding.

ES.7.1.5 Coastal Link

The Coastal Link of the Proposed Project would be 13.6 miles long, passing through residential areas primarily in existing overhead corridors. It would include an underground segment within the Los Peñasquitos Canyon Preserve. There are four alternatives in the Coastal Line addressing specific issues at various locations along the Proposed Project alignment. The alternatives in the Coastal Link are shown on Figure ES-16.

Pomerado Road to Miramar Area North Alternative – would be underground with the exception of the east and west ends, where the line is overhead within existing SDG&E transmission ROW. It would exit the existing Sycamore Substation at MCAS Miramar overhead and continue west in an existing ROW toward Pomerado Road. The line would cross Pomerado Road just north of Legacy Road and would transition underground just east of the roadway and continue west for several miles within a number of roads, on the north side of MCAS Miramar and adjacent neighborhoods. Near I-805, the line would transition back to overhead within the existing 230 kV ROW heading northward into the existing Peñasquitos Substation. The alternative avoids effects to residents in Rancho Peñasquitos from overhead lines and eliminates impacts within Los Peñasquitos Canyon Preserve. It reduces, but does not eliminate, potential effects to the least Bell's vireo and coastal California gnatcatcher and significant impacts to sensitive vegetation communities. The alternative eliminates approximately 5 miles of overhead transmission line and affects approximately 2,000 fewer residences, while avoiding urban parks and multiple bikeways. However, extensive undergrounding would increase ground disturbance, construction noise, sedimentation, and air emissions. It would have impacts in the streets under which it would be built.

> **Conclusion:** The Pomerado Road to Miramar Area North Alternative is superior the Proposed Project. It avoids most of the Los Peñasquitos Canyon Preserve and eliminates all visual and noise operational impacts, and reduces impacts to residences.

Los Peñasquitos Canyon Preserve–Mercy Road Alternative – would leave the Proposed Project route and connect to an existing ROW along Scripps Poway Parkway, in the vicinity of Ivy Hill Drive. The line would transition to underground and be within Scripps Poway Parkway/Mercy Road, Mercy Road, Black Mountain Road, and Park Village Drive, where the line would rejoin the Proposed Project alignment. The alternative would reduce land use, noise, and visual effects in a residential area of Rancho Peñasquitos. It would also reduce effects on sensitive vegetation communities and eliminate 1.5 miles of overhead transmission line. Potential effects on four schools and two religious facilities would be eliminated. The alignment would be routed through more commercial/office and industrial uses areas. The alternative eliminates significant visual effects of the Proposed Project's transition structure near Chicarita Substation. However, it would affect about 500 more residences than the Proposed Project.

> **Conclusion:** Los Peñasquitos Canyon Preserve–Mercy Road Alternative offers no overall benefits as compared to the Proposed Project and the Pomerado Road to Miramar Area North Alternative.

Black Mountain to Park Village Road Underground Alternative – underground alternative would deviate from the Proposed Project alignment where the route approaches Black Mountain Road, and be constructed in roadways rather than in a vacant SDG&E easement through residential areas. The alternative reduces effects on residents within Rancho Peñasquitos by traversing more roadways rather than a vacant SDG&E ROW, currently used as recreational open space by residents. It also eliminates biological impacts since it would be built entirely within existing roadways. However, during construction it would affect a greater number of residences, a church, and an elementary school.

> **Conclusion:** Black Mountain to Park Village Road Underground Alternative offers no overall benefits as compared to the Proposed Project.

Coastal Link System Upgrade Alternative – would be a transmission system modification that would include upgrades within the existing Sycamore Canyon Substation boundaries. Also, SDG&E would either (a) install a new 230/138 kV transformer at the existing Encina Substation or (b) upgrade the existing Sycamore Canyon-Chicarita 138 kV circuit with new conductors. This upgrade alternative

would avoid construction of all Coastal Link transmission components of the Proposed Project. This would eliminate all impacts associated with the Proposed Project 230 kV segment between Sycamore Canyon Substation and Peñasquitos Substation.

Coastal Link System Upgrade Alternative Revision – Based on SDG&E's updated system analysis, this alternative was revised to add one additional reconductoring segment to those defined above (the Sycamore Canyon to Scripps Substation segment). SDG&E's system analysis shows that this alternative, without the revision, would not provide reliable electric service to the Coastal Link area.

> **Conclusion:** Coastal Link System Upgrade Alternative Revision provides improved reliability over the original alternative, improving the alternative's ability to meet project objectives. Therefore, it is found to be ~~is~~ superior to the Proposed Project in the Coastal Link. It eliminates all potential environmental impacts of Proposed Project in the Coastal Link.

Conclusion for Coastal Link Overall

The Environmentally Superior Coastal Link Alternative is the Coastal Link System Upgrade Alternative Revision. This alternative eliminates most construction in the Coastal Link, except reconductoring and work within existing substations.

ES.7.1.6 Substation Alternative

One substation alternative, the Top of the World Substation, was evaluated in comparison to the proposed Central East Substation. The Top of the World Substation Alternative would be located approximately one mile west of the proposed substation site, southeast of the intersection of S22 and S2, at the north end of San Felipe Road. The alternative substation site is shown on Figure ES-13 for the Central Link. The alternative substation would reduce visual impacts to Highway S2 in the San Felipe Valley, as compared of the proposed Central East Substation. It would reduce the amount of grading/ground disturbance that would be required. Although it would affect about 115 acres of sensitive vegetation communities, this is approximately 20 acres less that at the proposed substation. Impacts to southwester flycatcher critical habitat would be reduced, as would the likelihood of a fault rupture through the Central East Substation site. However, the alternative and associated power line would be visible from some areas in or adjacent to the Mataguay Boy Scout facilities in the valley west of the site and south of the transmission line connecting back to the Proposed Project. Also, there would be potentially a greater adverse effect on Stephens' kangaroo rat and the alternative would require a longer access road, as compared to the proposed Central East Substation site.

Central East Substation Ingress/Egress Revision – SDG&E suggested this revision to the ingress and egress to the proposed substation in order to improve engineering design at the substation. This reroute would apply to the Proposed Project and SDG&E's "Enhanced" Northern Route (see Figure ES-14). The modification is based on additional civil and electrical engineering and provides increased separation between the incoming 500 kV line and the outgoing 230 kV line to accommodate future transmission system expansion. The Central East Substation Ingress/Egress Revision has been incorporated into the Proposed Project as a mitigation reroute, as well as into SDG&E's "Enhanced" Northern Route. However, this reroute is not incorporated into the Final Environmentally Superior Northern Route Alternative.

Top of the World Substation Revision – SDG&E suggested this revision to the ingress and egress transmission line routes for this substation alternative to improve engineering and minimize impacts to Vista Irrigation District lands.

Conclusion for Substation Sites Overall

The Environmentally Superior Substation Alternative Site is the Top of the World Substation Site Alternative Revision. It requires less earth-moving, thereby reducing associated impacts like dust, noise, and vehicle emissions, ~~and~~ reduces significant visual impacts, and further minimizes impacts to the Vista Irrigation District lands.

Neither the Top of the World Substation nor the Central East Substation would be build if the Partial Underground 230 kV ABDSP SR78 to S2 Alternative with the All Underground Option (found to be the environmentally superior alternative in the Anza-Borrego Link) is selected. That alternative would require a new substation east of ABDSP to convert the 500 kV to 230 kV, rather than have the conversion made at a new substation west of the Park.

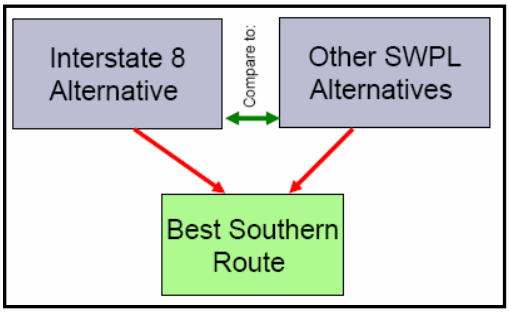
ES.7.1.7 Environmentally Superior Northern Route Alternative

The conclusions in Sections ES.7.1.1 through ES.7.1.6 for the Proposed Project and alternatives in the northern route result in an Environmentally Superior Northern Route Alternative. Its various elements are listed below. Eight segments of the Proposed Project would be retained, representing 79.4 miles out of the 150 miles of originally proposed route. The Environmentally Superior Northern Route Alternative is illustrated in Figure ES-4. It consists of:

- Proposed Project, except where it is changed by the following alternatives or route revisions:
  - FTHL Eastern Alternative (Imperial Valley Link)
  - West Main Canal–Huff Road Modification Alternative (Imperial Valley Link)
  - N6 Private Land Revision
  - BLM Gifted Lands Reroute
  - Partial Underground 230 kV ABDSP SR78 to S2 Alternative with the All Underground Option (Anza-Borrego Link, extending into Central Link)
  - Santa Ysabel All Underground Alternative (Central Link) [9]
  - CNF Existing 69 kV Route Alternative (Inland Valley Link)
  - Oak Hollow Underground Alternative (Inland Valley Link)
  - Chuck Wagon Alternative (Inland Valley Link)
  - Coastal Link System Upgrade Alternative Revision (Coastal Link)
  - Top of the World Substation Alternative Revision (if required, Central Link)

[9] If the Santa Ysabel All Underground Alternative is determined to be infeasible across Santa Ysabel Tribal lands, the Mesa Grande Alternative with the northern portion of the SDG&E Santa Ysabel Partial Underground Alternative Revision would be constructed in lieu of the Santa Ysabel All Underground Alternative, and the southern portion of the Santa Ysabel Partial Underground Alternative would be retained south of the Mission.

ES.7.2 Comparison of Southern Transmission Route Alternatives



The EIR/EIS considers four transmission alternatives along a southern route that avoids direct effects on Anza-Borrego Desert State Park. One of the southern route alternatives, the Interstate 8 Alternative, would collocate with the eastern third of the existing Southwest Powerlink (SWPL) transmission line. Only the Interstate 8 Alternative by itself provides a continuous route from the Imperial Valley Substation to the Proposed Project's Inland Valley Link, where it would connect with the last leg of the Environmental Superior Northern Route Alternative (described in Section ES.7.1). In this regard, the Interstate 8 Alternative is similar in concept of the Proposed Project, providing for continuous route between the Imperial Valley Substation and the Peñasquitos Substation.

The other three southern route alternatives serve as alternative segments to major sections of the Interstate 8 Alternative. Within these three alternatives there are options that would alter small sections of the alternatives in order to address issues specific to the alternative. The comparison of the four southern alternatives and their options resulted in the identification of the Environmentally Superior Southern Route. This route combines parts of the Interstate 8 Alternative and its options with the other southern route alternatives and their options. Figures ES-4 and ES-17 illustrate the Southern Route (SWPL) Alternatives.

Following are the southern route alternatives considered in the EIR/EIS:

1. The **Interstate 8 (I-8) Alternative** creates a southern route from the Imperial Valley Substation to the Proposed Project just west of Highway 67. As part of the I-8 Alternative, five route options ~~are~~ were also evaluated in the Draft EIR/EIS: Campo North Option, Buckman Springs Underground Option, West Buckman Springs Option, South Buckman Springs Option, and the Chocolate Canyon Option. Five revisions to the I-8 Alternative route have been added since publication of the Draft EIR/EIS: SWPL Archaeological Site Revision, Jacumba SWPL Breakaway Point Reroute, Chocolate Canyon Option Revision, High Meadows Reroute, and the Highway 67 Hansen Quarry Reroute.
2. The **BCD Alternative** would replace the central segment of the Interstate 8 Alternative from the area of Boulevard to just south of Pine Valley. One route option, the BCD South Option, is considered. Both the BCD Alternative and the BCD South Option were revised after publication of the Draft EIR/EIS.
3. The **Route D Alternative** is north of the I-8 freeway and the town of Descanso would replace the western 20 miles of the Interstate 8 Alternative, ending at the Central South Substation Alternative and requiring use of 16 miles of the Proposed Project route.
4. The **Modified Route D Alternative (**south of the I-8 freeway) would replace the Interstate 8 Alternative from the Crestwood Boulevard area along the I-8 freeway to the east end of Alpine. One route option for this alternative, the Star Valley Option, is considered. A revision to the Star Valley Option was evaluated in the Recirculated Draft EIR/Supplemental Draft EIS. In addition, the following route revisions were considered: Cameron Reroute, Pacific Crest Trail (PCT) Route C/D Revision, and the Western Modified Route D Alternative Revisions.

Figure ES-17. Southwest Powerlink Alternatives Retained
CLICK HERE TO VIEW

In order to compare a southern transmission route to the "Best Northern Route" defined in Section ES.7.1, an Environmentally Superior Southern Route has been developed. The Environmentally Superior Southern Route consists of the Interstate 8 Alternative (with all applicable revisions: SWPL Archaeological Site Revision, Jacumba SWPL Breakaway Point Reroute, Chocolate Canyon Option Revision, High Meadows Reroute, and the Highway 67 Hansen Quarry Reroute), ~~with the Campo North Option~~ the BCD Alternative Revision and BCD South Option Revision, and the Modified Route D Alternative and all of its revisions~~, the Star Valley Option, and the Chocolate Canyon Option~~.

This section is organizes as follows. Section ES.7.2.1 describes the Interstate 8 Alternative's five route options and subsequent revisions, and defines which are required to be the environmentally superior Interstate 8 Alternative. This is then compared to the BCD Alternative, Route D Alternative, and Modified Route D Alternative and the options within these alternatives to determine an overall Environmentally Superior Southern Route Alternative.

ES.7.2.1 Interstate 8 Alternative Route Options and Revisions

The Interstate 8 Alternative includes five short segment options along its 93-mile route. This section provides a comparison of each of these options with the respective Interstate 8 Alternative segment that each would replace. It also includes five revisions to the I-8 Alternative route have been added since publication of the Draft EIR/EIS: SWPL Archaeological Site Revision, Jacumba SWPL Breakaway Point Reroute, Chocolate Canyon Option Revision, High Meadows Reroute, and the Highway 67 Hansen Quarry Reroute.

Campo North Option

In response to a request from the Campo Band of Kumeyaay Indians, this option would keep the Interstate 8 Alternative north of the I-8 freeway in the vicinity of the wind farm, passing immediately adjacent to the southernmost wind turbine in the Kumeyaay Wind Energy Project and just north of the Caltrans ROW. The option is superior to the Interstate 8 Alternative segment it would replace because it is shorter, reduces visual impacts, and would avoid two crossings of I-8. However, this segment of the Interstate 8 Alternative is no longer considered as a component of the Environmentally Superior Southern Route. In a comment on the Draft EIR/EIS, the Campo Kumeyaay Nation stated that it opposes the Interstate 8 Alternative through the Campo Reservation because of its "adverse direct financial impact on present and proposed tourism based businesses near the freeway." As a sovereign nation, the Campo has the authority to prohibit the transmission line across its land, and neither SDG&E nor the CPUC or BLM have the power to condemn the easements that would be necessary to cross this land. Given the Campo Kumeyaay Nation's stated opposition to this route, it is no longer considered a potentially feasible alternative. Therefore, barring approval from the Campo tribe, the Environmentally Superior Southern Route has been modified to delete this segment.

Buckman Springs Options

Three route options are evaluated to minimize recreation and visual impacts in the Buckman Springs Valley. Each is described below.

Buckman Springs Underground Option. This option would require construction of a nearly 2-mile segment of 500 kV underground transmission line, as well as two overhead/underground transition stations. It was considered because it would eliminate the hazard of an overhead high voltage line adjacent a popular hang gliding and paragliding landing zone. The extensive ground disturbance required for installation of a 500 kV transmission line creates substantially greater loss of habitat and the potential for more cultural resources impacts, and the transition stations at each end of the segment would be highly visible.

West Buckman Springs Option. This option would minimize hang gliding and paragliding impacts by moving the overhead 500 kV transmission line to a location west of Buckman Springs Valley, rather than along the east side of the valley. It reduces visual impacts in comparison with the I-8 Alternative as proposed, and reduces the length of the route in the Forest's protected "Back Country Non-Motorized (BCNM)" land use zone. It would pass just west of Boulder Oaks Campground.

South Buckman Springs Option. The route would follow the Modified Route D Alternative route for the first 4 miles, then follow the southern boundary of the Cleveland National Forest to the west. It would then continue due west/northwest to meet the West Buckman Springs Option just west of Buckman Springs Road. It was considered because it avoids direct effects on La Posta Reservation and avoids passing through BCNM land use zones within the CNF that occur north and east of Interstate 8, by crossing south of the freeway. It would also avoid effects to the hang gliding and paragliding areas in Horse Canyon, but it would be highly visible through "The Narrows" and along Buckman Springs Road. It is longer than the West Buckman Springs Option.

Conclusion for Buckman Springs Options. The West Buckman Springs Option would be most preferred in this segment of Interstate 8 Alternative due to a reduction in visual impacts, length of the line in BCNM land use zones in CNF, and elimination of hang gliding and paragliding impacts to Horse Canyon launch/landing area. The West Buckman Springs Option would reduce ground disturbance compared to the Buckman Springs Underground Option, resulting in fewer impacts to biological resources and other disturbance-related environmental issue areas.

Chocolate Canyon Option

This option would replace the Interstate 8 Alternative at its crossing of the I-8 freeway just west of Alpine, then it would follow Chocolate Canyon at a lower elevation and would be less visible to residences west of the canyon. It would reconnect with the Interstate 8 Alternative just south of the Capitan Reservoir Dam. The route was designed to minimize visibility of the underground-overhead transition towers at the west end of Alpine Boulevard and also to reduce the visibility of the 230 kV overhead segment along the west side of Chocolate Canyon. It would also reduce ground disturbance because the option would follow an existing road, minimizing the need for construction of a new access road. It is slightly longer than the I-8 segment it would replace, but is still environmentally superior to the Interstate 8 Alternative segment it would replace because it reduces impacts overall.

The **Chocolate Canyon Option Revision** would change the crossing of the Interstate 8 freeway from an overhead to an underground crossing, minimizing visibility of the transition poles north of the freeway.

Other Interstate 8 Route Revisions

Four other route revisions were suggested by SDG&E in its comments on the Draft EIR/EIS: SWPL Archaeological Site Revision, Jacumba SWPL Breakaway Point Reroute, High Meadows Reroute, and the Highway 67 Hansen Quarry Reroute. These four reroutes would all reduce impacts in comparison with the original I-8 route segments they would replace, so all are incorporated into the Environmentally Superior Interstate 8 Alternative. Each is briefly described below:

- **SWPL Archaeological Site (Plaster City) Reroute.** This revision would be a mitigation reroute that would be incorporated into the Interstate 8 Alternative in order to avoid a large newly discovered archaeological site near Plaster City in Imperial County.
- **Jacumba SWPL Breakaway Point Reroute.** This reroute would change the transmission line angle in the area north of Jacumba, eliminating the need for one tower.

- **High Meadows Reroute**. This reroute would relocate the transmission line about 200 feet downslope to minimize effects on residences in a development under construction.
- **Highway 67 Hansen Quarry Reroute**. This reroute would eliminate conflicts with ongoing quarry operations near Highway 67.

Conclusion for Environmentally Superior Interstate 8 Alternative with Options

The Environmentally Superior Interstate 8 Alternative would include ~~three~~ two options analyzed in the Draft EIR/EIS that would replace segments of the original alternative. These included options are:

- ~~Campo North Option~~
- West Buckman Springs Option
- Chocolate Canyon Option Revision

It would also include all four route revisions described above: SWPL Archaeological Site Revision, Jacumba SWPL Breakaway Point Reroute, High Meadows Reroute, and the Highway 67 Hansen Quarry Reroute.

This Environmentally Superior Interstate 8 Alternative is compared to other Southern Route Alternatives in Sections ES.7.2.2 through ES.7.2.5 to identify the overall Environmentally Superior Southern Route Alternative.

ES.7.2.2 Environmentally Superior Interstate 8 Alternative Compared with BCD Alternative

BCD Alternative – would replace the almost 20 miles of the Interstate 8 Alternative between Boulevard and the Pine Valley area. It would pass through the McCain Valley (primarily on BLM land), avoiding tribal lands, and enter the Cleveland National Forest from the east. Both the BCD and Interstate 8 Alternatives would be prominently visible to their respective viewing populations and result in significant visual impacts, but the Interstate 8 Alternative would be seen by significantly more viewers along I-8 corridor and crossing Cottonwood Valley. The BCD Alternative is located immediately adjacent to critical habitat for Peninsular bighorn sheep in the In-Ko-Pah Mountains and several BLM recreation areas in the McCain Valley Resource Conservation Area. It would pass through a BCNM zone within CNF farther from the already disturbed I-8 and highway S1 corridors.

BCD Alternative Revision – This route has been modified based on CPUC, BLM, and SDG&E consultation with the US Forest Service in an attempt to minimize impacts on Forest Service lands and adjacent properties. With the revision, the BCD Alternative no longer crosses a BCNM land use zone in the CNF. A mitigation reroute, defined in Mitigation Measure WR-2b recommends a further revision of the route to minimize effects on private land, while still remaining on acceptable Forest land use zones.

> **Conclusion:** Because t~~T~~he Interstate 8 Alternative (with options defined in Section ES.7.2.2, above) between McCain Valley Road and La Posta Road is infeasible barring Campo tribal support, this route segment cannot be considered.~~is superior to the BCD Alternative.~~ The Interstate 8 Alternative ~~It~~ offers environmental advantages in comparison with the BCD route: it is shorter in length, it located in a less remote area, and it reduces impacts to biological resources, including significant unmitigable impacts to biological resources and wildlife (bighorn sheep, golden eagles). ~~that would occur on the BCD route. In addition, the BCD Alternative crosses a BCNM land use zone in CNF.~~ However, the BCD Alternative Revision, in conjunction with the BCD South Option Revision (see below) would be located on compatible Forest land use zones and are feasible.

BCD South Option. This optional route segment would eliminate the westernmost 6 miles of the BCD Alternative by turning southwest just one mile after entering the Forest. It would remain within the Backcountry Land Use Zone of the Forest, which allows transmission lines, and it would eliminate proximity to the Cibbets Flat Campground and the nearby crossing of the Pacific Crest Trail. The BCD South Option would connect to the Interstate 8 Alternative immediately north of the freeway, or to the Modified Route D Alternative just east of La Posta Road.

In comments on the Draft EIR/EIS and in subsequent discussions with the Forest Service, CPUC, and BLM, SDG&E developed the **BCD South Option Revision** to better conform with Forest Service requirements and to minimize impacts on Forest lands.

> **Conclusion**: **The BCD South Option Revision is superior to the segment of the BCD Alternative it would replace.** The BCD South Option Revision would avoid all direct effects on Campo and La Posta Reservation lands (associated with Interstate 8 route), and the BCNM land use zone in CNF. Implementation of Mitigation Measure WR-2b, to reduce impacts to private land, is also recommended.

