

1.1 OVERVIEW**1.1.1 Background**

This Proponent’s Environmental Assessment (PEA) for Segments 2 and 3 of Southern California Edison Company’s (SCE) proposed Antelope Transmission Project supersedes the PEA that was submitted to the California Public Utilities Commission (CPUC) on December 9, 2004 (Application No. 04-12-008). This PEA has been revised and updated to reflect: 1) additional engineering information; 2) transmission line route revisions (including revisions to affected maps and route mileposts) based on input received from the public and private developers; and 3) environmental data that became available since the PEA was originally submitted in December 2004. The key revisions to the PEA compared to the original filing are:

- Revisions to the routing of the proposed Segment 2 (Antelope Substation to Vincent Substation) and Segment 3 (Antelope Substation to Substations One and Two) transmission line routes to minimize potential conflicts with pending or potential future developments, including a middle school
- Addition of two alternative transmission line routes (AV1 and AV2) to Segment 2 (Antelope Substation to Vincent Substation)
- Selection of previous Segment 3 (Antelope Substation to Substations One and Two) Alternative A and C routes as the proposed route
- Minor realignments of the proposed and alternative Segment 3 (Antelope Substation to Substations One and Two) 500 kilovolt (kV) and 220 kV transmission line routes
- Refinement of the proposed layouts for Segment 3 Substations One and Two
- Addition of construction-related details in the Project Description (e.g., in Section 3.9, Project Construction)
- Addition of visual simulations for proposed Segment 3 transmission line and substation facilities
- Refinement and updating of the environmental setting (Section 4.0) and environmental impacts and mitigation (Section 5.0) section for applicable disciplines based on refined project description information and newly available baseline data, as well as consideration of CPUC data requests on the PEA submitted in December 2004 for Segment 1 of the Antelope Transmission Project
- Addition of new appendices (i.e., Appendix E – Cultural Resources Technical Report; Appendix H – Air Quality Emission Calculations; and Appendix I – Road Story Aerials)

An overview of the current proposal follows.

1.1.2 Summary of Current Proposal

SCE is proposing to construct the following transmission line (T/L) system components and substation facilities associated with Segments 2 and 3 of the Antelope Transmission Project:

- New, approximately 21.0 miles of 500 kV T/L facilities and a 0.5 mile 220 kV T/L between the Antelope and Vincent substations (Segment 2)
- New, 25.6-mile-long Antelope Substation to Substation One 500 kV T/L (initially energized at 220 kV) (Segment 3)
- New, 9.6-mile-long Substation One to Substation Two 220 kV T/L (northern portion of Segment 3 in the Tehachapi Wind Farm Area)
- New, 500/220/66 kV substation located near Cal Cement (Substation One)
- New, 220/66 kV substation located near Monolith (Substation Two)

The proposed 21.0 miles of new 500 kV T/L between the Antelope and Vincent substations would be constructed completely in Los Angeles County (refer to Figure 1-1) and would parallel existing SCE T/L corridors for most of the length between SCE's existing Antelope and Vincent substations. A portion of the proposed route would be constructed through open space areas on the planned Ritter Ranch development in western Palmdale (refer to Figure 1-1).

The proposed Antelope-Substation One 500 kV T/L would be constructed in northern Los Angeles and southern Kern counties (refer to Figure 1-1) and would follow planned 105th, 107th and 103rd Streets over the majority of its length. A portion of the proposed Antelope-Substation One 500 kV T/L route would run parallel to the western border of the proposed Del Sur Ranch development in western Lancaster (refer to Figure 1-1). The proposed Substation One to Substation Two 220 kV T/L would be constructed completely in Kern County in the existing Tehachapi Wind Farm Area (designated by Kern County as the Eastern Wind Resource Area). Substation One would be a 500/220/66 kV substation located near Cal Cement. Substation Two would be a new 220/66 kV substation in the wind farm area near Monolith (refer to Figure 1-1).

