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CHAPTER 2 – PROJECT PURPOSE AND NEED

This section defines the objectives, purpose, and need for the San Diego Gas & Electric Company (SDG&E) Tie Line (TL) 649 Wood-to-Steel Replacement Project (Proposed Project), as required by the California Public Utilities Commission's (CPUC's) Proponent's Environmental Assessment Guidelines (CPUC Information and Criteria List, Appendix B, Section V) and the California Environmental Quality Act (CEQA) Guidelines (Section 15124(b)). Additional information about the Proposed Project's purpose and need is provided in SDG&E's application to the CPUC, in accordance with CPUC General Order (GO) 131-D.

2.0 OVERVIEW

SDG&E is a regulated public utility that provides electric service to approximately 1.4 million customers within a 4,100-square-mile service area, covering 25 cities and unincorporated areas within San Diego County and a portion of Orange County. SDG&E has designed the Proposed Project to increase system reliability by replacing a portion of an existing wood pole power line with new steel poles in a fire-prone area, in response to impacts from wildfires in 2003 and 2007. Damages resulting from the fires were widespread and included property damage and service/work disruptions.

The main component of the Proposed Project is the replacement of existing wood structures with new galvanized steel poles along a portion of TL 649, a 69-kilovolt (kV) single-circuit power line, from approximately Black Coral Way and Sea Lavender Way for approximately five miles to the east, then approximately two miles south towards Otay Mesa Road. The existing power line conductor will be transferred to the new steel poles, except for a portion of the power line that is underground under State Route-125, which will be returned to the original overhead configuration with new conductor. A portion of TL 649 includes 12 kV distribution underbuild. A portion of the existing underbuilt conductor will be transferred to the new poles and a portion will be reconductored as part of the Proposed Project.

Pole replacements are an integral component of SDG&E's Community Fire Safety Program (CFSP). Fire hardening includes using steel poles in place of wood poles, incorporating increased conductor spacing, avian protection, and considering extreme wind-loading criteria during the design process. Fire-hardening projects are among the tools being used by SDG&E to both protect the electric system against wildfire and further reduce the risk of power-line-related ignitions in fire-prone areas. By incorporating these fire-hardening activities, the Proposed Project will increase the fire safety and service reliability of TL 649.

Over the past several years, SDG&E has gathered data on known local conditions; it now operates over 167 anemometers and employs three meteorologists who provide operational weather information and four experienced fire professionals who provide advice about fire risk and mitigation. Known local conditions for TL 649 include very high to extreme fire danger weather, including the Santa Ana winds, and vegetation (wildland fuel) conditions.

North American Electric Reliability Corporation (NERC) Reliability Standards for the Bulk Electric Systems of North America and Federal Energy Regulatory Commission (FERC)

Standards of Conduct for Transmission[1] Providers (Order No. 717). These standards define reliability requirements for planning and operating electric systems in North America to ensure that electric systems operate reliably, and they apply to the Proposed Project. In addition, the Proposed Project will avoid and minimize potential environmental effects by using existing access roads to access the power line, which is located within existing SDG&E rights-of-way, and by following SDG&E's robust program of environmental compliance practices and protocols.

Additional benefits of the Proposed Project include reduced outage potential, reduced facility maintenance, and maximized equipment lifespan.

2.1 PROJECT OBJECTIVES

SDG&E has identified the need to reconstruct a portion of TL 649 to include fire-hardening components—namely, the replacement of existing wood poles with new steel poles that meet current design standards. Addressing the overall fire threat and service reliability concerns is the overall purpose of the Proposed Project, which will achieve the following objectives:

1. Increase the fire safety and service reliability of TL 649
2. Minimize potential adverse environmental effects
3. Locate proposed facilities within existing utility corridors to the extent feasible

The Proposed Project components are presented in Chapter 3 – Project Description. The Proposed Project objectives are more thoroughly described in the following subsections.

2.1.0 Objective 1: Increase the Fire Safety and Service Reliability of Tie Line 649

The fundamental objective of the Proposed Project is to increase the fire safety and service reliability of TL 649, which is located in an area of high fire risk. Since 2007, SDG&E has focused a great deal of effort on fire prevention and fire preparedness, which has included the development of a CFSP. The CFSP consists of three general tasks:

- increased education and outreach to employees and customers about the risks of wildfires;
- implementation of new preventive measures (including fire-hardening) to help reduce the risk of fires associated with electric facilities; and
- enhanced readiness during periods of high fire risk, as well as enhanced response capabilities with fire suppression resources and emergency power supplies.