Conclusion for Environmentally Superior Interstate 8 Alternative compared to BCD Alternative

While t~~T~~he Environmentally Superior Interstate 8 Alternative (with the Campo North Option and the West of Buckman Springs Options) is environmentally superior to the BCD Alternative and BCD Alternative Revision, the Interstate 8 route is not feasible without Campo tribal support. Given the tribal comment letter stating that ~~Note that if~~ the Interstate 8 Alternative with the Campo North Option would not be permitted by the tribe ~~is found to be infeasible~~, the BCD Alternative Revision with the BCD South Option Revision would meet project objectives and allow a Southern Route Alternative to be successfully constructed.

ES.7.2.3 Environmentally Superior Interstate 8 Alternative Compared to Route D Alternative

Route D Alternative – would be a 500 kV alternative that diverges from the Interstate 8 Alternative near the town of Descanso and heads north through the Boulder Creek valley. It would pass between the Cuyamaca Rancho State Park and the Capitan Grande Reservation to rejoin the Proposed Project at the Central South Substation just northeast of San Diego Country Estates. This alternative also requires use of 17 miles of the Proposed Project's 230 kV route including the segment through San Diego Country Estates and south of Ramona. This route was developed by SDG&E as a route that would avoid Anza-Borrego Desert State Park and follow an existing 69 kV transmission line corridor.

The Route D Alternative would eliminate conflicts with the Blossom Valley Hang Gliding and Paragliding site and would affect fewer recreation areas than the Interstate 8 Alternative segment. But it would be substantially longer than the portion of the Interstate 8 Alternative that it would replace, resulting in greater impacts to sensitive vegetation communities and one additional golden eagle nesting location. It would be located within a predominantly undeveloped landscape of high preservation value to the National Forest, includes a crossing of the upper San Diego River Canyon, has an overall greater visual sensitivity than the corresponding Interstate 8 Alternative segment, and would cross Inventoried Roadless Area within the Forest. As a result of these impact areas, the U.S. Forest Service, in its comments on the Draft EIR/EIS, indicated that it would not accept a Special Use Permit application for this route.

Conclusion: The Interstate 8 Alternative with the Campo North Option is superior to the Route D Alternative. Route D would be longer than the segment it would replace and is in a location that would have substantially greater impacts to visual, biological, and cultural resources. The alternative also creates an inconsistency with USFS Scenic Integrity Objectives, which would create a new significant visual impact. Finally the Route D Alternative would result in a much longer route through BCNM zone within CNF and would pass through a Designated Roadless Area. It would be difficult to develop a route through this area that would be consistent with U.S. Forest Service requirements.

ES.7.2.4 Environmentally Superior Interstate 8 Alternative Compared with Modified Route D Alternative

Modified Route D Alternative – would replace the corresponding segment of the Interstate 8 Alternative with West Buckman Springs Option between the La Posta area and the Descanso area (a 24-mile segment). The Modified Route D Alternative would add 13 miles to the length of the Interstate 8 Alternative, but even with this addition, the Interstate 8 Alternative with the Modified Route D segment would still be 25 miles shorter than the corresponding portion of the Proposed Project it would replace. This alternative was suggested by the Cleveland National Forest as a route that would be consistent with the Forest Land Management Plan's Land Use Zones and it would diverge from the Interstate 8 Alternative at a point east of the area of greatest fire risk.

Benefits of the Modified Route D Alternative are that it would decrease the visibility of the transmission line to the public because of the remoteness of several segments within the alternative (although it would still be highly visible to rural residences, South Buckman Springs Road, Lyons Valley Road, and Japatul Road). Where it is on CNF land, the alternative passes through primarily Back Country Motorized Use Restricted and Developed Area Interface land use zones. It avoids more restrictive zoning designations (Back Country and BCNM Land Use Zones). With a total of approximately 15 route miles on Cleveland National Forest, the Modified Route D would result in four fewer miles of inconsistency with the Forest's High Scenic Integrity Objective (compared to 19 miles of High SIO inconsistency for the I-8/West Buckman route combination). It also avoids the central segment of the I-8/West Buckman route that passes through the scenic Cottonwood Valley along I-8. Although still within a very high wildfire risk area, the alternative reduces wildfire risk in comparison to the I-8 corridor segment it would replace. Frequent fire ignitions occur in the I-8 corridor because it is a major transportation route. Towers for the transmission in the Interstate 8 Alternative would create a firefighting obstacle in what is a critical tactical firefighting area.

However, the alternative is longer than the Interstate 8 Alternative, thereby increasing ground disturbance and associated environmental affects. It would also result in an additional 13 miles of significant visual impacts, as compared to the I-8/West Buckman route. While both the I-8 route and the Modified Route D Alternative would result in significant impacts to sensitive vegetation, the alternative would have greater impacts to sensitive vegetation communities than the I-8/West Buckman route. The alternative also would affect one additional golden eagle nesting location and create greater impacts to least Bell's vireo. The Modified Route D Substation would be more visible compared to the Interstate 8 Alternative Substation.

Modified Route D Alternative Revisions. The Recirculated Draft EIR/Supplemental Draft EIS evaluated several route revisions suggested by SDG&E and modified in consultation with the U.S. Forest Service. These revisions would minimize impacts of the Modified Route D Alternative on Forest Service lands and at the crossing of the Pacific Crest Trail (PCT) on BLM land. The revisions include:

- **Cameron Reroute** – This reroute was suggested by SDG&E to reduce impacts to private properties and to avoid a CNF Back Country Non-Motorized land use zone.
- **Western Modified Route D Alternative Revisions** - This reroute was suggested by SDG&E after consultation with the U.S. Forest Service, CPUC, and BLM to minimize impacts to CNF land and adjacent properties. As shown on Figure ES-17, the Western MRDA Reroute would closely parallel the original Modified Route D Alternative, being slightly east or west of the original route at various locations.
- **Pacific Crest Trail Options** – Four options for the route segment that would cross the PCT were evaluated after publication of the Recirculated Draft EIR/Supplemental Draft EIS:
  - **PCT Reroute Option A** is route of the original Modified Route D alternative and follows SDG&E's existing 69 kV transmission line. While this route crosses the PCT three times, it is included in the Southern Environmentally Superior Route because it parallels the existing 69 kV transmission line and would minimize the need for new access roads.
  - **PCT Reroute Option B** was evaluated in the Recirculated Draft EIR/Supplemental Draft EIS, but since then has been eliminated because it would affect a BLM parcel donated with land use restrictions.
  - **PCT Reroute Options C and D** have been combined to create the "**PCT Reroute Option C/D,**" which would avoid the donated BLM parcel but still cross the PCT only once. In this Final EIR/EIS, impact analysis is presented for this route, but due to the existing access roads and existing transmission 69 kV transmission line corridor along the "Option A" route, the Option A segment is found to have fewer impacts than the "Option C/D" to the south, which would create a new transmission corridor.

Conclusion. The Modified Route D Alternative, with all route revisions except the PCT Reroute Option C/D, is environmentally superior to the corresponding segment of the Interstate 8 Alternative with West Buckman Springs Option it would replace. It would avoid a BCNM Land Use Zone in CNF and be less visible overall.

Star Valley Option

The 3.2-mile Star Valley Option would amend the Modified Route D Alternative over the last 1.5 miles of the Alternative, between the Modified Route D Substation Alternative and the Interstate 8 Alternative route. The option would exit the Modified Route D Alternative Substation to the west-northwest, rather than to the north along the Modified Route D Alternative route. The option would be an overhead double-circuit 230 kV transmission line, heading west and northwest for 2.2 miles, then north for approximately 0.3 miles to meet Star Valley Road at a point 0.7 miles east of I-8 Exit 33 for Willows Road. On the southwest side of the bend in Star Valley Road, the route would transition underground and continue north to Alpine Boulevard, where it would join the Interstate 8 Alternative route.

The option was defined in order to ~~would~~ reduce the likelihood of underground construction in eastern Alpine Boulevard to affect cultural resources ~~impacts~~ and to shorten the amount of underground construction in Alpine Road. However, it would be more visible to residences in eastern Alpine, thus creating a significant visual impact. After publication of the Draft EIR/EIS, further research has been conducted into the possibility of encountering cultural resources in the eastern end of Alpine Boulevard. The research indicated that impacts to cultural resources in this area are unlikely, as described in more detail in response to Comment Set F0008 (Viejas Tribe).

Star Valley Option Revision – SDG&E suggested a revision of this route to reduce the visual impacts of the overhead portion of the route and diverge further from residences on Star Valley Road.

Conclusion: **The Modified Route D Alternative ~~with the Star Valley Option~~ is superior to the Modified Route D Alternative with the Star Valley Option or Star Valley Option Revision ~~alone~~**. It would eliminate the significant visual impact associated with either Star Valley Option, and is unlikely to affect cultural resources. If the underground segment in eastern Alpine Boulevard is determined not to be feasible, the Star Valley Option Revision would have next least impacts overall. ~~It would reduce underground disturbance to Alpine Road by approximately 25 percent and would reduce cultural impacts.~~

Conclusion for the Environmentally Superior Modified Route D Alternative

The Modified Route D Alternative (with all revisions described above) with Modified Route D Alternative Substation ~~and the Star Valley Option~~ is environmentally superior to the corresponding segment of the Interstate 8 Alternative (with West of Buckman Springs Option) that it would replace. The Modified Route D Alternative would be located within a proposed federal utility corridor, and would reduce visibility and fire risk as compared with the Interstate 8 Alternative.

ES.7.2.5 Conclusion: Final Environmentally Superior Southern Route Alternative

The conclusions regarding the environmental ranking of southern route alternatives and options resulted in the identification of a combination route that is the Final Environmentally Superior Southern Route Alternative for the southern transmission line route. The route would be 122.8 ~~110.0~~ miles long (114.5 ~~104.1~~ miles overhead and 8.3 ~~5.9~~ miles underground [in Alpine].) It would use primarily the Interstate 8 Alternative ~~as its spine~~, with the various alternatives and options substituting for segments of the Interstate 8 Alternative. The Final Environmentally Superior Southern Route Alternative would consist of:

- Interstate 8 Alternative, except where it is changed by the following alternatives and route revisions:
  - ~~Campo North Option~~ SWPL Archaeological Site Revision and Jacumba Breakaway Revision
  - BCD Alternative Revision and BCD South Option Revision
  - Modified Route D Alternative, including the Modified Route D Alternative Substation, the Cameron Revision, PCT Reroute Option A, Western Modified Route D Alternative Revisions. ~~and t~~The Star Valley Option Revision is recommended only if the eastern segment of the Interstate 8 Alternative's underground in Alpine Boulevard is determined to be infeasible~~.~~
  - Chocolate Canyon Option Revision, High Meadows Reroute and Highway 67 Hansen Quarry Reroute.
  - Environmentally Superior Northern Route Alternative (as defined in Section ~~6~~7.1.7) from where it joins the Interstate 8 Alternative.

The Final Environmentally Superior Southern Transmission Alternative route is illustrated in Figure ES-4.

ES.7.3 Comparison of LEAPS Transmission Only Alternative with LEAPS Transmission Plus Generation Alternative.

This section presents the impact analysis of the two Lake Elsinore Advanced Pumped Storage (LEAPS) alternatives: a transmission-only alternative and a transmission and generation alternative. The Nevada Hydro Company proposes to build the LEAPS Project, which would include a new 32-mile 500 kV transmission line between the proposed Lake Substation and Pendleton Substation (called the proposed

Lake-Pendleton transmission line) and an additional 230 kV circuit on ~~48~~ 51 miles of existing 230 kV transmission towers between the existing Talega and Escondido Substations (called the Talega-Escondido transmission line). The LEAPS Transmission-Only Alternative is also called the Talega-Escondido/Valley-Serrano Project, because it would connect SDG&E's Talega-Escondido line with Southern California Edison's Valley-Serrano 500 kV transmission line. It would traverse Riverside County, Cleveland National Forest (Trabuco Ranger District) and northern San Diego County, including Marine Corps Base Camp Pendleton (MCBCP).

The LEAPS Alternatives would meet most project objectives and would allow importation of renewable generation into the San Diego area. However, it would not directly access renewable resources in the Imperial Valley without the construction of additional transmission lines to the north. Likewise, the connected actions of the Proposed Project would not likely be constructed.

LEAPS Transmission-Only Alternative

The transmission-only alternative would involve construction of a new 32-mile 500 kV transmission line between the proposed Lake Substation and Pendleton Substation and a new 230 kV circuit on 48 miles of existing 230 kV transmission towers between the existing Talega and Escondido Substations. This alternative was considered because it would eliminate most of the impacts of the 150-mile Proposed Project, and no new transmission facilities would be built in Imperial County or ABDSP or in the vicinity of Santa Ysabel, Ramona, or Sycamore Canyon. Impacts to private land would be minimized with most LEAPS Project components confined to federal lands. The LEAPS transmission line would also create significant, unmitigable impacts, due to its potential to displace residences and/or businesses, its recreation impacts within the National Forest, and visual impacts that create an inconsistency with USFS Scenic Integrity Objectives.

LEAPS Generation and Transmission Alternative

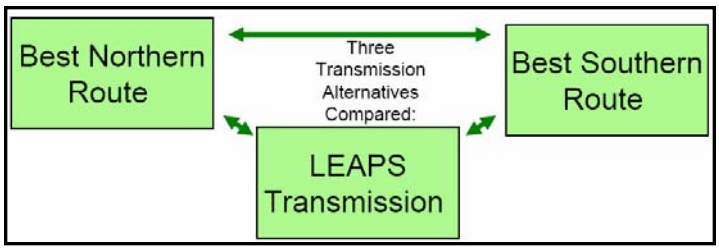
In addition to the transmission components listed above, the generation component of LEAPS Generation and Transmission Alternative facilities would include construction of a Lake Elsinore lower reservoir, a Decker Canyon upper reservoir, the Santa Rosa Powerhouse, and water/power conduits between Lake Elsinore and the Decker Canyon area including power shafts, power tunnel, penstocks, and tailrace tunnels. This alternative was considered because it would eliminate most of the impacts of the 150-mile Proposed Project. The LEAPS Generation and Transmission Alternative would have substantially greater environmental impacts than the LEAPS Transmission-Only Alternative, including an intense 4-year construction process, residential and/or business displacement from powerhouse facilities, loss of public access to 100+ acres of USFS land at the reservoir location, potential for seismic effects on infrastructure, and the potential for dam or dike failure to discharge water toward Lake Elsinore, potentially resulting in loss of life.

Conclusion Regarding Superior LEAPS Alternatives

None of the generation components or their impacts would occur with the LEAPS Transmission-Only Alternative so it would have fewer impacts than the LEAPS Generation and Transmission Alternative. Therefore, the LEAPS Transmission-Only Alternative is considered the Environmentally Superior alternative of the two and it is considered further in comparison to other alternatives in the following sections.

ES.7.4 Comparison of Environmentally Superior Northern Route, Southern Route, and LEAPS Transmission Alternatives

Three transmission line routes have been identified in this comparison: the best Environmentally Superior Northern Route Alternative (see Section ES.7.1), the best Environmentally Superior Southern Route (SWPL) Alternative (see Section ES.7.2), and the LEAPS Transmission Only Alternative (see Section ES.7.3). In this section, those three transmission alternatives are compared to determine the transmission alternative with the least impacts overall.



The LEAPS Transmission-Only Alternative is found to be the Overall Environmentally Superior Transmission Line Route Alternative due to its substantially shorter length and reduced environmental impacts when compared to the Northern and Southern Route Alternatives. It would meet the reliability and economic project objectives and would allow import of renewable generation into the San Diego area from the SCE system, but it would not directly access renewable resources in the Imperial Valley without the construction of additional transmission lines in this area.

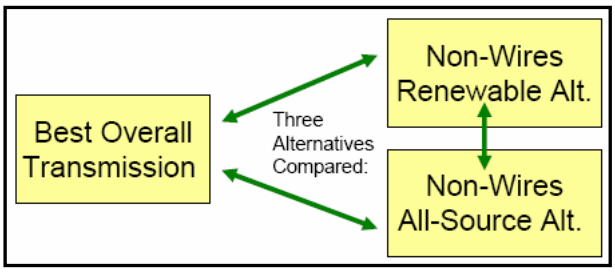
This alternative is considered to be preferred because it would require a total of 39.6 miles of new transmission construction (nearly 100 miles less new transmission line construction than the Environmentally Superior Route Alternative for the Proposed Project, at 138 miles), and about 60 miles less than the Environmentally Superior SWPL Southern Route Alternative (110 miles long). It would have the least ground disturbance and a reduced fire risk.

Ranking of Overall Transmission Alternatives. Therefore, the overall environmental ranking of the transmission alternatives from most environmentally superior to least environmentally superior is as follows:

1. LEAPS Transmission-Only Alternative
2. Environmentally Superior SWPL Southern Route Alternative
3. Environmentally Superior Route Segment Alternative for the Proposed Project (Northern Route Alternative)

ES.7.5 Comparison of the In-Area Renewable Generation Alternative with the In-Area All-Source Generation Alternative

Within this section, the Environmentally Superior Transmission Line Route Alternative (determined in Section ES.7.4 to be the LEAPS Transmission-Only Alternative) is compared to the two following non-wires alternatives in order to determine the overall Environmentally Superior Alternative. The non-wires alternatives are:



- New In-Area Renewable Generation Alternative (includes solar thermal, solar photovoltaic, biomass/ biogas, and wind generation within San Diego County)
- New In-Area All-Source Generation Alternative (includes smaller amounts of solar photovoltaic, biomass/biogas, and wind generation than that considered in the Renewable Generation Alternative, plus one gas-fired baseload power plant and four peaking power plants, within the area of demand). The solar thermal component is not included in the All-Source Generation Alternative.

New In-Area Renewable Generation Alternative

The New In-Area Renewable Generation Alternative would involve development of various in-area renewable generation projects that together could provide sufficient generation capacity to defer the need for the Proposed Project. No single in-area renewable generation project would be likely by sufficient in itself to provide the necessary capacity to serve as a viable alternative to the Sunrise Powerlink Project. By considering the availability of in-area renewable resources as a whole, this alternative offers a viable scenario of in-area renewable generation development. The types of generation resources involved would be solar thermal, solar photovoltaic, biomass/biogas, and wind.

The renewable generation alternative is considered in the EIR/EIS because it has the potential to lessen significant environmental impacts of the Proposed Project, as defined in Section ES.5. This alternative would still create significant impacts as a result of the extensive ground disturbance, habitat loss, and visibility of the large wind and solar thermal components. The solar thermal component would have significant visual and recreation impacts due to its location in the Borrego Valley, highly visible from surrounding Anza-Borrego Wilderness areas. Also, the solar thermal component would require transmission line upgrades through the Park, but they could be installed underground within paved roads. While these significant and unmitigable impacts would occur, the impacts would be largely confined to specific areas (except for transmission connections), rather than along an extended linear path. This alterative also greatly reduces the impacts of fire due to overhead obstacles (using the option in which the Solar Thermal transmission line would be underground).

New In-Area All-Source Generation Alternative

The New In-Area All-Source Generation Alternative would include a combination of fossil-fuel fired central station generation, renewable generation, and non-renewable distributed generation (DG). It would include smaller wind and biomass/biogas development projects, and solar photovoltaics. This alternative was retained for analysis because its impacts would occur in more developed areas, rather than in the remote and scenic areas through which the Proposed Project would pass.

The All-Source Generation Alternative would result in reduced ground disturbance, and would be most preferred for biological resources, visual resources, and wilderness and recreation due to construction generally in more developed/disturbed areas. Significant, unmitigable impacts would occur to water resources and public services due to use of water for evaporative cooling (unless dry cooling is used). Also, public health and safety impacts occur due air emissions and use and storage of hazardous materials, including aqueous ammonia.

Overall Environmentally Superior Alternative: Comparison of the Environmentally Superior Transmission Line Route with the In-Area Renewable Generation Alternative and the In-Area All-Source Generation Alternative

LEAPS Transmission-Only in Comparison to Non-Wires Alternatives. The LEAPS Transmission-Only Alternative is the Environmentally Superior transmission route alternative. This alternative is compared with the New In-Area Renewable Generation and New In-Area All-Source Generation Alternatives for all environmental issue areas. All three of these alternatives would reduce impacts in comparison with the Proposed Project and Northern and Southern Route Alternatives.

The effects of the LEAPS Transmission-Only Alternative, and the rationale for identifying that alternative as the environmentally superior transmission line route, are summarized in Section ES.7.3. Due to the significant long-term operational effects of this the LEAPS Transmission-Only Alternative as a linear project, especially its visual effects and impacts on land use, noise, air quality, and fire and fuels management, **the LEAPS Transmission-Only Alternative is found to be inferior to both the New In-Area Renewable Generation and New In-Area All-Source Alternatives**.

Comparison of Non-Wires Alternatives. The New In-Area All-Source Alternative is found to have less overall impacts than the New In-Area Renewable Alternative, due primarily to the extensive ground disturbance required for wind and solar thermal development. The solar thermal component is not included in the All-Source Alternative, and the wind component is half as large. The New In-Area Renewable Generation Alternative would not create greenhouse gas emissions during operation while the New In-Area All-Source Generation Alternative would increase operational air emissions. Without the construction of the solar thermal component and with the reduced size of the wind component, significant impacts to undeveloped areas in the Borrego Valley and on BLM and Tribal lands would be greatly reduced with the All-Source Alternative. Also, the gas-fired power plants and peaking facilities would be built at existing industrial/energy facilities. ~~and~~ This may result in the closure of older more-polluting power plants resulting in an overall reduction in baseline emissions that would be less likely to occur ~~not occur~~ with the New In-Area Renewable Generation Alternative because of the higher level of reliability likely with the New In-Area All-Source Alternative.

The comparison of generation alternatives to each other and to transmission alternatives is extremely difficult, since the impacts are very different. However, based on all the factors described above, the environmental ranking of the environmentally superior transmission and non-wires alternatives from most environmentally superior to least environmentally superior is as follows:

1. New In-Area All-Source Generation Alternative
2. New In-Area Renewable Generation Alternative
3. LEAPS Transmission-Only Alternative.

ES.7.6 Comparison of the Environmentally Superior Alternative with the No Project Alternative

The No Project Alternative is described in Section C.6, and although no specific development scenario is envisioned, impacts can be identified from the range of energy options described in this scenario. The absence of the Proposed Project may lead SDG&E or other developers to pursue other actions to achieve the objectives of the Proposed Project. The actions that are reasonably expected to occur in the foreseeable future without SRPL are defined in Section ES.6.4, and include the following:

- The existing transmission grid and power generating facilities would continue to operate until other major generation or transmission projects could be developed.
- Continued growth in electricity consumption and peak demand within the SDG&E service territory is expected. To serve this growth, additional electricity would need to be generated within San Diego County or imported by existing or modified facilities.
- Certain demand-side or supply-side actions would be expected to occur beyond the levels currently planned by SDG&E. Demand-side actions include ongoing energy conservation (energy efficiency) or load management (demand response). Supply-side actions include development of new generation, including conventional, renewable, and distributed generation, or other major transmission projects.

The full menu of potential projects that could occur under the No Project/No Action Alternative is described in Section C.6.