The Antelope-Vincent 500 kV T/L and the Antelope-Substation One 500 kV T/L would be initially energized at 220 kV. The proposed project would include electrical interconnections at the existing Antelope Substation (Segments 2 and 3) and the Vincent Substation (Segment 2). The 21.0 miles of 500 kV T/L facilities and the 0.5 mile 220 kV T/L between the Antelope and Vincent substations are referred to as Segment 2, and the proposed Antelope

Substation to Substation One 500 kV T/L, Substation One to Substation Two 220 kV T/L, Substation One and Substation Two are collectively referred to as Segment 3.

The proposed Antelope Transmission Project also includes Segment 1 (Antelope-Pardee 500 kV T/L). Segment 1 was addressed in a separate Certificate of Public Convenience and Necessity (CPCN) Application/ PEA filed with the CPUC on December 9, 2004.

1.2 PURPOSE AND NEED

Segments 2 and 3 of the Antelope Transmission Project are part of SCE's Method of Service (MOS) to interconnect and integrate several potential alternative energy projects to SCE's electrical system by independent energy producers. The two segments would interconnect and integrate additional generation from several potential generators north of the Antelope Substation. Interconnection agreements for the potential generation have not been entered into as of September 2005. Segment 2 has the potential added benefit of improving overall electric system reliability by increasing capacity between the Antelope and Vincent substations. Continued significant load growth in the Antelope Valley may require additional transmission capacity from Vincent Substation to Antelope Substation within the 10-year planning horizon, Segment 2 may satisfy this potential need for additional transmission capacity.

SCE's obligation to interconnect and integrate the potential wind generation facilities arises under Sections 210 and 212 of the Federal Power Act (16 U.S.C. §824 (i) and (k)) and Sections 3.2 and 5.7 of the California Independent System Operator's (CAISO) Tariff. Although certain of the facilities would be operated initially at 220 kV, it is anticipated that the CAISO would approve interconnection using 500 kV design and construction standards to accommodate potential new renewable energy generation north of Antelope Substation and to avoid the construction and tear down of multiple 220 kV facilities necessary to replace them with 500 kV facilities in the future.

The purpose for making application for these two Segments is premised upon Ordering Paragraph No. 8 of Decision 04-06-010 which required SCE to "file an application seeking a certificate authorizing construction of the first phase of Tehachapi transmission upgrades consistent with its 2002 conceptual study and the study group's recommendation within six months of the effective date of this order..." That order was premised on Finding of Fact No. 18 which found that the "magnitude and concentration" of renewable resources identified in the California Energy Commission's (CEC) Renewable Resources Report justified a "first phase of Tehachapi transmission upgrades" to facilitate achievement of goals required by Public Utilities Code Section 399.14. In addition, in Docket I. 00-11-001, an Assigned Commissioner Ruling required SCE to file two separate applications (one CPCN application

for Segment 1 and one CPCN application for Segments 2 and 3). *See Assigned Commissioner Ruling Regarding Tehachapi CPCN Filing Requirement* (October 21, 2004).

1.3 SCOPE OF PROPONENT'S ENVIRONMENTAL ASSESSMENT

This PEA evaluates potential environmental impacts that could result from construction and operation of the project. The primary potential project impacts are the following:

- Visual impacts from overhead 500 and 220 kV T/L structures and conductors as well as new Substation One and Substation Two and upgrades to Antelope and Vincent substations
- Impacts to biological resources including sensitive species and habitat
- Impacts to cultural resources, which include archaeological, historical, and paleontological resources
- Temporary construction impacts (soil disturbance and erosion, water quality, air quality, noise, and traffic associated with T/L and substation construction activities, including access road construction and grading activities)

With implementation of inherent project design and applicant-proposed mitigation measures presented in Section 5.0, all of these potential project impacts would be less than significant.