The CFSP encompasses engineering, construction, operations, and stakeholder input. SDG&E has partnered with fire agencies and external stakeholders to enhance fire safety for all of San Diego County. Since the inception of the CFSP approximately five years ago, the wood-to-steel (i.e., fire-hardening) projects have been an integral part of the CFSP.

[1] The term "transmission" as used herein refers to the NERC and FERC definition and is not intended to suggest that TL 649 is designed for immediate or eventual operation as a transmission line as the CPUC defines it, at 200 kV or above.

The Proposed Project is consistent with SDG&E's efforts to improve reliability and reduce fire risks in fire-prone areas through fire-hardening projects and other enhancements. SDG&E prioritizes the maintenance of poles in each power line in high-risk fire areas according to the existing vegetation and fuel conditions, the history of high-speed winds, and the age and condition of existing infrastructure as part of a strategy to strengthen power lines connecting substations for improved reliability. SDG&E periodically reviews and prioritizes the list of poles to be replaced due to changes in field conditions (e.g., increased density of wildland fuel in the vicinity of poles). The Proposed Project incorporates current design standards to reduce fire risks and will implement a Proposed Project-specific fire plan to minimize fire risks during construction.

During the evaluation process, the portion of TL 649 included in the Proposed Project met the criteria for immediate replacement based on the previously noted factors, which include:

- a designation of Very High Fire Threat for the majority of the poles as indicated on SDG&E's 2014 Fire Threat Zone map and
- a record of very high winds.

The Proposed Project will result in the strengthening of TL 649 in the high-fire-threat area, which will reduce the risk of potential fire hazard impacts. Based on the previous information and demonstrated in Section 4.8 Hazards and Hazardous Materials, the Proposed Project has been designed to meet Objective 1, and construction of the Proposed Project will fully meet this objective.

2.1.1 Objective 2: Minimize Potential Adverse Environmental Effects

In addition to meeting the primary objective of fire hardening TL 649, the Proposed Project was also designed to meet Objective 2, which calls for the reduction of potential adverse environmental effects. Avoidance and minimization of environmental impacts is a part of SDG&E's standard procedures and protocols.

The Proposed Project has been designed to include elements that will minimize or avoid potential adverse effects to the environment, including the following:

- Adherence to SDG&E environmental protection procedures and protocols;
- Use of existing access roads, footpaths, work areas, and disturbed areas during construction, to the extent feasible;
- Locating replacement poles as close as possible to the existing poles, typically within 10 feet;
- Reducing fire risk and the associated environmental harm resulting from fires; and
- Reducing routine maintenance impacts, as steel poles require less maintenance than wood poles.

Based on the previous information and demonstrated in Chapter 4 – Environmental Impact Assessment, the Proposed Project has been designed to meet Objective 2, and construction of the Proposed Project will fully meet this objective.

2.1.2 Objective 3: Locate Proposed Facilities within Existing Utility Corridors to the Extent Feasible

In addition to meeting the primary objectives of fire hardening TL 649 and limiting the potential environmental effects, the Proposed Project was also designed to meet Objective 3, which calls for the use of the existing utility corridor to the extent feasible. SDG&E currently has an existing approximately 20-foot-wide ROW along the entire length of the power line between pole locations 1 and 117. SDG&E also has an approximately 12-foot-wide ROW on private property along the entire length of the distribution line between pole locations 18.1 and 18.5. No additional ROWs will be required for the Proposed Project. Approximately 132 existing power and distribution line poles will be removed and replaced with approximately 117 galvanized steel poles. The Proposed Project will follow the existing TL 649 alignment, and the new poles will typically be placed in line with the existing conductors and within approximately 10 feet of the existing poles, except in a few locations where design requirements or site conditions require that replacement poles be located more than 10 feet from the existing pole locations. Based on the previous information and demonstrated in Chapter 3 – Project Description, the Proposed Project has been designed to meet Objective 3, and construction of the Proposed Project will fully meet this objective.

2.2 CONCLUSION

As outlined previously, the Proposed Project will meet all three objectives and fully accomplish the fundamental purpose of increasing the fire safety and service reliability of TL 649. The Proposed Project will fire harden the portion of TL 649 located in a very high to extreme fire threat area, without requiring a major realignment or modification to the overall electrical systems in the area. Furthermore, the Proposed Project will fulfill the purpose and primary objective while meeting Objectives 2 and 3 by avoiding potential adverse environmental effects and using existing utility corridors.

2.3 REFERENCES

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