The No Project Alternative includes more energy options than would be required to replace the Sunrise Powerlink Project. In the absence of the Proposed Project, these energy options may be implemented in any combination. One configuration of the No Project Alternative would be to include only the components of the In-Area All-Source Generation Alternative, which is ranked as the Environmentally Superior Alternative. In this configuration, the No Project Alternative would be environmentally equivalent to the Environmentally Superior Alternative (ranked first). The foreseeable energy projects included in the No Project Alternative also include the components of the In-Area Renewable Generation Alternative (ranked second) and the LEAPS Transmission Only Alternative (ranked third). Therefore, depending on the actions taken in the absence of the Proposed Project, the No Project Alternative could be ranked as the first, second, or third most environmentally superior alternative. In all cases, the No Project Alternative would have fewer impacts than the Proposed Project.

ES.8 Comparison of Transmission Alternatives Data

Several comments on the Draft EIR/EIS requested that quantifiable environmental data be presented in the Final EIR/EIS that allows comparison of the Proposed Project to the other major transmission line alternatives evaluated in the EIR/EIS. Comparisons based solely on data offer one way of comparing one transmission line route to another, but definitive conclusions about the environmental superiority of a route cannot be drawn from such data comparisons alone.

There are four composite transmission line routes considered in Section ES.7, three along the "Northern Routes" and one along the "Southern Route":

- Proposed Project
- Final Environmentally Superior Northern Route Alternative
- SDG&E Enhanced Northern Route Alternative
- Final Environmentally Superior Southern Route Alternative

The environmental disciplines in which these routes can be compared based solely on data calculations are the following:

- Section ES8.1, Biological resources (habitat loss)
- Section ES8.2, Fire and fuels management (various statistics including assets at risk)
- Section ES8.3, Environmental justice
- Section ES8.4, Agricultural land effects

ES.8.1 Biological Resources – Comparison of Transmission Alternatives

Several comments on the Draft EIR/EIS suggested that a consolidated matrix of habitat impacts would be useful to reviewing agencies and members of the public for comparing the extent of impacts to biological resources. Table ES-2 below presents overall comparisons of four composite route alternatives between the Imperial Valley Substation and the San Diego load center: the Proposed Project, Final Environmentally Superior Northern Route, Final Environmentally Superior Southern Route, and SDG&E's "Enhanced" Northern Route.

The impacts provided in Table ES-2 are based on the results of the surveys conducted in 2007 by Arcadis for the Proposed Project and by HELIX for the alternatives. No focused surveys for special status plant or wildlife species were completed for several components of these composite routes. Where suitable habitat was identified for special status wildlife species, it was assumed that those species were present. The table below includes impacts to assumed occupied habitat for wildlife species. Impacts to the number of individuals of each special status plant species is provided below; however, the impact numbers vary widely for the four composite routes because focused surveys were not completed for the portions of the routes that changed.

Table ES-2. Biological Resources Comparison of Alternatives

Permanent Impacts to Sensitive Species Habitat or Vegetation Communities (acres)	Proposed Project	Final Environmentally Superior Northern Route Alternative	SDG&E "Enhanced" Northern Route Alternative	Final Environmentally Superior Southern Route Alternative
Total Acres of Sensitive Vegetation Communities Affected	591	433	562	490
Flat-tailed Horned Lizard	141	176	129	76
Peninsular Bighorn Sheep	57	0.4	55	60
Least Bell's Vireo *	3	0	2	9
Quino Checkerspot Butterfly	0	0	0	19
Arroyo Toad	42	10	38	32
Stephens' Kangaroo Rat	23	111	21	0
Coastal California Gnatcatcher **	8	7	12	28
Total Acres of Special Status Wildlife Habitat Affected	274	304.4	257	224

* Occupied critical habitat + assumed occupied habitat
** Critical habitat + occupied habitat + assumed occupied habitat
*** Occupied habitat

ES.8.2 Fire and Fuels Management – Comparison of Transmission Alternatives

A comparison of the quantitative measures of fire-related impacts, as modeled in the Fire and Fuels Management Sections of the EIR/EIS, is presented in Table ES-3, below. Following the table, each major risk category presented in the table is described.

Table ES-3. Fire and Fuels Comparison of Alternatives (4 Burn Periods)

		A	B	C		D		E	F
Route		Overhead through High-Risk Fuels (miles)[a]	High/Very High Burn Probability (miles)	Assets at Risk: Normal Weather		Assets at Risk: Extreme Weather		Firefighting conflict (miles)	Fire reliability (number outages)[b]
				Homes	Acres	Homes	Acres		
Final Environmentally Superior Northern Route Alternative	230 kV	23	17	400	20,000	770	72,000	11.5	2
	500 kV	0	2	0	0	0	0		
Final Environmentally Superior Southern Route Alternative	230 kV	23	10	150	16,000	560	37,000	8.0	5
	500 kV	62	20	180	36,000	820	161,000		
LEAPS Alternatives	230 kV	8[c]	0	0	0	0	0	2	3
	500 kV	32	12.5	430	29,000	720	106,000		
SDG&E "Enhanced" Northern Route Alternative	230 kV	56	16.5	1,200	26,000	1,430	95,000	14.5	2
	500 kV	21	2.5	20	11,000	20	57,000		

[a] The number of miles of overhead transmission line through High and Very High Fire Severity Zones as identified by CAL FIRE, 2006.
[b] The number of outages that would have occurred concurrently with SWPL from 1970 to 2007, using MGRA Phase 2 Rebuttal testimony methodology excluding "Type 3" outages.
[c] The calculation for the LEAPS Transmission-Only Alternative doesn't include the 51 miles of Talega-Escondido upgrades, except for the approximately 8 miles of relocated 69 kV circuit, due to the nature of the upgrades that would result in a small increase in project-related ignitions over baseline environmental conditions for the life of the project.

- **A. Miles Through High-Risk Fuels.** The number of miles of overhead transmission line through high-risk fuels, in accordance with CAL FIRE's Fire Hazard Severity Zone maps, is one measure of the probability of project-related ignitions. SDG&E fault and ignition data (1998-2006 and 2004-2007, respectively) indicates that 230 kV transmission lines in its system have a fault rate that is nearly twice that of 500 kV lines. The 230 kV system has experienced an ignition rate of approximately 0.2 fires per 100 miles per year and the 500 kV system has experienced an ignition rate of zero over four years. In addition, SDG&E's 500 kV system has never been the reported cause of a fire, and only a single 500 kV fire has been documented anywhere in the U.S. Therefore, the length of 230 kV transmission line through high-risk fuels may be weighted more heavily than the length of 500 kV line in a fire risk comparison between alternatives; un-weighted values are presented in the tables above, however values for 500 kV lines are shaded in gray to denote their lesser importance in overall risk.
- **B. Burn Probability.** Another measure of the probability of project-related ignitions is the number of miles of overhead and underground segments located in areas with High and Very High burn probability, as measured by the EIR/EIS Burn Probability Model. Ignitions originating from the transmission line would be more likely to carry a fire and be more difficult to contain in areas of high and very high burn probability.
- **C and D. Assets at Risk.** The number of assets at risk during normal and extreme weather, as measured by the EIR/EIS Fire Behavior Trend Model, represents the number of homes and acres potentially at risk in four burn periods (as estimated through the Fire Behavior Trend model described in EIR/EIS Section D.15.4.3). Similar to the rationale above, assets at risk from the 230 kV transmission system may be weighted more heavily than the assets at risk from the 500 kV system based on the ignition history of each system; again, un-weighted values are presented in the tables above, however values for 500 kV lines are shaded in gray to denote their lesser importance in overall risk.
- **E. Firefighting Conflicts.** The number of miles of significant conflicts with fire suppression efforts, as measured by the EIR/EIS Wildfire Containment Conflict Model, is a measure of the long-term interference with firefighting operations presented by each transmission alignment.
- **F. Reliability.** Finally, the fire-reliability number is a measure of the number of times each transmission line would have been out of service concurrently with the Southwest Powerlink (SWPL) due to fire between 1970 and 2007. This is a measure of probable concurrent outages in the past, and is not necessarily a representative prediction of the future. Concurrent outage with SWPL is a continuing concern of SDG&E and the CAISO for a Southern Route Alternative because of the proximity of these routes to one another. However, because of the extreme fire-prone characteristics of San Diego County and other southern California counties, northern routes are also subject to concurrent outages with SWPL even though they are not collocated.

Comparison Conclusion. As shown in Table ES8-2, the Final Environmentally Superior Northern Route is somewhat more hazardous than the Southern Route in terms of assets at risk, LEAPS Alternatives are the least risky, and the SDG&E "Enhanced" Northern Route is once again the riskiest. An explanation for the drastically increased risk of the Final Environmentally Superior Northern Route and the SDG&E "Enhanced" Northern Route when a longer burn time is modeled is that the fuels recently burned along the northern alternatives in the 2003 Cedar Fire contain less dead and decaying matter than the fuels along the southern alternatives, and these fuels with a higher living matter content tend to burn cooler and slower than fuels with a greater concentration of dead and decaying matter. Recall that the fuels inventories that are the basis of the Fire Behavior Trend Model were carried out prior to the 2007 firestorm that burned large areas in the vicinity of both the northern and southern alternatives.

The SDG&E "Enhanced" Northern Route presents the greatest conflict with firefighting operations, followed by the Final Environmentally Superior Northern Alternative. The LEAPS Alternatives present the fewest firefighting obstacles, followed by the Final Environmentally Superior Southern Route. In terms of reliability, based on wildfire history, the northern routes are more reliable than the LEAPS Alternatives or the southern route, which is the least reliable from a wildfire history perspective. While past experience suggests that a concurrent outage is more likely to occur with construction of the Environmentally Superior Southern Route, the projected range of such concurrent outages is consistent with WECC reliability criteria and was recognized and found acceptable by the Reliability Work Group.[10]

Overall, this analysis reveals that each transmission alignment presents serious fire risks, that the LEAPS Alternatives are the least risky, that the SDG&E "Enhanced" Northern Route is the riskiest, and the Final Environmentally Superior Northern and Southern Routes are roughly equivalent, except with regard to firefighting conflict where the northern route is riskier and reliability where the southern route is riskier.

ES.8.3 Environmental Justice – Comparison of Transmission Alternatives

Table ES-4 presents a comparison of northern and southern route alternatives with regard to Environmental Justice concerns. This data was requested in several comments on the Draft EIR/EIS. Because all three the northern route alternatives considered in the EIR/EIS pass through the same census tracts, the Northern Route Alternatives category encompasses Environmental Justice data for the Proposed Project, the Final Environmentally Superior Northern Route, and SDG&E's "Enhanced" Northern Route. The Southern Route Alternatives category includes the Final Environmentally Superior Southern Route. For the analysis presented below, U.S. Census Tracts within ½ mile of the northern and southern routes were identified. For the purposes of this comparison, no census tracts were identified for the Coastal Link because the alignment for this link will be the same for either route. For the Census Tracts within ½ mile of each route, year 2000 demographic Census data were obtained for total population, minority population, and low-income population.

Table ES-4. Environmental Justice Comparison

Route	Minority Population	Low-income Population[1]	Total Population
Northern Route Alternatives	15,715 (24%)	6,275 (9.6%)	65,098
Southern Route Alternatives	12,874 (18%)	6,390 (8.9%)	72,084

Source: US Census Bureau. 2008. Year 2000 Census Lookup. http://factfinder.census.gov/servlet/BasicFactsServlet.
Notes: [1] US Census Bureau poverty status is provided in percentage format. Therefore, number of individuals was derived from percentage of total population.

As shown in Table ES-4, although the total population in the vicinity[11] of the southern route is slightly larger than the population in the vicinity the northern route, minority and low-income populations in the vicinity of the southern route are smaller than those in the vicinity of the northern route. The southern

[10] Only three sets of collocated high-voltage transmission lines in California have a higher Category D rating. A Category C line is acceptable to meet reliability standards as it is the standard throughout California. For details on the WECC reliability rating assigned to the northern and southern routes, see SDG&E's December 19, 2007 Performance Category Upgrade Request to the WECC's Reliability Performance Evaluation Work Group (RPEWG) and the RPEWG's January, 2008 recommendation.

[11] For the purposes of this comparison, "in the vicinity" is defined by the population in the U.S. Census Tracts within ½ mile of each route.

route would pass within ½ mile of populations with 2,841 (5%) fewer minorities and 115 (0.7%) fewer low-income persons than would the northern route. The minority and low-income populations for these routes are not substantially different.

There is only one census tract that has a 50% or greater percentage of minority population. Census Tract 123.01 in Imperial County has 73% (3,805) minority population. This census tract is located within ½ mile of both the northern and southern routes. No census tracts with 50% or greater low-income persons were identified for either route. As shown in Table ES-4, when the data by census tract is combined for each route, neither route includes 50% or greater minority or low-income populations. Because both the northern and southern routes are located within ½ mile the single census tract with a 50% or greater percentage of minorities, the selection of the Proposed Project, the Final Environmentally Superior Northern Route, the Final Environmentally Superior Southern Route, or SDG&E's "Enhanced" Northern Route would have a similar impact on minority populations.

ES.8.4 Agricultural Land Effects – Comparison of Transmission Alternatives

Permanent impacts to agricultural lands are quantified for the Proposed Project and alternatives in three categories: California Department of Conservation (DOC) Farmlands, Active Agricultural Operations, and Williamson Act Lands. DOC Farmlands are important agricultural lands classified by the Department of Conservation by their particular biophysical characteristics and land uses. Active Agricultural Operations lands include lands in cultivation, under use as dairies or apiaries, and under active grazing. Williamson Act Lands are those lands under Williamson Act contracts as defined by the California Land Conservation Act of 1965.

Table ES-5 presents a comparison of permanent agricultural impacts between the Proposed Project, Final Environmentally Superior Northern Route, Final Environmentally Superior Southern Route, and SDG&E's "Enhanced" Northern Route. In many cases, lands that fall within the three categories overlap with one or both of the other two categories. The acreage of total permanent impacts without double counting the areas of overlap are presented in the rightmost column of the table. SDG&E's "Enhanced" Northern Route would permanently impact the most total agricultural acres, followed by the Proposed Project and the Final Environmentally Superior Northern Route. The Final Environmentally Superior Southern Route would permanently impact the fewest total agricultural acres.

Table ES-5. Permanent Agricultural Impacts Comparison

Route	DOC Farmlands (acres)	Active Agricultural Operations (acres)	Williamson Act Lands (acres)	Total Permanent Impacts (no overlap; acres)
Proposed Project	96.7	101.2	155.9	214.2
Final Environmentally Superior Northern Route Alternative	55.9	152.7	3.6	182.0
Final Environmentally Superior Southern Route Alternative	39.5	20.5	80.7	128.3
SDG&E "Enhanced" Northern Route Alternative	88.3	114.0	143.8	218.7

ES.9 Comments and Responses to Comments

This Final EIR/EIS includes copies of all comments received on the Draft EIR/EIS and the Recirculated Draft EIR/Supplemental Draft EIS. Table ES-6 summarizes the comments received on these two documents. Complete lists of all comments received are presented in Section 1 of the Final EIR/EIS. Section 2 of the Final EIR/EIS presents "General Responses" to comments made by multiple commenters. The comments and responses to comments are presented in Section 3 (for the Draft EIR/EIS) and Section 4 (for the Recirculated Draft EIR/Supplemental Draft EIS). Note that some comment attachments are not printed in this Final EIR/EIS, but are included on the enclosed DVD only. The numbers of pages included in the print version and DVD version are detailed below.

Table ES-6. Summary of Comments Received

Comment Set ID	Comment Category	# Commenters	# Pages Printed	# Pages on DVD only
	Draft EIR/EIS			
A	Public Agencies and Tribal Governments	37	274	67
B	Groups, Organizations, Nonprofits, and Private Companies	50	474	467*
C	Public Participation Hearings (on Draft EIR/EIS; transcripts)	257	180	0
D	Individuals	831**	531	50
E	SDG&E	4	285	0
	Total for Draft EIR/EIS	1179	1794	534
	Recirculated Draft EIR/Supplemental Draft EIS			
F	Public Agencies and Tribal Governments	14	63	17
G	Groups, Organizations, Nonprofits, and Private Companies	18	257	377
H	Individuals	36	128	10
I	SDG&E	1	37	0
	Total for Recirculated Draft EIR/Supplemental Draft EIS	69	485	404
	Totals for Both Draft Documents	1248	2229	988

* 3,312 pages of articles cited in the CBD/Sierra Club Phase II Testimony were provided in hardcopy as attachments to the CBD/Sierra Club comment letter (Comment B0041). These articles are not reproduced in the Final EIR/EIS or included on the DVD; however, an index of these articles is provided with the text of Comment B0041 and a copy of the articles can be made available upon request.

** One of the comment letters is a form letter that was received from 603 commenters. The form letter appears only once in the Final EIR/EIS (see Comment D0150).

ES.10 Impact Summary Tables

Levels of significance in this EIR/EIS are defined by classification as follows:

- "Class I" is used to identify significant and unavoidable impacts
- "Class II" is used to identify significant impacts that can be mitigated to a less than significant level
- "Class III" is used to identify adverse but less than significant impacts
- "Class IV" is used to identify beneficial impacts.

The tables on the following pages summarize all identified impacts of the Proposed Project, arranged as follows:

- Table IST-1: Class I impacts of the Proposed Project
- Table IST-2: Class II impacts of the Proposed Project
- Table IST-3: Class I impacts of the Proposed Project's Future Transmission System Expansion
- Table IST-4: Class II impacts of the Proposed Project's Future Transmission System Expansion
- Table IST-5: Class I impacts of the Proposed Project's Connected Actions
- Table IST-6: Class II impacts of the Proposed Project's Connected Actions

Table IST-1. Summary of Significant Unmitigable (Class I) Impacts for the Proposed Project

Impact	Mitigation Measure (if any)	
Biological Resources		
Impact B-1: Construction activities would result in temporary and permanent losses of native vegetation (Class I for sensitive vegetation, vegetation management, and type conversion)	B-1a	Provide restoration/compensation for impacted sensitive vegetation communities
	B-1b	Implement appropriate avoidance/minimization/compensation strategies for vernal pools and listed fairy shrimp habitat.
	B-1c	Conduct biological monitoring.
	B-1k	Re-seed disturbed areas after a transmission line–caused fire.
Impact B-5: Construction activities would result in direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants	B-1a	Provide restoration/compensation for impacted sensitive vegetation communities.
	B-1c	Conduct biological monitoring.
	B-2a	Provide restoration/compensation for impacted jurisdictional areas.
	B-5a	Conduct rare plant surveys, and implement appropriate avoidance/minimization/compensation strategies
Impact B-7: Construction activities would result in direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife (Class I for construction impacts to sensitive species)	B-1a	Provide restoration/compensation for impacted sensitive vegetation communities.
	B-1c	Conduct biological monitoring.
	B-2a	Provide restoration/compensation for impacted jurisdictional areas.
	B-7a	Cover all steep-walled trenches or excavations used during construction to prevent the entrapment of wildlife (e.g., reptiles and small mammals)
Impact B-7A: Direct or indirect loss of flat-tailed horned lizard or direct loss of habitat	B-1a	Provide restoration/compensation for impacted sensitive vegetation communities.
	B-1c	Conduct biological monitoring.
	B-2a	Provide restoration/compensation for impacted jurisdictional areas.
	B-7a	Cover all steep-walled trenches or excavations used during construction to prevent the entrapment of wildlife (e.g., reptiles and small mammals).
	B-7b	Implement avoidance/mitigation/compensation according to the Flat-Tailed Horned Lizard Rangewide Management Strategy.
Impact B-7B: Direct or indirect loss of Peninsular bighorn sheep or direct loss of habitat	B-1a	Provide restoration/compensation for impacted sensitive vegetation communities.
	B-1c	Conduct biological monitoring.
	B-2a	Provide restoration/compensation for impacted jurisdictional areas.
	B-7c	Minimize impacts to Peninsular bighorn sheep and provide compensation for loss of critical habitat
Impact B-7H: Direct or indirect loss of golden eagle or direct loss of habitat (Class I for nests within 4,000 feet)	B-7h	Implement appropriate avoidance/minimization strategies for eagle nests.
Impact B-7J: Direct or indirect loss of ~~quino~~ Quino checkerspot butterfly or direct loss of habitat	B-1a	Provide restoration/compensation for impacted sensitive vegetation communities.
	B-1c	Conduct biological monitoring.
	B-2a	Provide restoration/compensation for impacted jurisdictional areas.
	B-7i	Conduct ~~quino~~ Quino checkerspot butterfly surveys, and implement appropriate avoidance/minimization/compensation strategies

Table IST-1. Summary of Significant Unmitigable (Class I) Impacts for the Proposed Project

Impact B-7L: Direct or indirect loss of Stephens' kangaroo rat or direct loss of habitat	B-1a	Provide restoration/compensation for impacted sensitive vegetation communities.
	B-1c	Conduct biological monitoring.
	B-2a	Provide restoration/compensation for impacted jurisdictional areas.
	B-7a	Cover all steep-walled trenches or excavations used during construction to prevent the entrapment of wildlife (e.g., reptiles and small mammals).
	B-7k	Conduct Stephens' kangaroo rat surveys, and implement appropriate avoidance/minimization/compensation strategies.
Impact B-7O: Direct or indirect loss of barefoot banded gecko or direct loss of habitat	B-1a	Provide restoration/compensation for impacted sensitive vegetation communities.
	B-1c	Conduct biological monitoring.
	B-2a	Provide restoration/compensation for impacted jurisdictional areas.
Impact B-10: Presence of transmission lines may result in electrocution of, and/or collisions by, listed or sensitive bird species	B-10a	Utilize collision-reducing techniques in installation of transmission lines.
Impact B-12: Maintenance activities would result in disturbance to wildlife and could result in wildlife mortality (Class I for Peninsular bighorn sheep)	B-1b	Implement appropriate avoidance/minimization/compensation strategies for vernal pools and listed fairy shrimp habitat.
	B-3a	Prepare and implement a Weed Control Plan.
	B-7b	Implement avoidance/mitigation/compensation according to the Flat-Tailed Horned Lizard Rangewide Management Strategy.
	B-7c	Minimize impacts to Peninsular bighorn sheep and provide compensation for loss of critical habitat.
	B-7g	Implement appropriate avoidance/minimization strategies for desert tortoise.
	B-7h	Implement appropriate avoidance/minimization strategies for eagle nests.
	B-12a	Conduct maintenance activities outside the general avian breeding season.
	B-12b	Conduct maintenance when arroyo toads are least active.
	B-12c	Maintain access roads and clear vegetation in Quino checkerspot butterfly habitat.
Visual Resources		
Impact V-5: Inconsistency with Interim BLM VRM Class III management objective due to increased structure contrast, industrial character, view blockage, and skylining when viewed from Key Viewpoint 3 on BLM Road 326 north of Superstition Hills	V-3a	Reduce visual contrast of towers and conductors.
Impact V-6: Inconsistency with Interim BLM VRM Class III management objective due to the introduction of structure contrast, industrial character, view blockage, and skylining when viewed from Key Viewpoint 4 on SR78/86, north of Superstition Hills	V-3a	Reduce visual contrast of towers and conductors.
Impact V-8: Increased structure contrast, industrial character, view blockage, and skylining when viewed from Key Viewpoint 5 on eastbound Old Kane Springs Road	V-3a	Reduce visual contrast of towers and conductors.
	V-8a	Structure design consultation in ABDSP
Impact V-9: Increased structure contrast, industrial character, view blockage, and skylining when viewed from Key Viewpoint 6 on westbound SR78 at The Narrows	V-3a	Reduce visual contrast of towers and conductors.
	V-8a	Structure design consultation in ABDSP.