SCE performed a siting and alternatives analysis before selecting the proposed project and alternatives. The key criteria in the analysis included: 1) maximize use of existing, previously disturbed T/L right-of-way (R-O-W) or roads to minimize effects on previously undisturbed land and resources; 2) select route and support structure locations with the lowest potential for environmental impacts while still having ability to meet the project objectives; 3) select shortest route that is capable of meeting project objectives in order to minimize environmental impacts and project costs and associated costs to ratepayers.

This PEA also considers several 500 kV and 220 kV route alternatives (Alternatives A, B, and C). Alternatives A and B are alternatives to the proposed 500 kV route between SCE's existing Antelope Substation and new Substation One; the Alternatives are located in northern Los Angeles and southern Kern County and follow existing roads over the majority of their length. Alternatives A and B run parallel to the western border of the proposed Del Sur Ranch development in western Lancaster. Alternative B traverses the eastern edge of the proposed Copa De Oro/Kern Ross Estate (refer to Figure 1-1). Alternative C is an alternative 220 kV T/L route between Substation One and Substation Two.

This PEA also considers the following alternatives in Section 3.11:

- No Project Alternative
- T/L Route Alternatives
- Substation Site Alternatives
- Underground Alternative

The proposed Segment 2 – Antelope to Vincent 500 kV T/L route is considered to be the Preferred Alternative for the following reasons: 1) construction and operation would not result in any identified unavoidable adverse significant impacts; 2) would minimize impacts to future residential development projects; 3) would minimize system reliability risk by reducing the number of T/L crossings; and 4) no other potentially viable alternative routes to the east or west of the existing T/L corridor have been identified.

The proposed Segment 3 Antelope Substation to Substation One 500 kV T/L route is considered to be the Preferred Alternative based on input from residents and property owners in and around Palmdale, Lancaster and the Antelope Valley area. The proposed route is also the shortest route and would cost the least relative to Alternatives A and B. There are no substantive differences between the proposed route and Alternatives A and B from an environmental standpoint.

The Substation One site is considered to be the Preferred Site relative to Alternative Sites 1A, 1B, and 1C. Alternative Sites 1A and 1C have been determined to be infeasible.

The proposed Substation One to Substation Two 220 kV T/L route is considered to be the Preferred 220 kV T/L route relative to the Alternative C route, because it would avoid homes in the proximity of the Alternative C route.

The proposed Substation Two site is considered to be the Preferred Substation Site since it has no identified unavoidable significant adverse impacts and it would require less new 220 kV T/L construction than Alternative 2B. Alternative 2A has been found to be infeasible due to the presence of an existing industrial facility on the site.

As required by CPUC guidelines, the California Environmental Quality Act (CEQA) Initial Study Checklist was used as a general guideline for describing potential impacts and a completed CEQA Initial Study Checklist is presented in Appendix A of this PEA. More detailed environmental assessments are presented in Sections 4.0 (Environmental Setting) and 5.0 (Environmental Impacts and Mitigation). The CPUC, as Lead Agency for CEQA compliance, will review and consider the information in this PEA and will have

responsibility for overseeing preparation of an Environmental Impact Report (EIR), including associated public review.

1.4 ORGANIZATION OF PEA

The balance of this PEA is organized as follows:

- 2.0 Purpose and Need
- 3.0 Description of the Proposed Project
- 4.0 Environmental Setting
- 5.0 Environmental Impacts and Mitigation
- 6.0 Significant Environmental Impacts and Comparison of Alternatives
- 7.0 Cumulative Impacts
- 8.0 Growth-Inducing Impacts
- 9.0 Indirect Effects
- 10.0 References
- 11.0 List of Preparers
- 12.0 List of Acronyms
- Appendix A CEQA Environmental Checklist
- Appendix B SCE Public Information Program
- Appendix C SCE Agency Communications
- Appendix D Biological Resources
- Appendix E Cultural Resources Technical Report
- Appendix F Native American Consultation
- Appendix G Property Owner List
- Appendix H Air Quality Emission Calculations
- Appendix I Road Story Aerials