Table IST-1. Summary of Significant Unmitigable (Class I) Impacts for the Proposed Project

Impact V-10: Increased structure contrast, industrial character, and view blockage when viewed from Key Viewpoint 7 on northbound Mine Wash Road	V-3a V-8a	Reduce visual contrast of towers and conductors. Structure design consultation in ABDSP.
Impact V-11: Increased structure contrast, industrial character, and view blockage when viewed from Key Viewpoint 8 at Kenyon Overlook	V-3a V-8a	Reduce visual contrast of towers and conductors. Structure design consultation in ABDSP.
Impact V-12: Increased structure contrast, industrial character, and view blockage when viewed from Key Viewpoint 9 at Station 6 on the Cactus Loop Trail out of Tamarisk Grove Campground	V-3a V-8a	Reduce visual contrast of towers and conductors. Structure design consultation in ABDSP.
Impact V-13: Increased structure contrast, industrial character, view blockage, and skylining when viewed from Key Viewpoint 10 in the Yaqui Well Primitive Camping Area	V-3a V-8a	Reduce visual contrast of towers and conductors. Structure design consultation in ABDSP.
Impact V-14: Increased structure contrast, industrial character, and view blockage when viewed from Key Viewpoint 11 on westbound SR78	V-3a V-8a	Reduce visual contrast of towers and conductors. Structure design consultation in ABDSP.
Impact V-15: Increased structure contrast, industrial character, view blockage, and skylining when viewed from Key Viewpoint 12 on Grapevine Canyon Road within Anza-Borrego Desert State Park	V-3a V-8a	Reduce visual contrast of towers and conductors. Structure design consultation in ABDSP.
Impact V-16: Increased structure contrast, industrial character, view blockage, and skylining when viewed from Key Viewpoint 13 on Grapevine Canyon Road, just west of Anza-Borrego Desert State Park	V-3a	Reduce visual contrast of towers and conductors.
Impact V-17: Increased structure contrast, industrial character, view blockage, and skylining when viewed from Key Viewpoint 14 on southbound SR79	V-3a	Reduce visual contrast of towers and conductors.
Impact V-18: Increased structure contrast, industrial character, view blockage, and skylining when viewed from Key Viewpoint 15 on westbound Mesa Grande Road	V-3a	Reduce visual contrast of towers and conductors.
Impact V-19: Increased structure contrast, industrial character, and view blockage when viewed from Key Viewpoint 16 at the Inaja Monument Park Overlook	V-3a	Reduce visual contrast of towers and conductors.
Impact V-20: Increased structure contrast, industrial character, view blockage, and skylining when viewed from Key Viewpoint 17 on westbound SR78	V-3a	Reduce visual contrast of towers and conductors.
Impact V-21: Increased structure contrast, industrial character, view blockage, and skylining when viewing the Central East Substation site from Key Viewpoint 18 on BIA Road 51	V-7a V-7b V-21a	Reduce visual contrast associated with ancillary facilities. Screen ancillary facilities. Reduce night lighting impacts
Impact V-22: Increased structure contrast, industrial character, and view blockage when viewing the Central East Substation site from Key Viewpoint 19 on northbound San Felipe Road	V-7a V-7b V-21a	Reduce visual contrast associated with ancillary facilities. Screen ancillary facilities. Reduce night lighting impacts.
Impact V-23: Increased structure contrast, industrial character, view blockage, and skylining when viewing Cable Poles I124 from Key Viewpoint 20 on westbound San Vicente Road	V-3a	Reduce visual contrast of towers and conductors.
Impact V-24: Increased structure contrast, industrial character, view blockage, and skylining when viewing the span of SR67 from Key Viewpoint 21 on southbound SR67	V-3a	Reduce visual contrast of towers and conductors.

Table IST-1. Summary of Significant Unmitigable (Class I) Impacts for the Proposed Project

Land Use		
Impact L-2: Presence of a project component would divide an established community or disrupt land uses at or near the alignment	L-2b	Revise project elements to minimize land use conflicts.
Wilderness and Recreation		
Impact WR-1: Construction activities would temporarily reduce access and visitation to recreation or wilderness areas	WR-1a	Coordinate construction schedule and activities with the authorized officer for the recreation area.
	WR-1b	Provide temporary detours for trail users.
	WR-1c	Coordinate with local agencies to identify alternative recreation areas.
Impact WR-2: Presence of a transmission line or substation would change the character of a recreation area, diminishing its recreational value	V-3a	Reduce visual contrast of towers and conductors.
	V-8a	Structure design consultation in ABDSP.
	N-3a	Respond to complaints of corona noise.
	C-6a	Reduce adverse visual intrusions to historic built environment properties.
Impact WR-3: Presence of a transmission line would permanently preclude recreational activities	WR-3a	Coordinate tower and road locations with the authorized officer for the recreation area.
	WR-3b	Provide funding for planning and physically establishing replacement campsites and facilities.
Impact WR-4: Presence of a transmission line in a designated wilderness or wilderness study area would result in loss of wilderness land	WR-4a	Purchase additional State wilderness acreage.
	WR-4b	Minimize area of project facilities within wilderness lands.
Agriculture		
Impact AG-2: Operation would permanently convert DOC Farmland to non-agricultural use	No feasible mitigation measures exist to mitigate this impact to a less than significant level.	
Impact AG-3: Operation would permanently interfere with Active Agricultural Operations	AG-1a	Avoid interference with agricultural operations.
	AG-3a	Coordinate with dairy operators.
	AG-3b	Consult with and inform aerial applicators.
	AG-3c	Survey for apiaries and inform owners.
Impact AG-4: Operation would permanently convert Williamson Act lands to non-agricultural use	No feasible mitigation measures exist to mitigate this impact to a less than significant level	
Cultural and Paleontological Resources		
Impact C-1: Construction of the project would cause an adverse change to known historic properties	C-1a	Inventory and evaluate cultural resources in Final APE
	C-1b	Avoid and protect potentially significant resources.
	C-1c	Develop and implement Historic Properties Treatment Plan.
	C-1d	Conduct data recovery to reduce adverse effects.
	C-1e	Monitor construction at known ESAs.
	C-1f	Train construction personnel.
Impact C-2: Construction of the project would cause an adverse change to sites known to contain human remains	C-1b	Avoid and protect potentially significant resources.
	C-1c	Develop and implement Historic Properties Treatment Plan.
	C-1d	Conduct data recovery to reduce adverse effects.
	C-1e	Monitor construction at known ESAs.
	C-1f	Train construction personnel.
	C-2a	Properly treat human remains
Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains	C-1c	Develop and implement Historic Properties Treatment Plan.
	C-1d	Conduct data recovery to reduce adverse effects.
	C-1f	Train construction personnel.
	C-2a	Properly treat human remains.
	C-3a	Monitor construction in areas of high sensitivity for buried resources.

Table IST-1. Summary of Significant Unmitigable (Class I) Impacts for the Proposed Project

Impact C-4: Construction of the project would cause an adverse change to Traditional Cultural Properties	C-4a	Complete consultation with Native American and other Traditional Groups
	C-4b	Conduct cultural resources survey of the entirety of the identified cultural landscape within a portion of the Anza-Borrego Link of the Proposed Project and prepare a report documenting the resources present as well as the ethnographic use of the area
	C-4c	Consult with the Santa Ysabel Band of Diegueño Indians.
	C-6c	Reduce adverse visual intrusions to the Chapel of Santa Ysabel.
	V-3a	Reduce visual contrast of towers and conductors.
Impact C-6: Long-term presence of the project would cause an adverse change to known historic architectural (built environment) resources	C-1b	Avoid and protect potentially significant resources.
	C-1c	Develop and implement Historic Properties Treatment Plan.
	C-6a	Reduce adverse visual intrusions to historic built environment properties.
	C-6c	Reduce adverse visual intrusions to the Chapel of Santa Ysabel.
	V-3a	Reduce visual contrast of towers and conductors.
Noise		
Impact N-1: Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances	L-1a	Prepare Construction Notification Plan
	N-1a	Implement Best Management Practices for construction noise.
Impact N-3: Permanent noise levels would increase due to corona noise from operation of the transmission lines and noise from other project components	N-3a	Respond to complaints of corona noise
Impact N-4: Routine inspection and maintenance activities would increase ambient noise levels	*No mitigation available.*	
Transportation & Traffic		
No Class I Impacts		
Public Health & Safety		
No Class I Impacts		
Air Quality		
Impact AQ-1: Construction would generate dust and exhaust emissions of criteria pollutants and toxic air contaminants	AQ-1a	Suppress dust at all work or staging areas and on public roads.
	AQ-1b	Use low-emission construction equipment.
	AQ-1h	Obtain NOx and particulate matter emission offsets.
Impact AQ-4: Project activities would cause a net increase of greenhouse gas emissions	AQ-4a	Offset construction-phase greenhouse gas emissions with carbon credits.
	AQ-4b	Offset operation-phase greenhouse gas emissions with carbon credits.
	AQ-4c	Avoid sulfur hexafluoride emissions
Hydrology and Water Resources		
No Class I Impacts		
Geology, Mineral Resources, and Soils		
No Class I Impacts		
Socioeconomics		
Impact S-1: Project construction and/or transmission line presence would cause a substantial change in revenue for businesses, tribes, or governments	WR-1a	Coordinate construction schedule and activities with the authorized officer for the recreation area.
	WR-1b	Provide temporary detours for trail users.
	WR-1c	Coordinate with local agencies to identify alternative recreation areas.
	WR-3b	Provide funding for planning and physically establishing replacement campsites and facilities.

Table IST-1. Summary of Significant Unmitigable (Class I) Impacts for the Proposed Project

Fire and Fuels Management		
Impact F-1: Construction and/or maintenance activities would significantly increase the probability of a wildfire	F-1a	Develop and implement a Construction Fire Prevention Plan.
	F-1b	Amend and implement Sempra Utilities Wildland Fire Prevention and Fire Safety Guide (2007) ~~Finalize and implement SDG&E 2006 Draft Fire Plan for Electric Standard Practice~~.
	F-1c	Ensure coordination for emergency fire suppression.
	F-1d	Remove hazards from the work area.
	F-1e	Contribute to defensible space grants fund.
Impact F-2: Presence of the overhead transmission line would increase the probability of a wildfire	F-2a	Establish and maintain adequate line clearances
	F-2b	Install existing conductors on steel poles.
	F-2c	Perform climbing inspections.
	F-1e	Contribute to defensible space grants fund.
Impact F-3: Presence of the overhead transmission line would reduce the effectiveness of firefighting	F-3a	Contribute to Powerline Firefighting Mitigation Fund. ~~Construct and maintain fuelbreaks.~~
	F-3b	Prepare and implement a Multi-agency Fire Prevention MOU.
Environmental Justice		
Impact V-23: Visual impact would constitute a significant and unmitigable environmental impact to a high-minority group (Barona Reservation)	V-3a	Reduce visual contrast of towers and conductors.
Impact AQ-1: Air Quality impact would constitute a significant and unmitigable environmental impact to a high-minority group (Barona Reservation)	AQ-1a	Suppress dust at all work or staging areas and on public roads.
	AQ-1b	Use low-emission construction equipment.
	AQ-1h	Obtain NOx and particulate matter emission offsets.

Table IST-2. Summary of Significant but Mitigable (Class II) Impacts and Mitigation for the Proposed Project

Impact	Mitigation Measure(s)	
Biological Resources		
Impact: B-1: Construction activities would result in temporary and permanent losses of native vegetation (Class II for vernal pools)	B-1a	Provide restoration/compensation for impacted sensitive vegetation communities
	B-1b	Implement appropriate avoidance/minimization/compensation strategies for vernal pools and listed fairy shrimp habitat.
	B-1c	Conduct biological monitoring.
	B-1k	Re-seed disturbed areas after a transmission line caused fire.
Impact B-2: Construction activities would result in adverse effects to jurisdictional waters and wetlands through vegetation removal, placement of fill, erosion, sedimentation, and degradation of water quality	B-1c	Conduct biological monitoring.
	B-2a	Provide restoration/compensation for impacted jurisdictional areas
Impact B-3: Construction and operation/maintenance activities would result in the introduction of invasive, non-native, or noxious plant species	B-1a	Provide restoration/compensation for impacted sensitive vegetation communities.
	B-2a	Provide restoration/compensation for impacted jurisdictional areas.
	B-3a	Prepare and implement a Weed Control Plan.
Impact B-5: Construction activities would result in direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants	B-1a	Provide restoration/compensation for impacted sensitive vegetation communities.
	B-1c	Conduct biological monitoring.
	B-2a	Provide restoration/compensation for impacted jurisdictional areas.
	B-5a	Conduct rare plant surveys, and implement appropriate avoidance/minimization/compensation strategies
~~Impact B-7: Construction activities would result in direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife (Class II for construction impacts to non-sensitive species)~~	~~B-1a~~	~~Provide restoration/compensation for impacted sensitive vegetation communities.~~
	~~B-1c~~	~~Conduct biological monitoring.~~
	~~B-2a~~	~~Provide restoration/compensation for impacted jurisdictional areas.~~
	~~B-7a~~	~~Cover all steep-walled trenches or excavations used during construction to prevent the entrapment of wildlife (e.g., reptiles and small mammals)~~
Impact B-7C: Direct or indirect loss of burrowing owl or direct loss of habitat	B-1a	Provide restoration/compensation for impacted sensitive vegetation communities.
	B-1c	Conduct biological monitoring.
	B-2a	Provide restoration/compensation for impacted jurisdictional areas.
	B-7d	Conduct burrowing owl surveys, and implement appropriate avoidance/minimization/compensation strategies.
Impact B-7D: Direct or indirect loss of least Bell's vireo or direct loss of habitat	B-1a	Provide restoration/compensation for impacted sensitive vegetation communities.
	B-1c	Conduct biological monitoring.
	B-2a	Provide restoration/compensation for impacted jurisdictional areas.
	B-7e	Conduct least Bell's vireo and southwestern willow flycatcher surveys, and implement appropriate avoidance/ minimization/compensation strategies.
Impact B-7E: Direct or indirect loss of southwestern willow flycatcher or direct loss of habitat	B-1a	Provide restoration/compensation for impacted sensitive vegetation communities.
	B-1c	Conduct biological monitoring.
	B-2a	Provide restoration/compensation for impacted jurisdictional areas.
	B-7e	Conduct least Bell's vireo and southwestern willow flycatcher surveys, and implement appropriate avoidance/ minimization/compensation strategies.

Table IST-2. Summary of Significant but Mitigable (Class II) Impacts and Mitigation for the Proposed Project

Impact	Mitigation Measure(s)	
Impact B-7F: Direct or indirect loss of desert pupfish or direct loss of habitat	B-1a	Provide restoration/compensation for impacted sensitive vegetation communities.
	B-1c	Conduct biological monitoring.
	B-2a	Provide restoration/compensation for impacted jurisdictional areas.
	B-7f	Minimize potential impacts to desert pupfish habitat.
Impact B-7G: Direct or indirect loss of desert tortoise or direct loss of habitat	B-1a	Provide restoration/compensation for impacted sensitive vegetation communities.
	B-1c	Conduct biological monitoring.
	B-2a	Provide restoration/compensation for impacted jurisdictional areas.
	B-7g	Implement appropriate avoidance/minimization strategies for desert tortoise.
Impact B-7H: Direct or indirect loss of golden eagle or direct loss of habitat (Class II in existing transmission corridor)	B-7h	Implement appropriate avoidance/minimization strategies for eagle nests.
Impact B-7K: Direct or indirect loss of arroyo toad or direct loss of habitat	B-1a	Provide restoration/compensation for impacted sensitive vegetation communities.
	B-1c	Conduct biological monitoring.
	B-2a	Provide restoration/compensation for impacted jurisdictional areas.
	B-7j	Conduct arroyo toad surveys, and implement appropriate avoidance/minimization/compensation strategies
Impact B-7M: Direct or indirect loss of coastal California gnatcatcher or direct loss of habitat	B-1a	Provide restoration/compensation for impacted sensitive vegetation communities.
	B-1c	Conduct biological monitoring.
	B-2a	Provide restoration/compensation for impacted jurisdictional areas.
	B-7l	Conduct coastal California gnatcatcher surveys, and implement appropriate avoidance/minimization/compensation strategies
Impact B-7N: Direct or indirect loss of San Diego fairy shrimp (and/or Riverside fairy shrimp) or direct loss of habitat	B-1b	Implement appropriate avoidance/minimization/compensation strategies for vernal pools and listed fairy shrimp habitat.
	B-1c	Conduct biological monitoring.
	B-2a	Provide restoration/compensation for impacted jurisdictional areas.
Impact B-8: Construction activities would result in a potential loss of nesting birds (violation of the Migratory Bird Treaty Act)	B-7e	Conduct least Bell's vireo and southwestern willow flycatcher surveys, and implement appropriate avoidance/minimization/compensation strategies.
	B-7l	Conduct coastal California gnatcatcher surveys, and implement appropriate avoidance/minimization/compensation strategies.
	B-8a	Conduct pre-construction surveys and monitoring for breeding birds.
Impact B-9: Construction or operational activities would adversely affect linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites	B-9a	Survey for bat nursery colonies.
Impact B-10: Presence of transmission lines may result in electrocution of, and/or collisions by, listed or sensitive bird species	B-10a	Utilize collision-reducing techniques in installation of transmission lines.
Impact B-11: Presence of transmission lines may result in increased predation of listed and sensitive wildlife species by ravens that nest on transmission towers	B-11a	Prepare and implement a Raven Control Plan.
	B-11b	Prepare and implement a Raven Control Plan for ABDSP.

Table IST-2. Summary of Significant but Mitigable (Class II) Impacts and Mitigation for the Proposed Project

Impact	Mitigation Measure(s)	
Impact B-12: Maintenance activities would result in disturbance to wildlife and could result in wildlife mortality (Class II for other special-status wildlife and nesting birds)	B-1b	Implement appropriate avoidance/minimization/compensation strategies for vernal pools and listed fairy shrimp habitat.
	B-3a	Prepare and implement a Weed Control Plan.
	B-7b	Implement avoidance/mitigation/compensation according to the Flat-Tailed Horned Lizard Rangewide Management Strategy.
	B-7c	Minimize impacts to Peninsular bighorn sheep and provide compensation for loss of critical habitat.
	B-7g	Implement appropriate avoidance/minimization strategies for desert tortoise.
	B-7h	Implement appropriate avoidance/minimization strategies for eagle nests.
	B-12a	Conduct maintenance activities outside the general avian breeding season.
	B-12b	Conduct maintenance when arroyo toads are least active
	B-12c	Maintain access roads and clear vegetation in quino checkerspot butterfly habitat
Visual Resources		
Impact V-1: Short-term visibility of construction activities, equipment, and night lighting	V-1a	Reduce visibility of construction activities and equipment
	V-1b	Reduce construction night lighting impacts.
Impact V-2: Visibility of land scarring in arid and semi-arid landscapes	V-2a	Reduce in-line views of land scars
	V-2b	Reduce visual contrast from unnatural vegetation lines
	V-2c	Reduce color contrast of land scars on non-Forest lands.
	V-2d	Construction by helicopter.
Impact V-27: Increased structure contrast, industrial character, view blockage, and skylining when viewing Cable Pole C32 from Key Viewpoint 24 on Calle De Las Rosas	V-3a	Reduce visual contrast of towers and conductors.
	V-27a	Relocate of Cable Pole C32 to the north side of Chicarita Substation.
Land Use		
Impact L-1: Construction would temporarily disturb land uses at or near the	L-1a	Prepare Construction Notification Plan.
	L-1b	Coordinate with the Imperial Irrigation District regarding canal crossings.
	L-1c	Coordinate with MCAS Miramar.
Impact L-2: Presence of a project component would divide an established community or disrupt land uses at or near the alignment	L-2b	Revise project elements to minimize land use conflicts.
Wilderness and Recreation		
Impact WR-1: Construction activities would temporarily reduce access and visitation to recreation or wilderness areas	WR-1a	Coordinate construction schedule and activities with the authorized officer for the recreation area.
	WR-1b	Provide temporary detours for trail users
	WR-1c	Coordinate with local agencies to identify alternative recreation areas
Impact WR-3: Presence of a transmission line would permanently preclude recreational activities	WR-3a	Coordinate tower and road locations with the authorized officer for the recreation area.
	WR-3b	Provide funding for planning and physically establishing replacement campsites and facilities.
Agriculture		
Impact AG-1: Construction activities would temporarily interfere with Active Agricultural Operations	AG-1a	Avoid interference with agricultural operations
	AG-1b	Restore compacted soil
	AG-1c	Coordinate with grazing operators.

Table IST-2. Summary of Significant but Mitigable (Class II) Impacts and Mitigation for the Proposed Project

Impact	Mitigation Measure(s)	
Impact AG-3: Operation would permanently interfere with Active Agricultural Operations	AG-1a	Avoid interference with agricultural operations.
	AG-1c	Coordinate with grazing operators.
	AG-3a	Coordinate with dairy operators.
	AG-3b	Consult with and inform aerial applicators.
	AG-3c	Survey for apiaries and inform owners.
Cultural and Paleontological Resources		
Impact C-1: Construction of the project would cause an adverse change to known historic properties	C-1a	Inventory and evaluate cultural resources in Final APE
	C-1b	Avoid and protect potentially significant resources.
	C-1c	Develop and implement Historic Properties Treatment Plan.
	C-1d	Conduct data recovery to reduce adverse effects.
	C-1e	Monitor construction at known ESAs.
	C-1f	Train construction personnel.
Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains	C-1c	Develop and implement Historic Properties Treatment Plan.
	C-1d	Conduct data recovery to reduce adverse effects.
	C-1f	Train construction personnel.
	C-2a	Properly treat human remains.
	C-3a	Monitor construction in areas of high sensitivity for buried resources.
Impact C-4: Construction of the project would cause an adverse change to Traditional Cultural Properties	C-4a	Complete consultation with Native American and other Traditional Groups
	C-4b	Conduct cultural resources survey of the entirety of the identified cultural landscape within a portion of the Anza-Borrego Link of the Proposed Project and prepare a report documenting the resources present as well as the ethnographic use of the area
	C-4c	Consult with the Santa Ysabel Band of Diegueño Indians.
	C-6c	Reduce adverse visual intrusions to the Chapel of Santa Ysabel.
	V-3a	Reduce visual contrast of towers and conductors.
Impact C-5: Project operation and maintenance would cause an adverse change to known historic properties	C-1b	Avoid and protect potentially significant resources.
	C-1c	Develop and implement Historic Properties Treatment Plan.
	C-2a	Properly treat human remains.
	C-4a	Complete consultation with Native American and other Traditional Groups.
	C-5a	Protect and monitor NRHP- and/or CRHR-eligible properties
Impact C-6: Long-term presence of the project would cause an adverse change to known historic architectural (built environment) resources	~~C-1b~~	~~Avoid and protect potentially significant resources.~~
	~~C-1c~~	~~Develop and implement Historic Properties Treatment Plan.~~
	C-6a	Reduce adverse visual intrusions to historic built environment properties.
	C-6b	Reduce adverse visual intrusions at the Tamarisk Grove Campground.
	~~C-6c~~	~~Reduce adverse visual intrusions to the Chapel of Santa Ysabel.~~
	V-3a	Reduce visual contrast of towers and conductors.
Impact PAL-1: Construction of the project would destroy or disturb significant paleontological resources	PAL-1a	Inventory and evaluate paleontological resources in the Final APE.
	PAL-1b	Develop Paleontological Monitoring and Treatment Plan.
	PAL-1c	Monitor construction for paleontology.
	PAL-1d	Conduct paleontological data recovery.
	PAL-1e	Train construction personnel.
Noise		
Impact N-2: Construction activity would temporarily cause groundborne vibration	L-1a	Prepare Construction Notification Plan.
	N-2a	Avoid blasting where damage to structures could occur.

Table IST-2. Summary of Significant but Mitigable (Class II) Impacts and Mitigation for the Proposed Project

Impact	Mitigation Measure(s)	
Transportation and Traffic		
Impact T-1: Construction would cause temporary road and lane closures that would temporarily disrupt traffic flow	T-1a	Restrict lane closures
Impact T-4: Construction would temporarily disrupt pedestrian and/or bicycle circulation and safety	T-4a	Ensure pedestrian and bicycle circulation and safety.
	WR-1b	Provide temporary detours for trail users.
Impact T-5: Construction vehicles and equipment would potentially cause physical damage to roads in the project area	T-5a	Repair damaged roads
	T-5b	Investigate and protect Moretti bridge at Carrista Creek.
Impact T-9: Construction would generate additional traffic on the regional and local roadways	T-9a	Prepare Construction Transportation Management Plan.
Public Health & Safety		
Impact P-1: Soil or groundwater contamination could result from accidental spill or release of hazardous materials due to improper handling and or storage of hazardous materials during construction activities ~~Improper handling and/or storage of hazardous materials during construction could cause soil or groundwater contamination~~	P-1a	Implement Environmental Monitoring Program.
	P-1b	Maintain emergency spill supplies and equipment
Impact P-2: Residual pesticides and/or herbicides could be encountered during grading or excavation on currently or historically farmed land ~~in agricultural areas~~	P-2a	Test for residual pesticides/herbicides in agricultural areas
Impact P-3: Unanticipated preexisting soil and/or groundwater contamination could be encountered during excavation or grading	P-3a	Appoint individuals with correct training for sampling, data review, and regulatory coordination.
	P-3b	Document compliance with measures for encountering unknown contamination
Impact P-7: Excavation or grading could result in mobilization of existing soil or groundwater contamination from known sites	P-7a	Evaluate contaminated sites
Impact PS-1: Transmission line operation causes radio and television interference	PS-1a	Limit the conductor surface electric gradient.
	PS-1b	Document and resolve electronic interference complaints.
Impact PS-2: Transmission line operation causes induced currents and shock hazards in joint use corridors	PS-2a	Implement grounding measures.
Air Quality		
No Class II Impacts		
Hydrology and Water Resources		
Impact H-1: Construction activity could degrade water quality due to erosion and sedimentation	H-1a	Prepare Substation Grading and Drainage Plan; construct during the dry season
	H-1b	Construction in Los Peñasquitos Canyon Preserve to be in the dry season; SWPPP to be reviewed and approved by San Diego County and City of San Diego.
Impact H-2: Construction activity could degrade water quality through spills of potentially harmful materials	H-1a	Prepare Substation Grading and Drainage Plan; construct during the dry season
	H-2d	Maintain vehicles and equipment.
Impact H-3: Excavation could degrade groundwater quality in areas of shallow groundwater	H-1b	Construction in Los Peñasquitos Canyon Preserve to be in the dry season; SWPPP to be reviewed and approved by San Diego County and City of San Diego.
Impact H-4: Groundwater dewatering for project construction could deplete local water supplies	H-4b	Avoid blasting where damage to groundwater wells or springs could occur.

Table IST-2. Summary of Significant but Mitigable (Class II) Impacts and Mitigation for the Proposed Project

Impact	Mitigation Measure(s)	
Impact H-5: Creation of new impervious areas could cause increased runoff resulting in flooding or increased erosion	H-5a	Install substation runoff control
Impact H-6: Transmission towers or other above-ground project features located in a floodplain or watercourse could result in flooding, flood diversions, or erosion	H-6a	Scour protection to include avoidance of bank erosion and effects to adjacent property.
Impact H-7: Accidental releases of contaminants from project facilities could degrade water quality	H-7a	Develop Hazardous Substance Control and Emergency Response Plan for project operation.
Impact H-8: Underground portions of the power line could be exposed during flow events causing damage to the line or to adjacent property	H-8a H-8b	Bury power line below 100-year scour depth. Consider Los Peñasquitos Canyon scour and erosion potential in power line design.
Geology, Mineral Resources, and Soils		
Impact G-2: Unique geologic features would be damaged due to construction activities	G-2a	Protect desert pavement.
Impact G-3: Project would expose people or structures to potential substantial adverse effects as a result of problematic soils	G-3a	Conduct geotechnical studies for soils to assess characteristics and aid in appropriate foundation design.
Impact G-4: Project would expose people or structures to potential substantial adverse effects as a result of seismically induced groundshaking and/or ground failure	G-4a G-4b G-6a	Reduce effects of groundshaking. Conduct geotechnical investigations for liquefaction. Conduct geotechnical surveys for landslides and protect against slope instability.
Impact G-5: Project would expose people or structures to potential substantial adverse effects as a result of surface fault rupture at crossings of active faults	G-5a	Minimize project structures within active fault zones.
Impact G-6: Project would expose people or structures to potential substantial adverse effects as a result of slope instability created during excavation and/or grading	G-6a	Conduct geotechnical surveys for landslides and protect against slope instability.
Impact G-6: Project would expose people or structures to potential substantial adverse effects as a result of landslides, earthflows, debris flows, and/or rockfall	G-6a	Conduct geotechnical surveys for landslides and protect against slope instability.
~~Impact G-8: Project would expose people or structures to potential substantial adverse effects as a result of surface fault rupture at crossings of active and potentially active~~	~~G-8a~~	~~Minimize substation structures within active fault zones~~
Socioeconomics		
Impact S-1: Project construction and/or transmission line presence would cause a substantial change in revenue for businesses, tribes, or governments	AG-1a AG-1c	Avoid interference with agricultural operations. Coordinate with grazing operators.
Impact S-2: Construction would disrupt the existing utility systems or cause a collocation accident	AG-1a S-2a S-2b	Avoid interference with agricultural operations. Notify public of utility service interruption Protect underground utilities.
Impact S-3: Project construction and operation would increase the need for public services and facilities	S-3c	Ensure adequate law enforcement and safety personnel.

Table IST-2. Summary of Significant but Mitigable (Class II) Impacts and Mitigation for the Proposed Project

Impact	Mitigation Measure(s)	
Fire and Fuels Management		
Impact F-1: Construction and/or maintenance activities would significantly increase the probability of a wildfire	F-1a	Develop and implement a Construction Fire Prevention Plan
	F-1b	Amend and implement Sempra Utilities Wildland Fire Prevention and Fire Safety Guide (2007) ~~Finalize and implement SDG&E 2006 Draft Fire Plan for Electric Standard Practice~~.
	F-1c	Ensure coordination for emergency fire suppression.
	F-1d	Remove hazards from the work area
	F-1e	Contribute to defensible space grants fund.
~~Impact F-2: Presence of the overhead transmission line would increase the probability of a wildfire~~	~~F-2a~~	~~Establish and maintain adequate line clearances.~~
	~~F-2b~~	~~Install existing conductors on steel poles.~~
	~~F-1e~~	~~Contribute to defensible space grants fund.~~
Impact F-4: Project activities would introduce non-native plants, which would contribute to an increased ignition potential and rate of fire spread	B-3a	Prepare and implement a Weed Control Plan.

Table IST-3. Summary of Significant Unmitigable (Class I) Impacts for the Proposed Project Future Transmission System Expansion

Impact	Mitigation Measure (if any)	
Biological Resources		
B-1.Construction activities would result in temporary and permanent losses of native vegetation (Class I for sensitive vegetation, vegetation management, and type conversion)	B-1a(FT)	Provide restoration/compensation for impacted sensitive vegetation communities
	B-1b(FT)	Implement appropriate avoidance/minimization/compensation strategies for vernal pools and listed fairy shrimp habitat.
	B-1c(FT)	Conduct biological monitoring
	B-1d	Perform protocol surveys. [BIO-APM-1]
	B-1e	Train project personnel. [BIO-APM-2]
	B-1f	Construction and survey activities shall be restricted based on final design engineering drawings. [BIO-APM-4]
	B-1g	Build access roads at right angles to streambeds and washes. [BIO-APM-5]
	B-1h	Comply with all applicable environmental laws and regulations. [BIO-APM-6]
	B-1i	Restrict the construction of access and spur roads. [BIO-APM-3, BIO-APM-17]
	B-1j	Protect and restore vegetation. [BIO-APM-20, BIO-APM-23, BIO-APM-25]
	B-2b	Identify environmentally sensitive times and locations for tree trimming. [BIO-APM-16]
Impact B-5: Construction activities would result in direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants	B-1a(FT)	Provide restoration/compensation for impacted sensitive vegetation communities.
	B-1c(FT)	Conduct biological monitoring.
	B-1d	Perform protocol surveys. [BIO-APM-1]
	B-1e	Train project personnel. [BIO-APM-2]
	B-1f	Construction and survey activities shall be restricted based on final design engineering drawings. [BIO-APM-4]
	B-1g	Build access roads at right angles to streambeds and washes. [BIO-APM-5]
	B-1h	Comply with all applicable environmental laws and regulations. [BIO-APM-6]
	B-1i	Restrict the construction of access and spur roads. [BIO-APM-3, BIO-APM-17]
	B-2c	Avoid sensitive features. [BIO-APM-18]
	B-5a(FT)	Conduct rare plant surveys, and implement appropriate avoidance/minimization/compensation strategies.
	B-5b	Delineate sensitive plant populations. [BIO-APM-8]
	B-5c	No collection of plants or wildlife. ~~[BIO-APM-13]~~
	B-5d	Salvage sensitive species for replanting or transplanting. [BIO-APM-22]

Table IST-3. Summary of Significant Unmitigable (Class I) Impacts for the Proposed Project Future Transmission System Expansion

Impact B-7: Construction activities would result in direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife (Class I for construction impacts to sensitive species)	B-1a(FT)	Provide restoration/compensation for impacted sensitive vegetation communities.
	B-1c(FT)	Conduct biological monitoring.
	B-1e	Train project personnel. [BIO-APM-2]
	B-1f	Construction and survey activities shall be restricted based on final design engineering drawings. [BIO-APM-4]
	B-1i	Restrict the construction of access and spur roads. [BIO-APM-3, BIO-APM-17]
	B-2b	Identify environmentally sensitive times and locations for tree trimming. [BIO-APM-16]
	B-6a	Littering is not allowed. [BIO-APM-7]
	B-6b	Survey areas for brush clearing. [BIO-APM-9]
	B-6c	Protect mammals and reptiles in excavated areas. [BIO-APM-24, BIO-APM-26]
	B-6d	Reduce construction night lighting on sensitive habitats. [BIO-APM-29]
	B-7a(FT)	Cover all steep-walled trenches or excavations used during construction to prevent the entrapment of wildlife
Impact B-7H: Direct or indirect loss of golden eagle or direct loss of habitat	B-7h	Implement appropriate avoidance/minimization strategies for eagle nests.
Impact B-7J: Direct or indirect loss of ~~quino~~ Quino checkerspot butterfly or direct loss of habitat	B-1a(FT)	Provide restoration/compensation for impacted sensitive vegetation communities.
	B-1c(FT)	Conduct biological monitoring.
	B-2a(FT)	Provide restoration/compensation for impacted jurisdictional areas.
	B-7i(FT)	Conduct ~~quino~~ Quino checkerspot butterfly surveys, and implement appropriate avoidance/minimization/compensation strategies
Impact B-7L: Direct or indirect loss of Stephens' kangaroo rat or direct loss of habitat	B-1a(FT)	Provide restoration/compensation for impacted sensitive vegetation communities.
	B-1c(FT)	Conduct biological monitoring.
	B-2a(FT)	Provide restoration/compensation for impacted jurisdictional areas.
	B-7a(FT)	Cover all steep-walled trenches or excavations used during construction to prevent the entrapment of wildlife (e.g., reptiles and small mammals).
	B-7k(FT)	Conduct Stephens' kangaroo rat surveys, and implement appropriate avoidance/minimization/compensation strategies.
Impact B-10: Presence of transmission lines may result in electrocution of, and/or collisions by, listed or sensitive bird species	B-10a(FT)	Utilize collision-reducing techniques in installation of transmission lines
Visual Resources		
Impact V-1FT: Increased structure contrast, industrial character, view blockage, and skylining		
Cumulative Impact V-2FT: Increased structure contrast, industrial character, view blockage, and skylining resulting in cumulative visual impacts	V-3a	Reduce visual contrast of towers and conductors.
	V-25a	Structure design and placement guidance.
	V-45a	Prepare and implement Scenery Conservation Plan.
Impact V-3FT: Increased structure contrast, industrial character, view blockage, and skylining from the addition of a 500 kV transmission line		

Table IST-3. Summary of Significant Unmitigable (Class I) Impacts for the Proposed Project Future Transmission System Expansion

Cumulative Impact V-4FT: Increased structure contrast, industrial character, view blockage, and skylining from the addition of a 500 kV transmission line	V-3a	Reduce visual contrast of towers and conductors.
	V-7a	Reduce visual contrast associated with ancillary facilities.
	V-7b	Screen ancillary facilities.
	V-21a	Reduce night lighting impacts.
	V-45a	Prepare and implement Scenery Conservation Plan.
Land Use		
Impact L-2: Presence of a project component would divide an established community or disrupt land uses at or near the alignment	L-2b	Revise project elements to minimize land use conflicts.
Wilderness and Recreation		
Impact WR-2: Presence of a transmission line or substation would change the character of a recreation area, diminishing its recreational value	V-3a	Reduce visual contrast of towers and conductors.
	V-45a	Prepare and implement Scenery Conservation Plan.
	N-3a	Respond to complaints of corona noise.
Impact WR-3: Presence of a transmission line would permanently preclude recreational activities	WR-3a	Coordinate tower and road locations with the authorized officer for the recreation area.
	WR-3c	Construct transmission line underground to avoid hang gliding areas
Agriculture		
Impact AG-2: Operation would permanently convert DOC Farmland to non-agricultural use	No feasible mitigation measures have been identified to mitigate this impact to a less than significant level	
Impact AG-3: Operation would permanently interfere with Active Agricultural Operations	AG-1a	Avoid interference with agricultural operations.
	AG-1c	Coordinate with grazing operators.
	AG-3e	Install project facilities along borders. [APM LU-7]
	AG-3f	Match structure locations. [APM LU-10]
Impact AG-4: Operation would permanently convert Williamson Act lands to non-agricultural use	No feasible mitigation measures exist to mitigate this impact to a less than significant level.	
Cultural and Paleontological Resources		
Impact C-1: Construction of the project would cause an adverse change to known historic properties	C-1a	Inventory and evaluate cultural resources in Final APE
	C-1b	Avoid and protect potentially significant resources.
	C-1c	Develop and implement Historic Properties Treatment Plan.
	C-1d	Conduct data recovery to reduce adverse effects.
	C-1e	Monitor construction at known ESAs.
	C-1f	Train construction personnel.
Impact C-2: Construction of the project would cause an adverse change to sites known to contain human remains	C-1b	Avoid and protect potentially significant resources.
	C-1c	Develop and implement Historic Properties Treatment Plan.
	C-1d	Conduct data recovery to reduce adverse effects.
	C-1e	Monitor construction at known ESAs.
	C-1f	Train construction personnel.
	C-2a	Properly treat human remains
Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains	C-1c	Develop and implement Historic Properties Treatment Plan.
	C-1d	Conduct data recovery to reduce adverse effects.
	C-1f	Train construction personnel.
	C-2a	Properly treat human remains.
	C-3a	Monitor construction in areas of high sensitivity for buried resources.
Impact C-4: Construction of the project would cause an adverse change to Traditional Cultural Properties	C-4a	Complete consultation with Native American and other Traditional Groups
	V-3a	Reduce visual contrast of towers and conductors.

Table IST-3. Summary of Significant Unmitigable (Class I) Impacts for the Proposed Project Future Transmission System Expansion

Impact C-5: Project operation and maintenance would cause an adverse change to known historic properties	C-1b	Avoid and protect potentially significant resources.
	C-1c	Develop and implement Historic Properties Treatment Plan.
	C-2a	Properly treat human remains.
	C-4a	Complete consultation with Native American and other Traditional Groups.
	C-5a	Protect and monitor NRHP- and/or CRHR-eligible properties
	V-3a	Reduce visual contrast of towers and conductors.
Impact C-6: Long term presence of the project would cause an adverse change to known historic architectural (built environment)	C-1b	Avoid and protect potentially significant resources.
	C-1c	Develop and implement Historic Properties Treatment Plan.
	C-4c	Consult with the Santa Ysabel Band of Diegueño Indians.
	C-6a	Reduce adverse visual intrusions to historic built environment properties.
	C-6c	Reduce adverse visual intrusions to the Chapel of Santa Ysabel.
	V-3a	Reduce visual contrast of towers and conductors.
Noise		
Impact N-1: Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances	L-1a	Prepare Construction Notification Plan
	N-1a	Implement Best Management Practices for construction noise.
Impact N-3: Permanent noise levels would increase due to corona noise from operation of the transmission lines and noise from other project components	N-3a	Respond to complaints of corona noise
Impact N-4: Routine inspection and maintenance activities would increase ambient noise levels		
Transportation & Traffic		
No Class I Impacts		
Public Health & Safety		
No Class I Impacts		
Air Quality		
Impact AQ-1: Construction would generate dust and exhaust emissions of criteria pollutants and toxic air contaminants	AQ-1a	Suppress dust at all work or staging areas and on public roads.
	AQ-1b	Use low-emission construction equipment.
	AQ-1c	Comply with Imperial County dust control requirements. [AQ-APM-1]
	AQ-1d	Implement dust reduction measures. [AQ-APM-2]
	AQ-1e	Prevent transport of mud and dust. [AQ-APM-3]
	AQ-1f	Encourage carpooling. [AQ-APM-4]
	AQ-1g	Minimize vehicle idling. [AQ-APM-5]
	AQ-1h	Obtain NOx and particulate matter emission offsets.
Impact AQ-4: Project activities would cause a net increase of greenhouse gas emissions	AQ-4a	Offset construction-phase greenhouse gas emissions with carbon credits.
	AQ-4b	Offset operation-phase greenhouse gas emissions with carbon credits.
	AQ-4c	Avoid sulfur hexafluoride emissions
Hydrology and Water Resources		
No Class I Impacts		
Geology, Mineral Resources, and Soils		
No Class I Impacts		

Table IST-3. Summary of Significant Unmitigable (Class I) Impacts for the Proposed Project Future Transmission System Expansion

Socioeconomics		
Impact S-1: Project construction would cause a substantial change in revenue for businesses, tribes, or governments	USFS-37	Condition No. 37 – Scenery Conservation Plan. (Full text presented in Section E.7.1.3, Visual Resources)
	AG-1a	Avoid interference with agricultural operations.
	AG-1c	Coordinate with grazing operators.
	AG-1d	Compensate farmers for lost crops along ROW. [APM LU-3]
	L-1d	Provide advance notice and appoint public affairs officer. [APM LU-1]
	L-1e	Notify property owners and provide access. [APM LU-4]
	L-1f	Flag ROW boundary and environmentally sensitive areas. [APM LU-6]
Fire and Fuels Management		
Impact F-1: Construction and/or maintenance activities would significantly increase the probability of a wildfire	F-1a	Develop and implement a Construction Fire Prevention Plan.
	F-1b	Amend and implement Sempra Utilities Wildland Fire Prevention and Fire Safety Guide (2007) ~~Finalize and implement SDG&E 2006 Draft Fire Plan for Electric Standard Practice~~.
	F-1c	Ensure coordination for emergency fire suppression.
	F-1d	Remove hazards from the work area.
	F-1e	Contribute to defensible space grants fund.
Impact F-2: Presence of the overhead transmission line would increase the probability of a wildfire	F-2a	Establish and maintain adequate line clearances
	F-2b	Install existing conductors on steel poles.
	F-2c	Perform climbing inspections.
	F-1e	Contribute to defensible space grants fund.
Impact F-3: Presence of the overhead transmission line would reduce the effectiveness of firefighting	F-3a	Contribute to Powerline Firefighting Mitigation Fund ~~Construct and maintain fuelbreaks~~
	F-3b	Prepare and implement a Multi-agency Fire Prevention MOU.
Environmental Justice		
Impact ~~V-3~~ V-1FT, F-2FT, V-3FT, V-4FT: Visual impacts would constitute a significant and unmitigable environmental impact to a high-minority group (Pauma and Pala Reservations)	V-3a	Reduce visual contrast of towers and conductors.
	V-7a	Reduce visual contrast associated with ancillary facilities.
	V-7b	Screen ancillary facilities.
	V-21a	Reduce night lighting impacts.
	V-25a	Structure design and placement guidance.
	V-45a	Prepare and implement Scenery Conservation Plan.
Impact AQ-1: Air Quality impact would constitute a significant and unmitigable environmental impact to a high-minority group (Pauma and Pala Reservations)	AQ-1a	Suppress dust at all work or staging areas and on public roads.
	AQ-1b	Use low-emission construction equipment.
	AQ-1c	Comply with Imperial County dust control requirements. [AQ-APM-1]
	AQ-1d	Implement dust reduction measures. [AQ-APM-2]
	AQ-1e	Prevent transport of mud and dust. [AQ-APM-3]
	AQ-1f	Encourage carpooling. [AQ-APM-4]
	AQ-1g	Minimize vehicle idling. [AQ-APM-5]
	AQ-1h	Obtain NOx and particulate matter emission offsets.

Table IST-3. Summary of Significant Unmitigable (Class I) Impacts for the Proposed Project Future Transmission System Expansion

Impact F-1, F-2, F-3: Fire and Fuels Management impact would constitute a significant and unmitigable environmental impact to a high-minority group (Pauma and Pala Reservations)	F-1a	Develop and implement a Construction Fire Prevention Plan.
	F-1b	Amend and implement Sempra Utilities Wildland Fire Prevention and Fire Safety Guide (2007) ~~Finalize and implement SDG&E 2006 Draft Fire Plan for Electric Standard Practice~~.
	F-1c	Ensure coordination for emergency fire suppression.
	F-1d	Remove hazards from the work area.
	F-1e	Contribute to defensible space grants fund.
	F-2a	Establish and maintain adequate line clearances
	F-2b	Install existing conductors on steel poles.
	F-2c	Perform climbing inspections.
	F-3a	Contribute to Powerline Firefighting Mitigation Fund. ~~Construct and maintain fuelbreaks.~~
	F-3b	Prepare and implement a Multi-agency Fire Prevention MOU.

Table IST-4. Summary of Significant but Mitigable (Class II) Impacts and Mitigation for the Proposed Project Future Transmission System Expansion

Impact	Mitigation Measure(s)	
Biological Resources		
B-1.Construction activities would result in temporary and permanent losses of native vegetation (Class II for vernal pools)	B-1a(FT)	Provide restoration/compensation for impacted sensitive vegetation communities
	B-1b(FT)	Implement appropriate avoidance/minimization/compensation strategies for vernal pools and listed fairy shrimp habitat.
	B-1c(FT)	Conduct biological monitoring
	B-1d	Perform protocol surveys. [BIO-APM-1]
	B-1e	Train project personnel. [BIO-APM-2]
	B-1f	Construction and survey activities shall be restricted based on final design engineering drawings. [BIO-APM-4]
	B-1g	Build access roads at right angles to streambeds and washes. [BIO-APM-5]
	B-1h	Comply with all applicable environmental laws and regulations. [BIO-APM-6]
	B-1i	Restrict the construction of access and spur roads. [BIO-APM-3, BIO-APM-17]
	B-1j	Protect and restore vegetation. [BIO-APM-20, BIO-APM-23, BIO-APM-25]
	B-2b	Identify environmentally sensitive times and locations for tree trimming. [BIO-APM-16]
Impact B-2: Construction activities would result in adverse effects to jurisdictional waters and wetlands through vegetation removal, placement of fill, erosion, sedimentation, and degradation of water quality	B-1c(FT)	Conduct biological monitoring.
	B-1e	Train project personnel. [BIO-APM-2]
	B-1f	Construction and survey activities shall be restricted based on final design engineering drawings. [BIO-APM-4]
	B-1g	Build access roads at right angles to streambeds and washes. [BIO-APM-5]
	B-2a(FT)	Provide restoration/compensation for impacted jurisdictional areas.
	B-2b	Identify environmentally sensitive times and locations for tree trimming. [BIO-APM-16]
	B-2c	Avoid sensitive features. [BIO-APM-18]
Impact B-3: Construction and operation/maintenance activities would result in the introduction of invasive, non-native, or noxious plant species	B-1a(FT)	Provide restoration/compensation for impacted sensitive vegetation communities.
	B-1j	Protect and restore vegetation. [BIO-APM-20, BIO-APM-23, BIO-APM-25]
	B-2a(FT)	Provide restoration/compensation for impacted jurisdictional areas.
	B-3a(FT)	Prepare and implement a Weed Control Plan
Impact B-4: Construction activities would create dust that would result in degradation of vegetation	B-1c(FT)	Conduct biological monitoring.
	B-1i	Restrict the construction of access and spur roads. [BIO-APM-3, BIO-APM-17]
Impact B-6: Construction activities, including the use of access roads, would result in disturbance to wildlife and result in wildlife mortality	B-1c(FT)	Conduct biological monitoring.
	B-1f	Construction and survey activities shall be restricted based on final design engineering drawings. [BIO-APM-4]
	B-2b	Identify environmentally sensitive times and locations for tree trimming. [BIO-APM-16]
	B-6a	Littering is not allowed. [BIO-APM-7]
	B-6b	Survey areas for brush clearing. [BIO-APM-9]
	B-6c	Protect mammals and reptiles in excavated areas. [BIO-APM-24, BIO-APM-26]
	B-6d	Reduce construction night lighting on sensitive habitats. [BIO-APM-29]

Table IST-4. Summary of Significant but Mitigable (Class II) Impacts and Mitigation for the Proposed Project Future Transmission System Expansion

Impact	Mitigation Measure(s)	
Impact B-7D: Direct or indirect loss of least Bell's vireo or direct loss of habitat	B-1a(FT)	Provide restoration/compensation for impacted sensitive vegetation communities.
	B-1c(FT)	Conduct biological monitoring.
	B-2a(FT)	Provide restoration/compensation for impacted jurisdictional areas.
	B-7e(FT)	Conduct least Bell's vireo and southwestern willow flycatcher surveys, and implement appropriate avoidance/minimization/compensation strategies.
Impact B-7E: Direct or indirect loss of southwestern willow flycatcher or direct loss of habitat	B-1a(FT)	Provide restoration/compensation for impacted sensitive vegetation communities.
	B-1c(FT)	Conduct biological monitoring.
	B-2a(FT)	Provide restoration/compensation for impacted jurisdictional areas.
	B-7e(FT)	Conduct least Bell's vireo and southwestern willow flycatcher surveys, and implement appropriate avoidance/minimization/compensation strategies.
Impact B-7I: Direct or indirect loss of bald eagle or direct loss of habitat	B-7h	Implement appropriate avoidance/minimization strategies for eagle nests
Impact B-7K: Direct or indirect loss of arroyo toad or direct loss of habitat	B-1a(FT)	Provide restoration/compensation for impacted sensitive vegetation communities.
	B-1c(FT)	Conduct biological monitoring.
	B-2a(FT)	Provide restoration/compensation for impacted jurisdictional areas.
	B-7j(FT)	Conduct arroyo toad surveys, and implement appropriate avoidance/minimization/compensation strategies.
Impact B-7M: Direct or indirect loss of coastal California gnatcatcher or direct loss of habitat	B-1a(FT)	Provide restoration/compensation for impacted sensitive vegetation communities.
	B-1c(FT)	Conduct biological monitoring.
	B-2a(FT)	Provide restoration/compensation for impacted jurisdictional areas.
	B-7l(FT)	Conduct coastal California gnatcatcher surveys, and implement appropriate avoidance/minimization/compensation strategies
Impact B-7N: Direct or indirect loss of San Diego fairy shrimp (and/or Riverside fairy shrimp) or direct loss of habitat	B-1b(FT)	Implement appropriate avoidance/minimization/compensation strategies for vernal pools and listed fairy shrimp habitat.
	B-1c(FT)	Conduct biological monitoring.
	B-2a(FT)	Provide restoration/compensation for impacted jurisdictional areas.
Impact B-7R: Direct or indirect loss of arroyo chub or direct loss of habitat	B-1e	Train project personnel. [BIO-APM-2]
	B-1g	Build access roads at right angles to streambeds and washes. [BIO-APM-5]
	B-1i	Restrict the construction of access and spur roads. [BIO-APM-3, BIO-APM-17]
	B-2c	Avoid sensitive features. [BIO-APM-18]

Table IST-4. Summary of Significant but Mitigable (Class II) Impacts and Mitigation for the Proposed Project Future Transmission System Expansion

Impact	Mitigation Measure(s)	
Impact B-8: Construction activities would result in a potential loss of nesting birds (violation of the Migratory Bird Treaty Act)	B-1e	Train project personnel. [BIO-APM-2]
	B-1f	Construction and survey activities shall be restricted based on final design engineering drawings. [BIO-APM-4]
	B-1g	Build access roads at right angles to streambeds and washes. [BIO-APM-5]
	B-1h	Comply with all applicable environmental laws and regulations. [BIO-APM-6]
	B-1i	Restrict the construction of access and spur roads. [BIO-APM-3, BIO-APM-17]]
	B-2b	Identify environmentally sensitive times and locations for tree trimming. [BIO-APM-16]
	B-2c	Avoid sensitive features. [BIO-APM-3]
	B-6b	Survey areas for brush clearing. [BIO-APM-9]
	B-8a(FT)	Conduct pre-construction surveys and monitoring for breeding birds.
	B-8b	Removal of raptor nests.
Impact B-9: Adverse effects to linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites	B-1e	Train project personnel. [BIO-APM-2]
	B-1g	Build access roads at right angles to streambeds and washes. [BIO-APM-5]
	B-1i	Restrict the construction of access and spur roads. [BIO-APM-3, BIO-APM-17]
	B-2c	Avoid sensitive features. [BIO-APM-18]
	B-6d	Reduce construction night lighting on sensitive habitats. [BIO-APM-29]
	B-9a	Survey for bat nursery colonies.
Impact B-10: Presence of transmission lines may result in electrocution of, and/or collisions by, listed or sensitive bird species	B-10a(FT)	Utilize collision-reducing techniques in installation of transmission lines

Table IST-4. Summary of Significant but Mitigable (Class II) Impacts and Mitigation for the Proposed Project Future Transmission System Expansion

Impact	Mitigation Measure(s)	
Impact B-12: Maintenance activities would result in disturbance to wildlife and could result in wildlife mortality (Class II for other special-status wildlife and nesting birds)	B-1b(FT)	Implement appropriate avoidance/minimization/compensation strategies for vernal pools and listed fairy shrimp habitat.
	B-1f	Construction and survey activities shall be restricted based on final design engineering drawings. [BIO-APM-4]
	B-1h	Comply with all applicable environmental laws and regulations. [BIO-APM-6]
	B-1i	Restrict the construction of access and spur roads. [BIO-APM-3, BIO-APM-17]
	B-2b	Identify environmentally sensitive times and locations for tree trimming. [BIO-APM-16]
	B-5c	No collection of plants or wildlife. [BIO-APM-13]
	B-6a	Littering is not allowed. [BIO-APM-7]
	B-6b	Survey areas for brush clearing. [BIO-APM-9]
	B-7h	Implement appropriate avoidance/minimization strategies for eagle nests.
	B-12a(FT)	Conduct maintenance activities outside the general avian breeding season.
	B-12b	Conduct maintenance when arroyo toads are least active.
	B-12c	Maintain access roads and clear vegetation in quino checkerspot butterfly habitat.
	B-12d	Protect wildlife.
Visual Resources		
Impact V-1: Short-term visibility of construction activities, equipment, and night lighting	V-1a	Reduce visibility of construction activities and equipment
	V-1b	Reduce construction night lighting impacts.
	V-1c	Prohibit construction marking of natural features.
Impact V-2: Visibility of land scarring in arid and semi-arid landscapes	V-2a	Reduce in-line views of land scars.
	V-2b	Reduce visual contrast from unnatural vegetation lines
	V-2c	Reduce color contrast of land scars on non-Forest lands.
	V-2d	Construction by helicopter.
	V-2e	Minimize vegetation removal. [APM-BIO-23]
	G-1b	Implement erosion control procedures. [APM GEO-2]
	V-2f	Reduce land scarring and vegetation clearance impacts on USFS-administered lands
Land Use		
Impact L-1: Construction would temporarily disturb land uses at or near the alignment	L-1a	Prepare Construction Notification Plan.
	L-1d	Provide advance notice and appoint public affairs officer. [APM LU-1]
	L-1e	Notify property owners and provide access. [APM LU-4]
	L-1f	Flag ROW boundary and environmentally sensitive areas. [APM LU-6]
	L-1g	Coordinate with MCB Camp Pendleton.
Impact L-2: Presence of a project component would divide an established community or disrupt land uses at or near the alignment	L-2b	Revise project elements to minimize land use conflicts.
Wilderness and Recreation		
Impact WR-1: Construction activities would temporarily reduce access and visitation to recreation or wilderness areas	WR-1a	Coordinate construction schedule and activities with the authorized officer for the recreation area.
	WR-1b	Provide temporary detours for trail users.
	WR-1c	Coordinate with local agencies to identify alternative recreation areas.

Table IST-4. Summary of Significant but Mitigable (Class II) Impacts and Mitigation for the Proposed Project Future Transmission System Expansion

Impact	Mitigation Measure(s)	
Impact WR-3: Presence of a transmission line would permanently preclude recreational activities	WR-3a	Coordinate tower and road locations with the authorized officer for the recreation area
	WR-3c	Construct transmission line underground to avoid hang gliding areas
Agriculture		
Impact AG-1: Construction activities would temporarily interfere with Active Agricultural Operations	AG-1a	Avoid interference with agricultural operations.
	AG-1b	Restore compacted soil.
	AG-1c	Coordinate with grazing operators.
	AG-1d	Compensate farmers for lost crops along ROW. [APM LU-1]
	L-1d	Provide advance notice and appoint public affairs officer. [APM LU-3]
	L-1e	Notify property owners and provide access. [APM LU-4]
	L-1f	Flag ROW boundary and environmentally sensitive areas. [APM LU-6]
Impact AG-3: Operation would permanently interfere with Active Agricultural Operations	AG-1a	Avoid interference with agricultural operations.
	AG-1c	Coordinate with grazing operators.
	AG-3e	Install project facilities along borders. [APM LU-7]
	AG-3f	Match structure locations. [APM LU-10]
Cultural and Paleontological Resources		
Impact C-1: Construction of the project would cause an adverse change to known historic properties	C-1a	Inventory and evaluate cultural resources in Final APE
	C-1b	Avoid and protect potentially significant resources.
	C-1c	Develop and implement Historic Properties Treatment Plan.
	C-1d	Conduct data recovery to reduce adverse effects.
	C-1e	Monitor construction at known ESAs.
	C-1f	Train construction personnel.
Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains	C-1c	Develop and implement Historic Properties Treatment Plan.
	C-1d	Conduct data recovery to reduce adverse effects.
	C-1f	Train construction personnel.
	C-2a	Properly treat human remains.
	C-3a	Monitor construction in areas of high sensitivity for buried resources.
Impact C-4: Construction of the project would cause an adverse change to Traditional Cultural Properties	C-4a	Complete consultation with Native American and other Traditional Groups
	V-3a	Reduce visual contrast of towers and conductors.
Impact C-5: Project operation and maintenance would cause an adverse change to known historic properties	C-1b	Avoid and protect potentially significant resources.
	C-1c	Develop and implement Historic Properties Treatment Plan.
	C-2a	Properly treat human remains.
	C-4a	Complete consultation with Native American and other Traditional Groups.
	C-5a	Protect and monitor NRHP- and/or CRHR-eligible properties
	V-3a	Reduce visual contrast of towers and conductors.
Impact C-6: Long term presence of the project would cause an adverse change to known historic architectural (built environment)	C-1b	Avoid and protect potentially significant resources.
	C-1c	Develop and implement Historic Properties Treatment Plan.
	C-4c	Consult with the Santa Ysabel Band of Diegueño Indians.
	C-6a	Reduce adverse visual intrusions to historic built environment properties.
	C-6c	Reduce adverse visual intrusions to the Chapel of Santa Ysabel.
	V-3a	Reduce visual contrast of towers and conductors.

Table IST-4. Summary of Significant but Mitigable (Class II) Impacts and Mitigation for the Proposed Project Future Transmission System Expansion

Impact	Mitigation Measure(s)	
Impact PAL-1: Construction of the project would destroy or disturb significant paleontological resources	PAL-1a	Inventory and evaluate paleontological resources in the Final APE.
	PAL-1b	Develop Paleontological Monitoring and Treatment Plan.
	PAL-1c	Monitor construction for paleontology.
	PAL-1d	Conduct paleontological data recovery.
	PAL-1e	Train construction personnel.
Noise		
Impact N-2: Construction activity would temporarily cause groundborne vibration	L-1a	Prepare Construction Notification Plan.
	N-2a	Avoid blasting where damage to structures could occur.
Transportation and Traffic		
Impact T-1: Construction would cause temporary road and lane closures that would temporarily disrupt traffic flow	T-1a	Restrict lane closures
	T-1b	Prepare detour plans [T-APM-2b]
Impact T-2: Construction would temporarily disrupt the operation of emergency service providers	T-2a	Coordinate with Emergency Service Providers [T-APM-4a]
Impact T-3: Construction would temporarily disrupt bus transit	T-3a	Consult with bus and transit services [T-APM-5a]
Impact T-4: Construction would temporarily disrupt pedestrian and/or bicycle circulation and safety	T-4a	Ensure pedestrian and bicycle circulation and safety.
Impact T-5: Construction vehicles and equipment would potentially cause physical damage to roads in the project area	T-5a	Repair damaged roads
Impact T-6: Construction activities would cause a temporary disruption to rail traffic or operations	T-6a	Obtain railroad right-of-way permit.
Impact T-7: Construction would result in the short-term elimination of parking spaces	T-7a	Notify public of potential short-term elimination of parking spaces
Impact T-9: Construction would generate additional traffic on the regional and local roadways	T-9a	Prepare Construction Transportation Management Plan.
Impact T-10: Underground construction would restrict access to properties and businesses	T-10a	Ensure access to properties and businesses. [T-APM-10a]
Public Health & Safety		
Impact P-1: Soil or groundwater contamination could result from accidental spill or release of hazardous materials due to improper handling and or storage of hazardous materials during construction activities ~~Improper handling and/or storage of hazardous materials during construction could cause soil or groundwater contamination~~	P-1a	Implement Environmental Monitoring Program.
	P-1b	Maintain emergency spill supplies and equipment.
	P-1c	Personnel trained in proper use and safety procedures for the chemicals used. [HS-APM-1]
	P-1d	Personnel trained in refueling of vehicles. [HS-APM-2]
	P-1e	Preparation of environmental safety plans including spill prevention and response plan. [HS-APM-3]
	P-1f	Applicant's and/or General Contractor environmental/health and safety personnel. [HS-APM-8]
	P-1g	Proper storage and disposal of generated waste. [HS-APM-10]
Impact P-2: Residual pesticides and/or herbicides could be encountered during grading or excavation on currently or historically farmed land ~~in agricultural areas~~	P-2a	Test for residual pesticides/herbicides in agricultural areas.
	P-2b	Stop work if contamination is detected. [HS-APM-15]
	P-2c	Cordon off contaminated areas. [HS-APM-16]
	P-2d	Notification of regulatory agencies. [HS-APM-17]

Table IST-4. Summary of Significant but Mitigable (Class II) Impacts and Mitigation for the Proposed Project Future Transmission System Expansion

Impact	Mitigation Measure(s)	
Impact P-3: Unanticipated preexisting soil and/or groundwater contamination could be encountered during excavation or grading	P-2b	Stop work if contamination is detected. [HS-APM-15]
	P-2c	Cordon off contaminated areas. [HS-APM-16]
	P-2d	Notification of regulatory agencies. [HS-APM-17]
	P-3a	Appoint individuals with correct training for sampling, data review, and regulatory coordination.
	P-3b	Document compliance with measures for encountering unknown contamination.
Impacts P-4: Areas used by the military may contain unexploded ordnance (UXO) and could explode and injure workers or the public during construction	P-4a	Unexploded ordnance to be removed by trained personnel. [HS-APM-6]
	P-4b	Train project personnel to recognize unexploded ordnance. [HS-APM-7]
Impact P-5: Soil or groundwater contamination could result from accidental spill or release of hazardous materials during operation and maintenance	P-1c	Personnel trained in proper use and safety procedures for the chemicals used. [HS-APM-1]
	P-1e	Preparation of environmental safety plans including spill prevention and response plan. [HS-APM-3]
	P-1g	Proper storage and disposal of generated waste. [HS-APM-10]
Impact P-7: Excavation or grading could result in mobilization of existing soil or groundwater contamination from known sites	P-1g	Proper storage and disposal of generated waste. [HS-APM-10]
	P-7a	Evaluate contaminated sites.
	P-7b	Investigate contaminated sites
Impact PS-1: Transmission line operation causes radio and television interference	PS-1a	Limit the conductor surface electric gradient.
	PS-1b	Document and resolve electronic interference complaints.
Impact PS-2: Transmission line operation causes induced currents and shock hazards in joint use corridors	PS-2a	Implement grounding measures.
Air Quality		
No Class II Impacts		
Hydrology and Water Resources		
Impact H-1: Construction activity could degrade water quality due to erosion and sedimentation	H-1a	Prepare Substation Grading and Drainage Plan; construct during the dry season.
	H-1c	Minimize construction and maintenance disturbance to riparian areas. [WQ-APM-1]
	H-1d	Avoid watercourses to the maximum extent possible. [WQ-APM-2]
	H-1e	Identify and mark sensitive areas for avoidance. [WQ-APM-3]
	H-1f	Develop and implement construction Best Management Practices. [WQ-APM-4]
	H-1g	Stream crossings at low flow periods. [WQ-APM-5]
	H-1h	Compliance with NPDES regulations. [WQ-APM-14]
	H-1i	Construction routes to avoid and minimize disturbance to stream channels. [WQ-APM-15]

Table IST-4. Summary of Significant but Mitigable (Class II) Impacts and Mitigation for the Proposed Project Future Transmission System Expansion

Impact	Mitigation Measure(s)	
Impact H-2: Construction activity could degrade water quality through spills of potentially harmful materials	H-1c	Minimize construction and maintenance disturbance to riparian areas. [WQ-APM-1]
	H-1d	Avoid watercourses to the maximum extent possible. [WQ-APM-2]
	H-1e	Identify and mark sensitive areas for avoidance. [WQ-APM-3]
	H-1f	Develop and implement construction Best Management Practices. [WQ-APM-4]
	H-1g	Stream crossings at low flow periods. [WQ-APM-5]
	H-1h	Compliance with NPDES regulations. [WQ-APM-14]
	H-1i	Construction routes to avoid and minimize disturbance to stream channels. [WQ-APM-15]
	H-2a	Groundwater testing and treatment before disposal. [WQ-APM-8]
	H-2b	No storage of fuels and hazardous materials near sensitive water resources. [WQ-APM-9]
	H-2c	Proper disposal and clean-up of hazardous materials. [WQ-APM-13]
	H-2d	Maintain vehicles and equipment.
	P-1a	Implement Environmental Monitoring Plan.
	P-1b	Maintain emergency spill supplies and equipment.
Impact H-3: Excavation could degrade groundwater quality in areas of shallow groundwater	H-1c	Minimize construction and maintenance disturbance to riparian areas. [WQ-APM-1]
	H-2a	Groundwater testing and treatment before disposal. [WQ-APM-8]
	H-3a	Detect and avoid groundwater with project excavations. [WQ-APM-11]
Impact H-4: Groundwater dewatering for project construction could deplete local water supplies	H-4a	Avoid using source water and provide alternative sources where avoidance is not possible.
Impact H-6: Transmission towers or other above-ground project features located in a floodplain or watercourse could result in flooding, flood diversions, or erosion	H-1c	Minimize construction and maintenance disturbance to riparian areas. [WQ-APM-1]
	H-6a	Scour protection to include avoidance of bank erosion and effects to adjacent property.
Impact H-8: Underground portions of the power line could be exposed during flow events causing damage to the line or to adjacent property	H-8a	Bury power line below 100-year scour depth.
Geology, Mineral Resources, and Soils		
Impact G-1: Erosion would be triggered or accelerated due to construction activities	G-1a	Limit modification of access roads
	G-1b	Implement erosion control procedures.
Impact G-3: Project would expose people or structures to potential substantial adverse effects as a result of problematic soils	G-3a	Conduct geotechnical studies for soils to assess characteristics and aid in appropriate foundation design.
	G-3b	Avoid structure placement in high shrink/swell areas
Impact G-4: Project would expose people or structures to potential substantial adverse effects as a result of seismically induced groundshaking and/or ground failure	G-4a	Reduce effects of groundshaking.
	G-4b	Conduct geotechnical investigations for liquefaction.
	G-6a	Conduct geotechnical surveys for landslides and protect against slope instability.
	G-6b	Place structures in stable areas. [GEO-APM-4]
	G-6c	Avoid or remove unstable slope elements. [GEO-APM-8]
Impact G-5: Project would expose people or structures to potential substantial adverse effects as a result of surface fault rupture at crossings of active faults	G-5a	Minimize project structures within active fault zones.
	G-6b	Place structures in stable areas. [GEO-APM-4]
Impact G-6: Project would expose people or structures to potential substantial adverse effects as a result of slope instability created during excavation and/or grading	G-6a	Conduct geotechnical surveys for landslides and protect against slope instability.
	G-6b	Place structures in stable areas. [GEO-APM-4]
	G-6c	Avoid or remove unstable slope elements. [GEO-APM-8]

Table IST-4. Summary of Significant but Mitigable (Class II) Impacts and Mitigation for the Proposed Project Future Transmission System Expansion

Impact	Mitigation Measure(s)	
Impact G-7: Project would expose people or structures to potential substantial adverse effects as a result of landslides, earthflows, debris flows, and/or rockfall	G-5a	Minimize project structures within active fault zones.
	G-6a	Conduct geotechnical surveys for landslides and protect against slope instability.
	G-6b	Place structures in stable areas. [GEO-APM-4]
	G-6c	Avoid or remove unstable slope elements. [GEO-APM-8]
Impact G-9: Construction activities would interfere with access to known mineral resources	G-9a	Coordinate with quarry operations.
Socioeconomics		
Impact S-1: Project construction and/or transmission line presence would cause a substantial change in revenue for businesses, tribes, or governments	USFS-37	Condition No. 37 – Scenery Conservation Plan. (Full text presented in Section E.7.1.3, Visual Resources)
	AG-1a	Avoid interference with agricultural operations.
	AG-1c	Coordinate with grazing operators.
	AG-1d	Compensate farmers for lost crops along ROW. [APM LU-3]
	L-1d	Provide advance notice and appoint public affairs officer. [APM LU-1]
	L-1e	Notify property owners and provide access. [APM LU-4]
	L-1f	Flag ROW boundary and environmentally sensitive areas. [APM LU-6]
Impact S-2: Construction would disrupt the existing utility systems or cause a collocation accident	AG-1a	Avoid interference with agricultural operations.
	S-2a	Notify public of utility service interruption.
	S-2b	Protect underground utilities.
	S-2c	Coordinate with utility providers. [PSU-APM-1, PSU-APM-2]
Impact S-3: Project construction and operation would increase the need for public services and facilities	S-3a	Recycle construction waste.
	S-3b	Use reclaimed water.
	S-3d	Coordinate construction schedule with emergency services. [PSU-APM-3]
Fire and Fuels Management		
Impact F-4: Project activities would introduce non-native plants, which would contribute to an increased ignition potential and rate of fire spread	B-3a	Prepare and implement a Weed Control Plan.

Table IST-5. Summary of Significant Unmitigable (Class I) Impacts for the Proposed Project Connected Actions

Impact	Mitigation Measure (if any)	
Biological Resources		
Impact B-1: Construction activities would result in temporary and permanent losses of native vegetation (Class I for sensitive vegetation, vegetation management, and type conversion)	B-1a(CA)	Provide restoration/compensation for impacted sensitive vegetation communities.
	B-1c(CA)	Conduct biological monitoring.
	B-1d	Perform protocol surveys. [BIO-APM-1]
	B-1e	Train project personnel. [BIO-APM-2]
	B-1f	Construction and survey activities shall be restricted based on final design engineering drawings. [BIO-APM-4]
	B-1g	Build access roads at right angles to streambeds and washes. [BIO-APM-5]
	B-1h	Comply with all applicable environmental laws and regulations. [BIO-APM-6]
	B-1i	Restrict the construction of access and spur roads. [BIO-APM-3, BIO-APM-17]
	B-1j	Protect and restore vegetation. [BIO-APM-20, BIO-APM-23, BIO-APM-25]
	B-2b	Identify environmentally sensitive times and locations for tree trimming. [BIO-APM-16]
Impact B-5: Construction activities would result in direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants	B-1a(CA)	Provide restoration/compensation for impacted sensitive vegetation communities.
	B-1c(CA)	Conduct biological monitoring.
	B-1d	Perform protocol surveys. [BIO-APM-1]
	B-1e	Train project personnel. [BIO-APM-2]
	B-1f	Construction and survey activities shall be restricted based on final design engineering drawings. [BIO-APM-4]
	B-1g	Build access roads at right angles to streambeds and washes. [BIO-APM-5]
	B-1h	Comply with all applicable environmental laws and regulations. [BIO-APM-6]
	B-1i	Restrict the construction of access and spur roads. [BIO-APM-3, BIO-APM-17]
	B-2a(CA)	Provide restoration/compensation for impacted jurisdictional areas.
	B-2c	Avoid sensitive features. [BIO-APM-18]
	B-5a(CA)	Conduct rare plant surveys, and implement appropriate avoidance/minimization/compensation strategies.
	B-5b	Delineate sensitive plant populations. [BIO-APM-16]
	B-5c	No collection of plants or wildlife. [BIO-APM-13]
	B-5d	Salvage sensitive species for replanting or transplanting. [BIO-APM-22]

Table IST-5. Summary of Significant Unmitigable (Class I) Impacts for the Proposed Project Connected Actions

Impact B-7: Construction activities would result in direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife (Class I for construction impacts to sensitive species)	B-1a(CA)	Provide restoration/compensation for impacted sensitive vegetation communities.
	B-1c(CA)	Conduct biological monitoring.
	B-1e	Train project personnel. [BIO-APM-2]
	B-1f	Construction and survey activities shall be restricted based on final design engineering drawings. [BIO-APM-4]
	B-1i	Restrict the construction of access and spur roads. [BIO-APM-3, BIO-APM-17]
	B-2a(CA)	Provide restoration/compensation for impacted jurisdictional areas.
	B-2b	Identify environmentally sensitive times and locations for tree trimming. [BIO-APM-16]
	B-6a	Littering is not allowed. [BIO-APM-7]
	B-6b	Survey areas for brush clearing. [BIO-APM-9]
	B-6c	Protect mammals and reptiles in excavated areas. [BIO-APM-24, BIO-APM-26]
	B-6d	Reduce construction night lighting on sensitive habitats. [BIO-APM-29]
	B-7a(CA)	Cover all steep-walled trenches or excavations used during construction to prevent the entrapment of wildlife (e.g., reptiles and small mammals).
Impact B-7A: Direct or indirect loss of flat-tailed horned lizard or direct loss of habitat	B-1a(CA)	Provide restoration/compensation for impacted sensitive vegetation communities.
	B-1c(CA)	Conduct biological monitoring.
	B-2a(CA)	Provide restoration/compensation for impacted jurisdictional areas.
	B-7a(CA)	Cover all steep-walled trenches or excavations used during construction to prevent the entrapment of wildlife (e.g., reptiles and small mammals).
	B-7b(CA)	Implement avoidance/mitigation/compensation according to the Flat-Tailed Horned Lizard Rangewide Management Strategy.
	B-7m	Implement mitigation measures/best management practices from BLM's Draft EIS for the Truckhaven Geothermal Leasing Area.
Impact B-7B: Direct or indirect loss of Peninsular bighorn sheep or direct loss of habitat	B-1a(CA)	Provide restoration/compensation for impacted sensitive vegetation communities.
	B-1c(CA)	Conduct biological monitoring.
	B-2a(CA)	Provide restoration/compensation for impacted jurisdictional areas.
	B-7c(CA)	Minimize impacts to Peninsular bighorn sheep and provide compensation for loss of critical habitat.
Impact B-7J: Direct or indirect loss of quino checkerspot butterfly or direct loss of habitat	B-1a(CA)	Provide restoration/compensation for impacted sensitive vegetation communities.
	B-1c(CA)	Conduct biological monitoring.
	B-2a(CA)	Provide restoration/compensation for impacted jurisdictional areas.
	B-7i(CA)	Conduct quino checkerspot butterfly surveys and implement appropriate avoidance/minimization/compensation strategies
Impact B-7O: Direct or indirect loss of barefoot banded gecko or direct loss of habitat	B-1a(CA)	Provide restoration/compensation for impacted sensitive vegetation communities.
	B-1c(CA)	Conduct biological monitoring.
	B-2a(CA)	Provide restoration/compensation for impacted jurisdictional areas.
Impact B-10: Presence of transmission lines may result in electrocution of, and/or collisions by, listed or sensitive bird species	B-10a(CA)	Utilize collision-reducing techniques in installation of transmission lines. There is no known highly utilized avian flight path; therefore, no marking of the overhead lines is required.
	B-10b	Structures shall be constructed to conform to "Suggested Practices for Raptor Protection on Power Lines."

Table IST-5. Summary of Significant Unmitigable (Class I) Impacts for the Proposed Project Connected Actions

Impact B-12: Maintenance activities would result in disturbance to wildlife and could result in wildlife mortality	B-1f	Construction and survey activities shall be restricted based on final design engineering drawings. [BIO-APM-4]
	B-1h	Comply with all applicable environmental laws and regulations. [BIO-APM-6]
	B-1i	Restrict the construction of access and spur roads. [BIO-APM-3, BIO-APM-17]
	B-2b	Identify environmentally sensitive times and locations for tree trimming. [BIO-APM-16]
	B-3a(CA)	Prepare and implement a Weed Control Plan.
	B-5c	No collection of plants or wildlife. [BIO-APM-13]
	B-6a	Littering is not allowed. [BIO-APM-7]
	B-6b	Survey areas for brush clearing. [BIO-APM-9]
	B-7c(CA)	Minimize impacts to Peninsular bighorn sheep and provide compensation for loss of critical habitat. This measure shall be tailored so as to be applicable in Mexico and acceptable to Mexican authorities.
	B-12a(CA)	Conduct maintenance activities outside the general avian breeding season.
	B-12c	Maintain access roads and clear vegetation in quino checkerspot butterfly habitat.
	B-12d	Protect wildlife.
Impact B-13: Operation of the RWD project would lead to avian mortality from collision with turbines	B-13a(LR)	Implement measures to reduce avian impacts from turbine activities
Impact B-14: Operation of the RWD project would lead to bat mortality from collision with turbines	B-14a	Implement a scientifically defensible monitoring program to estimate bat fatality rates from new turbines
Visual Resources		
Impact V-1: Short-term visibility of construction activities, equipment, and night lighting	V-1a	Reduce visibility of construction activities and equipment.
	V-1b	Reduce construction night lighting impacts.
	V-1c	Prohibit construction marking of natural features[APM VR-4]
Impact V-2: Long-term visibility of land scars and vegetation clearance in arid and semi-arid landscapes	V 2a	Reduce in-line views of land scars.
	V 2b	Reduce visual contrast from unnatural vegetation lines.
	V 2c	Reduce color contrast of land scars on non-Forest lands.
	V 2d	Construction by helicopter.
	V 2e	Minimize vegetation removal. [BIO-APM 23]
	V 2f	Reduce land scarring and vegetation clearance impacts on USFS-administered lands.
Impact V-87: Increased structure contrast, industrial character, view blockage, skylining, and glare from night lighting when viewing the Jacumba Substation from Key Viewpoint 79 on Old Highway 80, west of the Jacumba Substation site	V-7a	Reduce visual contrast associated with ancillary facilities.
	V-7b	Screen ancillary facilities.
	V-21a	Reduce night lighting impacts.
Impact V-89: Increased structure contrast, industrial character, view blockage, and skylining when viewing the 69 kV transmission line from Key Viewpoint 81 on Tule Jim Lane in Boulevard	V-3a	Reduce visual contrast of towers and conductors.
	V-89a	Relocate 69 kV transmission line along northern or southern mitigation route as shown in Figure 2.3-4A.
Impact V-90: Increased structure contrast, industrial character, view blockage, skylining, and glare from night lighting when viewing the Boulevard Substation from Key Viewpoint 82 on Old Highway 80	V-7a	Reduce visual contrast associated with ancillary facilities.
	V-7b	Screen ancillary facilities.
	V-21a	Reduce night lighting impacts.
Impact V-91: Increased structure contrast, industrial character, view blockage, and skylining when viewing the wind development area from Key Viewpoint 83 on Hill Street in Jacumba		

Table IST-5. Summary of Significant Unmitigable (Class I) Impacts for the Proposed Project Connected Actions

Impact V-92: Inconsistency with BLM VRM Class II Management objective due to introduction of structure contrast, industrial character, view blockage and skylining when viewing the wind farm development from Key Viewpoint 84 on Table Mountain	V-3a	Reduce visual contrast of towers and conductors.
	V-3b	Use non-specular design to reduce conductor visibility and visual contrast. [VR-APM-2]
Impact V-93: Inconsistency with BLM VRM Class III Management objective due to introduction of structure contrast, industrial character, view blockage and skylining when viewing the wind farm development from Key Viewpoint 85 in the Elliot Mine Area		
Impact V-94: Long-term visibility of RWD turbines and associated facilities from Highway Mexico 2, nearby residences and public roads		
Impact V-1CA: Inconsistency with Interim BLM VRM Class III management objective due to introduction of structure contrast, industrial character, view blockage, skylining and glare associated with the SES Solar Two Project	There is no mitigation available to reduce the significant visual impact to a level that would be less than significant.	
Impact V-2CA: Inconsistency with Interim BLM VRM Class III management objective due to introduction of structure contrast, industrial character, view blockage and skylining associated with the 230 kV Transmission Interconnection	V-3a	Reduce visual contrast of towers and conductors.
	V-3b	Use non-specular design to reduce conductor visibility and visual contrast. [APM VR-2]
~~Impact V-3CA: Inconsistency with Interim BLM VRM Class III management objective due to increased structure contrast, industrial character, view blockage, and skylining associated with the IID 230 kV transmission line~~	~~V-3a~~	~~Reduce visual contrast of towers and conductors.~~
	~~V-3b~~	~~Use non-specular design to reduce conductor visibility and visual contrast. [APM VR-2]~~
	~~V-3c~~	~~Coordinate with affected property owners on structure siting.~~
~~Impact V-4CA: Increased structure contrast, industrial character, view blockage, skylining, and glare from night lighting when viewing the San Felipe 500 kV to 230 kV Substation from Key Viewpoint 30 on northbound Split Mountain Road~~	~~V-7a~~	~~Reduce visual contrast associated with ancillary facilities.~~
	~~V-7b~~	~~Screen ancillary facilities.~~
	~~V-21a~~	~~Reduce night lighting impacts.~~
Land Use		
Impact L-2: Presence of a project component would divide an established community or disrupt land uses at or near the alignment	L-1a	Prepare Construction Notification Plan.
	L-1d	Provide advance notice and appoint public affairs officer. [APM LU-2]
	L-1e	Notify property owners and provide access. [APM LU-4]
	L-2b	Revise project elements to minimize land use conflicts.
~~*No Class I Impacts*~~		
Wilderness and Recreation		
Impact WR-2: Presence of a transmission line or substation would change the character of a recreation area, diminishing its recreational value	V-3a	Reduce visual contrast of towers and conductors.
	V-7a	Reduce visual contrast associated with ancillary facilities.
	V-7b	Screen ancillary facilities.
	N-3a	Respond to complaints of corona noise.
~~Impact WR-2LR: Presence of the wind towers/ turbines and associated facilities would change the character of a recreation area, diminishing its recreational value~~	~~V-3a~~	~~Reduce visual contrast of towers and conductors~~

Table IST-5. Summary of Significant Unmitigable (Class I) Impacts for the Proposed Project Connected Actions

Agriculture		
No Class I Impacts		
Cultural and Paleontological Resources		
Impact C-1: Construction of the project would cause an adverse change to known historic properties	C-1a C-1b C-1c C-1d C-1e C-1f	Inventory and evaluate cultural resources in Final APE Avoid and protect potentially significant resources. Develop and implement Historic Properties Treatment Plan. Conduct data recovery to reduce adverse effects. Monitor construction at known ESAs. Train construction personnel.
Impact C-2: Construction of the project would cause an adverse change to sites known to contain human remains	C-1b C-1c C-1d C-1e C-1f C-2a	Avoid and protect potentially significant resources. Develop and implement Historic Properties Treatment Plan. Conduct data recovery to reduce adverse effects. Monitor construction at known ESAs. Train construction personnel. Properly treat human remains
Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains	C-1c C-1d C-1f C-2a C-3a	Develop and implement Historic Properties Treatment Plan. Conduct data recovery to reduce adverse effects. Train construction personnel. Properly treat human remains. Monitor construction in areas of high sensitivity for buried resources.
Impact C-4: Construction of the project would cause an adverse change to Traditional Cultural Properties	C-4a	Complete consultation with Native American and other Traditional Groups
Impact C-5: Project operation and maintenance would cause an adverse change to known historic properties	C-1b C-1c C-2a C-4a C-5a	Avoid and protect potentially significant resources. Develop and implement Historic Properties Treatment Plan. Properly treat human remains. Complete consultation with Native American and other Traditional Groups. Protect and monitor NRHP- and/or CRHR-eligible properties.
Noise		
Impact N-1: Construction noise would substantially disturb sensitive receptors and violate local rules, standards, and/or ordinances	L-1a N-1a	Prepare Construction Notification Plan Implement Best Management Practices for construction noise.
~~Impact N-3: Permanent noise levels would increase due to corona noise from operation of the transmission lines and noise from other project components~~	~~N-3a~~	~~Respond to complaints of corona noise~~
Impact N-4: Routine inspection and maintenance activities would increase ambient noise levels		
Transportation & Traffic		
No Class I Impacts		
Public Health & Safety		
No Class I Impacts		

Table IST-5. Summary of Significant Unmitigable (Class I) Impacts for the Proposed Project Connected Actions

Air Quality		
Impact AQ-1: Construction would generate dust and exhaust emissions of criteria pollutants and toxic air contaminants	AQ-1a	Suppress dust at all work or staging areas and on public roads.
	AQ-1b	Use low-emission construction equipment.
	AQ-1c	Comply with Imperial County Dust Control Requirements. [AQ-APM-1]
	AQ-1d	Implement Dust Reduction Measures. [AQ-APM-2]
	AQ-1e	Prevent transport of mud and dust. [AQ-APM-3]
	AQ-1f	Encourage carpooling. [AQ-APM-4]
	AQ-1g	Minimize vehicle idling. [AQ-APM-5]
	AQ-1h	Obtain NOx and particulate matter emission offsets.
Impact AQ-4: Project activities would cause a net increase of greenhouse gas emissions	AQ-4a	Offset construction-phase greenhouse gas emissions with carbon credits.
	AQ-4b	Offset operation-phase greenhouse gas emissions with carbon credits.
	AQ-4c	Avoid sulfur hexafluoride emissions
Hydrology and Water Resources		
No Class I Impacts		
Geology, Mineral Resources, and Soils		
No Class I Impacts		
Socioeconomics		
Impact S-3: Project construction and operation would increase the need for public services and facilities	S-3b	Use reclaimed water.
Fire and Fuels Management		
Impact F-2: Presence of the overhead transmission line would increase the probability of a wildfire	F-2a	Establish and maintain adequate line clearances.
	F-2c	Perform climbing inspections.
	F-1e	Contribute to defensible space grants fund.
Impact F-3: Presence of the overhead transmission line would reduce the effectiveness of firefighting	F-3a	Contribute to Powerline Firefighting Mitigation Fund.
	F-3b	Prepare and implement a Multi-agency Fire Prevention MOU.

Table IST-6. Summary of Significant but Mitigable (Class II) Impacts and Mitigation for the Proposed Project Connected Actions

Impact	Mitigation Measure(s)	
Biological Resources		
Impact B-1: Construction activities would result in temporary and permanent losses of native vegetation (Class I for sensitive vegetation, vegetation management, and type conversion)	B-1a(CA)	Provide restoration/compensation for impacted sensitive vegetation communities.
	B-1c(CA)	Conduct biological monitoring.
	B-1d	Perform protocol surveys. [BIO-APM-1]
	B-1e	Train project personnel. [BIO-APM-2]
	B-1f	Construction and survey activities shall be restricted based on final design engineering drawings. [BIO-APM-4]
	B-1g	Build access roads at right angles to streambeds and washes. [BIO-APM-5]
	B-1h	Comply with all applicable environmental laws and regulations. [BIO-APM-6]
	B-1i	Restrict the construction of access and spur roads. [BIO-APM-3, BIO-APM-17]
	B-1j	Protect and restore vegetation. [BIO-APM-20, BIO-APM-23, BIO-APM-25]
Impact B-2: Construction activities would result in adverse effects to jurisdictional waters and wetlands through vegetation removal, placement of fill, erosion, sedimentation, and degradation of water quality	B-1c(CA)	Conduct biological monitoring.
	B-1d	Perform protocol surveys. [BIO-APM-1]
	B-1e	Train project personnel. [BIO-APM-2]
	B-1f	Construction and survey activities shall be restricted based on final design engineering drawings. [BIO-APM-4]
	B-1g	Build access roads at right angles to streambeds and washes. [BIO-APM-5]
	B-2a(CA)	Provide restoration/compensation for impacted jurisdictional areas.
	B-2b	Identify environmentally sensitive times and locations for tree trimming. [BIO-APM-16]
	B-2c	Avoid sensitive features. [BIO-APM-18]
Impact B-3: Construction and operation/maintenance activities would result in the introduction of invasive, non-native, or noxious plant species	B-1a(CA)	Provide restoration/compensation for impacted sensitive vegetation communities.
	B-1c(CA)	Conduct biological monitoring.
	B-1j	Protect and restore vegetation. [BIO-APM-20, BIO-APM-23, BIO-APM-25]
	B-2a(CA)	Provide restoration/compensation for impacted jurisdictional areas.
	B-3a(CA)	Prepare and implement a Weed Control Plan.
Impact B-4: Construction activities would create dust that would result in degradation of vegetation	B-1i	Restrict the construction of access and spur roads. [BIO-APM-3, BIO-APM-17]
~~Impact B-7C: Direct or indirect loss of burrowing owl or direct loss of habitat~~	~~B-1a(CA)~~	~~Provide restoration/compensation for impacted sensitive vegetation communities.~~
	~~B-1c(CA)~~	~~Conduct biological monitoring.~~
	~~B-2a(CA)~~	~~Provide restoration/compensation for impacted jurisdictional areas.~~
	~~B-7d(CA)~~	~~Conduct burrowing owl surveys, and implement appropriate avoidance/minimization/compensation strategies~~
~~Impact B-7F: Direct or indirect loss of desert pupfish or direct loss of habitat~~	~~B-1a(CA)~~	~~Provide restoration/compensation for impacted sensitive vegetation communities.~~
	~~B-1c(CA)~~	~~Conduct biological monitoring.~~
	~~B-2a(CA)~~	~~Provide restoration/compensation for impacted jurisdictional areas.~~
	~~B-7f(CA)~~	~~Minimize potential impacts to desert pupfish habitat~~

Table IST-6. Summary of Significant but Mitigable (Class II) Impacts and Mitigation for the Proposed Project Connected Actions

Impact	Mitigation Measure(s)	
~~Impact B-7G: Direct or indirect loss of desert tortoise or direct loss of~~	~~B-1a(CA)~~	~~Provide restoration/compensation for impacted sensitive vegetation communities.~~
	~~B-1c(CA)~~	~~Conduct biological monitoring.~~
	~~B-2a(CA)~~	~~Provide restoration/compensation for impacted jurisdictional areas.~~
	~~B-7g(CA)~~	~~Implement appropriate avoidance/minimization strategies for desert tortoise~~
Impact B-7J: Direct or indirect loss of quino checkerspot butterfly or direct loss of habitat	B-1a(CA)	Provide restoration/compensation for impacted sensitive vegetation communities.
	B-1c(CA)	Conduct biological monitoring.
	B-2a(CA)	Provide restoration/compensation for impacted jurisdictional areas.
	B-7i(CA)	Conduct quino checkerspot butterfly surveys and implement appropriate avoidance/minimization/compensation strategies
Impact B-8: Construction activities would result in a potential loss of nesting birds (violation of the Migratory Bird Treaty Act)	B-1e	Train project personnel. [BIO-APM-2]
	B-1f	Construction and survey activities shall be restricted based on final design engineering drawings. [BIO-APM-4]
	B-1g	Build access roads at right angles to streambeds and washes. [BIO-APM-5]
	B-1h	Comply with all applicable environmental laws and regulations. [BIO-APM-6]
	B-1i	Restrict the construction of access and spur roads. [BIO-APM-3, BIO-APM-17]
	B-2b	Identify environmentally sensitive times and locations for tree trimming. [BIO-APM-16]
	B-2c	Avoid sensitive features. [BIO-APM-18]
	B-6b	Survey areas for brush clearing. [BIO-APM-9]
	B-8a(CA)	Conduct pre-construction surveys and monitoring for breeding birds.
	B-8b	Removal of raptor nests. [BIO-APM-27]
Impact B-9: Adverse effects to linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites	B-1g	Build access roads at right angles to streambeds and washes. [BIO-APM-5]
	B-1i	Restrict the construction of access and spur roads. [BIO-APM-3, BIO-APM-17]
	B-2c	Avoid sensitive features. [BIO-APM-18]
	B-6d	Reduce construction night lighting on sensitive habitats. [BIO-APM-29]
	B-9a	Survey for bat nursery colonies.
Impact B-10: Presence of transmission lines may result in electrocution of, and/or collisions by, listed or sensitive bird species	B-10a(CA)	Utilize collision-reducing techniques in installation of transmission lines. There is no known highly utilized avian flight path; therefore, no marking of the overhead lines is required.
	B-10b	Structures shall be constructed to conform to "Suggested Practices for Raptor Protection on Power Lines."
Impact B-11: Presence of transmission lines may result in increased predation of listed and sensitive wildlife species by ravens that nest on transmission towers	B-11a(CA)	Prepare and implement a Raven Control Plan

Table IST-6. Summary of Significant but Mitigable (Class II) Impacts and Mitigation for the Proposed Project Connected Actions

Impact	Mitigation Measure(s)	
Impact B-12: Maintenance activities would result in disturbance to wildlife and could result in wildlife mortality (Class II for other special-status wildlife and nesting birds)	B-1f	Construction and survey activities shall be restricted based on final design engineering drawings. [BIO-APM-4]
	B-1h	Comply with all applicable environmental laws and regulations. [BIO-APM-6]
	B-1i	Restrict the construction of access and spur roads. [BIO-APM-3, BIO-APM-17]
	B-2b	Identify environmentally sensitive times and locations for tree trimming. [BIO-APM-16]
	B-3a(CA)	Prepare and implement a Weed Control Plan.
	B-5c	No collection of plants or wildlife. [BIO-APM-13]
	B-6a	Littering is not allowed. [BIO-APM-7]
	B-6b	Survey areas for brush clearing. [BIO-APM-9]
	B-7b	Implement avoidance/mitigation/compensation according to the Flat-Tailed Horned Lizard Rangewide Management Strategy.
	B-7c(CA)	Minimize impacts to Peninsular bighorn sheep and provide compensation for loss of critical habitat. This measure shall be tailored so as to be applicable in Mexico and acceptable to Mexican authorities.
	B-7m	Implement mitigation measures/best management practices from BLM's Draft EIS for the Truckhaven Geothermal Leasing Area.
	B-12a(CA)	Conduct maintenance activities outside the general avian breeding season.
	B-12c	Maintain access roads and clear vegetation in quino checkerspot butterfly habitat.
	B-12d	Protect wildlife.
Visual Resources		
Impact V-1: Short-term visibility of construction activities, equipment, and night lighting	V-1a	Reduce visibility of construction activities and equipment
	V-1b	Reduce construction night lighting impacts.
	V-1c	Prohibit construction marking of natural features.
Impact V-2: Visibility of land scarring in arid and semi-arid landscapes	V-2a	Reduce in-line views of land scars
	V-2b	Reduce visual contrast from unnatural vegetation lines
	V-2c	Reduce color contrast of land scars on non-Forest lands.
	V-2d	Construction by helicopter.
	V-2e	Minimize vegetation removal. [APM-BIO-23]
	V 2f	Reduce land scarring and vegetation clearance impacts on USFS-administered lands.
	G-1b	Implement erosion control procedures. [APM GEO-2]
Land Use		
Impact L-1: Construction would temporarily disturb land uses at or near the alignment	L-1a	Prepare Construction Notification Plan.
Impact L-2: Presence of a project component would divide an established community or disrupt land uses at or near the alignment	L-1a	Prepare Construction Notification Plan.
	L-1d	Provide advance notice and appoint public affairs officer. [APM LU-2]
	L-1e	Notify property owners and provide access. [APM LU-4]
	L-2b	Revise project elements to minimize land use conflicts.

Table IST-6. Summary of Significant but Mitigable (Class II) Impacts and Mitigation for the Proposed Project Connected Actions

Impact	Mitigation Measure(s)	
Wilderness and Recreation		
Impact WR-1: Construction activities would temporarily reduce access and visitation to recreation or wilderness areas	WR-1a	Coordinate construction schedule and activities with the authorized officer for the recreation area.
	WR-1b	Provide temporary detours for trail users.
	WR-1c	Coordinate with local agencies to identify alternative recreation areas.
	~~WR-LR1a~~	~~Coordinate construction schedule and activities with the authorized officer for the recreation area.~~
	~~WR-LR1c~~	~~Coordinate with local agencies to identify alternative recreation areas~~
Impact WR-2: Presence of a transmission line or substation would change the character of a recreation area, diminishing its recreational value	V-3a	Reduce visual contrast of towers and conductors (second bullet of mitigation only applies).
	V-7a	Reduce visual contrast associated with ancillary facilities.
	V-7b	Screen ancillary facilities.
Impact WR-2GT: Presence of the project would change the character of a recreation or wilderness area, diminishing its recreational value	V-3a	Reduce visual contrast of towers and conductors.
	N-3a	Respond to complaints of corona noise.
Impact WR-3GT: Presence of the project would permanently preclude recreational activities	WR-3a	Coordinate tower and road locations with the authorized officer for the recreation area.
Impact WR-3: Presence of a transmission line would permanently preclude recreational activities	WR-3a	Coordinate tower and road locations with the authorized officer for the recreation area.
	WR-LR3a	Coordinate wind turbine and road locations with the authorized officer for the recreation area.
Agriculture		
Impact AG-1: Construction activities would temporarily interfere with Active Agricultural Operations	AG-1a	Avoid interference with agricultural operations.
	AG-1b	Restore compacted soil.
	~~AG-1d~~	~~Compensate farmers for lost crops along ROW. [APM LU-1]~~
	~~AG-3e~~	~~Install project facilities along borders. [APM LU-7]~~
	L-1d	Provide advance notice and appoint public affairs officer. [APM LU-3]
	L-1e	Notify property owners and provide access. [APM LU-4]
	L-1f	Flag ROW boundary and environmentally sensitive areas. [APM LU-6]
Cultural and Paleontological Resources		
Impact C-1: Construction of the project would cause an adverse change to known historic properties	C-1a	Inventory and evaluate cultural resources in Final APE
	C-1b	Avoid and protect potentially significant resources.
	C-1c	Develop and implement Historic Properties Treatment Plan.
	C-1d	Conduct data recovery to reduce adverse effects.
	C-1e	Monitor construction at known ESAs.
	C-1f	Train construction personnel.
Impact C-3: Construction of the project would cause an adverse change to unknown significant buried prehistoric and historical archaeological sites or buried Native American human remains	C-1c	Develop and implement Historic Properties Treatment Plan.
	C-1d	Conduct data recovery to reduce adverse effects.
	C-1f	Train construction personnel.
	C-2a	Properly treat human remains.
	C-3a	Monitor construction in areas of high sensitivity for buried resources.
Impact C-4: Construction of the project would cause an adverse change to Traditional Cultural Properties	C-4a	Complete consultation with Native American and other Traditional Groups

Table IST-6. Summary of Significant but Mitigable (Class II) Impacts and Mitigation for the Proposed Project Connected Actions

Impact	Mitigation Measure(s)	
Impact C-5: Project operation and maintenance would cause an adverse change to known historic properties	C-1b	Avoid and protect potentially significant resources.
	C-1c	Develop and implement Historic Properties Treatment Plan.
	C-2a	Properly treat human remains.
	C-4a	Complete consultation with Native American and other Traditional Groups.
	C-5a	Protect and monitor NRHP- and/or CRHR-eligible properties
Impact C-6: Long term presence of the project would cause an adverse change to known historic architectural (built environment)	C-6a	Reduce adverse visual intrusions to historic built environment properties.
Impact PAL-1: Construction of the project would destroy or disturb significant paleontological resources	PAL-1a	Inventory and evaluate paleontological resources in the Final APE.
	PAL-1b	Develop Paleontological Monitoring and Treatment Plan.
	PAL-1c	Monitor construction for paleontology.
	PAL-1d	Conduct paleontological data recovery.
	PAL-1e	Train construction personnel.
Noise		
Impact N-2: Construction activity would temporarily cause groundborne vibration	L-1a	Prepare Construction Notification Plan.
	N-2a	Avoid blasting where damage to structures could occur.
Impact N-3: Operational noise levels would increase due to corona noise from operation of the transmission lines and other project components	N-3b	Perform Operational Noise Study.
Transportation and Traffic		
Impact T-1: Construction would cause temporary road and lane closures that would temporarily disrupt traffic flow	T-1a	Restrict lane closures
	T-1b	Prepare detour plans [T-APM-2b]
	T-1c	Obtain required permits [T-APM 2a]
Impact T-2: Construction would temporarily disrupt the operation of emergency service providers	T-2a	Coordinate with Emergency Service Providers[T-APM-4a]
Impact T-3: Construction would temporarily disrupt bus transit services	T-3a	Consult with bus and transit services[T-APM-5a]
Impact T-4: Construction would temporarily disrupt pedestrian and/or bicycle circulation and safety	T-4a	Ensure pedestrian and bicycle circulation and safety.
Impact T-5: Construction vehicles and equipment would potentially cause physical damage to roads in the project area	T-5a	Repair damaged roads
Impact T-6: Construction activities would cause a temporary disruption to rail traffic or operations	T-6a	Obtain railroad right-of-way permit. [T-APM-8a]
Impact T-9: Construction would generate additional traffic on the regional and local roadways	T-9a	Prepare Construction Transportation Management Plan.
Impact T-10: Underground construction would restrict access to properties and businesses	T-10a	Ensure access to properties and businesses. [T-APM-10a]
Impact T-11: Construction of the transmission lines would penetrate airport influence area	T-11b	Consult with and inform U.S. Customs and Border Protection.

Table IST-6. Summary of Significant but Mitigable (Class II) Impacts and Mitigation for the Proposed Project Connected Actions

Impact	Mitigation Measure(s)	
Public Health & Safety		
Impact P-1: Soil or groundwater contamination could result from accidental spill or release of hazardous materials due to improper handling and or storage of hazardous materials during construction activities ~~Improper handling and/or storage of hazardous materials during construction could cause soil or groundwater contamination~~	P-1a	Implement Environmental Monitoring Program.
	P-1b	Maintain emergency spill supplies and equipment.
	P-1c	Personnel trained in proper use and safety procedures for the chemicals used. [HS-APM-1]
	P-1d	Personnel trained in refueling of vehicles. [HS-APM-2]
	P-1e	Preparation of environmental safety plans including spill prevention and response plan. [HS-APM-3]
	P-1f	Applicant's and/or General Contractor environmental/health and safety personnel. [HS-APM-8]
	P-1g	Proper storage and disposal of generated waste. [HS-APM-10]
	H-2b	No storage of fuels and hazardous materials near sensitive water resources. [WQ-APM-9]
	H-2c	Proper disposal and clean-up of hazardous materials. [WQ-APM-13]
Impact P-2: Residual pesticides and/or herbicides could be encountered during grading or excavation on currently or historically farmed land ~~in agricultural areas~~	P-2a	Test for residual pesticides/herbicides currently or historically used form farming ~~in agricultural areas~~.
	P-2b	Stop work if contamination is detected. [HS-APM-15]
	P-2c	Cordon off contaminated areas. [HS-APM-16]
	P-2d	Notification of regulatory agencies. [HS-APM-17]
Impact P-3: Unanticipated preexisting soil and/or groundwater contamination could be encountered during excavation or grading	P-2b	Stop work if contamination is detected. [HS-APM-15]
	P-2c	Cordon off contaminated areas. [HS-APM-16]
	P-2d	Notification of regulatory agencies. [HS-APM-17]
	P-3a	Appoint individuals with correct training for sampling, data review, and regulatory coordination.
	P-3b	Document compliance with measures for encountering unknown contamination.
Impacts P-4: Areas used by the military may contain unexploded ordnance (UXO) and could explode and injure workers or the public during construction	P-4a	Unexploded ordnance to be removed by trained personnel. [HS-APM-6]
	P-4b	Train project personnel to recognize unexploded ordnance. [HS-APM-7]
Impact P-5: Soil or groundwater contamination could result from accidental spill or release of hazardous materials during operation and maintenance	P-1c	Personnel trained in proper use and safety procedures for the chemicals used. [HS-APM-1]
	P-1e	Preparation of environmental safety plans including spill prevention and response plan. [HS-APM-3]
	P-1g	Proper storage and disposal of generated waste. [HS-APM-10]
Impact P-7: Excavation or grading could result in mobilization of existing soil or groundwater contamination from known sites	P-7a	Evaluate contaminated sites.
	P-7b	Investigate contaminated sites.
Impact PS-1: Transmission line operation causes radio and television interference	PS-1a	Limit the conductor surface electric gradient.
	PS-1b	Document and resolve electronic interference complaints.
Impact PS-2: Transmission line operation causes induced currents and shock hazards in joint use corridors	PS-2a	Implement grounding measures.
Air Quality		
No Class II Impacts		

Table IST-6. Summary of Significant but Mitigable (Class II) Impacts and Mitigation for the Proposed Project Connected Actions

Impact	Mitigation Measure(s)	
Hydrology and Water Resources		
Impact H-1: Construction activity could degrade water quality due to erosion and sedimentation	H-1a	Prepare Substation Grading and Drainage Plan; construct during the dry season.
	H-1c	Minimize construction and maintenance disturbance to riparian areas. [WQ-APM-1]
	H-1d	Avoid watercourses to the maximum extent possible. [WQ-APM-2]
	H-1e	Identify and mark sensitive areas for avoidance. [WQ-APM-3]
	H-1f	Develop and implement construction Best Management Practices. [WQ-APM-4]
	H-1g	Stream crossings at low flow periods. [WQ-APM-5]
	H-1h	Compliance with NPDES regulations. [WQ-APM-14]
	H-1i	Construction routes to avoid and minimize disturbance to stream channels. [WQ-APM-15]
Impact H-2: Construction activity could degrade water quality through spills of potentially harmful materials	H-1c	Minimize construction and maintenance disturbance to riparian areas. [WQ-APM-1]
	H-1d	Avoid watercourses to the maximum extent possible. [WQ-APM-2]
	H-1e	Identify and mark sensitive areas for avoidance. [WQ-APM-3]
	H-1f	Develop and implement construction Best Management Practices. [WQ-APM-4]
	H-1g	Stream crossings at low flow periods. [WQ-APM-5]
	H-1h	Compliance with NPDES regulations. [WQ-APM-14]
	H-1i	Construction routes to avoid and minimize disturbance to stream channels. [WQ-APM-15]
	H-2a	Groundwater testing and treatment before disposal. [WQ-APM-8]
	H-2b	No storage of fuels and hazardous materials near sensitive water resources. [WQ-APM-9]
	H-2c	Proper disposal and clean-up of hazardous materials. [WQ-APM-13]
	H-2d	Maintain vehicles and equipment.
	P-1a	Implement Environmental Monitoring Plan.
	P-1b	Maintain emergency spill supplies and equipment.
Impact H-3: Excavation could degrade ground-water quality in areas of shallow groundwater	H-2a	Groundwater testing and treatment before disposal. [WQ-APM-8]
	H-1c	Minimize construction and maintenance disturbance to riparian areas. [WQ-APM-1]
	H-1d	Avoid watercourses to the maximum extent possible. [WQ-APM-2]
	H-1h	Compliance with NPDES regulations. [WQ-APM-14]
	H-2b	No storage of fuels and hazardous materials near sensitive water resources. [WQ-APM-9]
	H-2c	Proper disposal and clean-up of hazardous materials. [WQ-APM-13]
Impact H-4: Groundwater dewatering for project construction could deplete local water supplies	H-4a	Avoid using source water and provide alternative sources where avoidance is not possible.
	H-4b	Avoid blasting where damage to groundwater wells or springs could occur.
Impact H-5: Creation of new impervious areas could cause increased runoff resulting in flooding or increased erosion downstream	H-5a	Install substation runoff control.

Table IST-6. Summary of Significant but Mitigable (Class II) Impacts and Mitigation for the Proposed Project Connected Actions

Impact	Mitigation Measure(s)	
Impact H-6: Transmission towers or other above-ground project features located in a floodplain or watercourse could result in flooding, flood diversions, or erosion	H-1c	Minimize construction and maintenance disturbance to riparian areas. [WQ-APM-1]
	H-1i	Construction routes to avoid and minimize disturbance to stream channels. [WQ-APM-15]
	H-6a	Scour protection to include avoidance of bank erosion and effects to adjacent property.
Impact H-7: Accidental releases of contaminants from project facilities could degrade water quality	H-2a	Groundwater testing and treatment before disposal. [WQ-APM-8]
	H-7a	Develop Hazardous Substance Control and Emergency Response Plan for project operation.
Impact H-8: Underground portions of the power line could be exposed during flow events causing damage to the line or to adjacent property	H-6a	Scour protection to include avoidance of bank erosion and effects to adjacent property.
	H-8a	Bury power line below 100-year scour depth.
Geology, Mineral Resources, and Soils		
Impact G-1: Erosion would be triggered or accelerated due to construction activities	G-1a	Limit modification of access roads
	G-1b	Implement erosion control procedures.
	G-1c	Avoid new disturbance, erosion, and degradation.
	G-1d	Restore surfaces for erosion control and revegetation.
Impact G-2: Unique geologic features would be damaged due to construction activities	G-1a	Limit modification of access roads. [GEO-APM-1]
	G-1b	Implement erosion control procedures. [GEO-APM-2]
	G-2a	Protect desert pavement.
Impact G-3: Project would expose people or structures to potential substantial adverse effects as a result of problematic soils	G-3a	Conduct geotechnical studies for soils to assess characteristics and aid in appropriate foundation design.
	G-3b	Avoid structure placement in high shrink/swell areas
Impact G-4: Project would expose people or structures to potential substantial adverse effects as a result of seismically induced groundshaking and/or ground failure	G-4a	Reduce effects of groundshaking.
	G-4b	Conduct geotechnical investigations for liquefaction.
	G-6a	Conduct geotechnical surveys for landslides and protect against slope instability.
	G-5a	Minimize project structures within active fault zones.
Impact G-5: Project would expose people or structures to potential substantial adverse effects as a result of surface fault rupture at crossings of active faults	G-5a	Minimize project structures within active fault zones.
	G-6b	Place structures in stable areas. [GEO-APM-4]
Impact G-6: Project would expose people or structures to potential substantial adverse effects as a result of slope instability created during excavation and/or grading	G-3b	Avoid structure placement in high shrink/swell areas. [GEO-APM-3]
	G-5a	Conduct geotechnical surveys for landslides and protect against slope instability.
	G-5b	Place structures in geologically stable areas. [GEO-APM-4]
	G-6a	Conduct geotechnical surveys for landslides and protect against slope instability.
	G-6b	Place structures in stable areas. [GEO-APM-4]
Impact G-7: Project would expose people or structures to potential substantial adverse effects as a result of landslides, earthflows, debris flows, and/or rockfall	G-3b	Avoid structure placement in high shrink/swell areas. GEO-APM-3]
	G-5a	Minimize project structures within active fault zones.
	G-6a	Conduct geotechnical surveys for landslides and protect against slope instability.
	G-6b	Place structures in stable areas. [GEO-APM-4]
	G-6c	Avoid or remove unstable slope elements. [GEO-APM-8]

Table IST-6. Summary of Significant but Mitigable (Class II) Impacts and Mitigation for the Proposed Project Connected Actions

Impact	Mitigation Measure(s)	
Socioeconomics		
Impact S-2: Construction would disrupt the existing utility systems or cause a co-location accident	S-2a	Notify public of utility service interruption.
	S-2b	Protect underground utilities.
	S-2c	Coordinate with utility providers. [PSU-APM-1, PSU-APM-2]
Impact S-3: Project construction and operation would increase the need for public services and facilities	AQ-1a	Implement Fugitive Dust Control Plan.
	S-3a	Recycle construction waste.
	S-3b	Use reclaimed water.
	S-3d	Coordinate construction schedule with emergency services. [PSU-APM-3]
Fire and Fuels Management		
Impact F-1: Construction and/or maintenance activities would significantly increase the probability of a wildfire	F-1a	Develop and implement a Construction Fire Prevention Plan.
	F-1b	Amend and implement Sempra Utilities Wildland Fire Prevention and Fire Safety Guide (2007) ~~Finalize and implement SDG&E 2006 Draft Fire Plan for Electric Standard Practice~~.
	F-1c	Ensure coordination for emergency fire suppression.
	F-1d	Remove hazards from the work area.
	F-1e	Contribute to defensible space grants fund.
Impact F-4: Project activities would introduce non-native plants, which would contribute to an increased ignition potential and rate of fire spread	B-3a	Prepare and implement a Weed Control Plan.