

A. Introduction

A.1 Background

On December 9, 2004, Southern California Edison (SCE) submitted application A.04-12-007 to the California Public Utilities Commission (CPUC) for a Certificate of Public Convenience and Necessity (CPCN). With the application, SCE also submitted its Proponent's Environmental Assessment (PEA) for the construction and operation of the Antelope Transmission Project, Segment 1 (25.6 miles), proposed in northern Los Angeles County, California. On January 11, 2005, SCE submitted a Special Use Application (SF 299) to the U.S. Department of Agriculture Forest Service (USDA Forest Service) because the proposed transmission line would cross approximately 12.6 miles of National Forest System (NFS) lands located on the Santa Clara-Mojave Rivers Ranger District, Angeles National Forest (ANF). Note that non-federal land in-holdings located within the ANF along the Project alignment, which include land surrounding Bouquet Reservoir and adjacent to the southern boundary of the ANF, are not NFS lands.

The CPUC and the Forest Service have prepared this joint Environmental Impact Report (EIR) and Environmental Impact Statement (EIS), referred to as an EIR/EIS, for the Antelope-Pardee 500-kilovoltwatt (kV) Transmission Project proposed by SCE ("the Applicant"). For the environmental review process, the CPUC is the Lead Agency under the California Environmental Quality Act (CEQA) and the Forest Service is the Lead Agency under the National Environmental Policy Act (NEPA).

This EIR/EIS evaluates and presents the environmental impacts that are expected to result from construction and operation of SCE's proposed Project, and presents recommended mitigation measures that, if adopted, would avoid or minimize environmental impacts identified. In accordance with both CEQA and NEPA requirements, this EIR/EIS also identifies and analyzes the alternatives that could avoid or minimize significant environmental impacts associated with the Project as proposed by SCE (including the No Project/Action Alternative).

The intent of this joint EIR/EIS is to inform the public and meet the needs of federal, State, and local permitting agencies that are considering the proposed Project. The proposed Project is described briefly below and in detail in Part B (Project Description) of this EIR/EIS. 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 Forest Service in considering whether or not to authorize and/or approve the proposed Project or an alternative to the proposed Project.

The content of this Draft EIR/EIS reflects relevant input received from government officials, agencies, nongovernmental organizations, and concerned members of the public during the EIR/EIS scoping period following the CPUC's publication of the Notice of Preparation (NOP) of an EIR (June 28, 2005), and the Forest Service's publication of the Notice of Intent (NOI) to prepare an EIS in the *Federal Register* (June 28, 2005). During the public scoping comment period, several public involvement activities were completed, including: distribution of the NOP, NOI, and a scoping meeting notice; establishment of an Internet web page and a telephone hotline; two public scoping meetings; and meetings with a number of affected local jurisdictions (see details in Section F, Public Participation and Notification). Consultation with agencies also continued after the formal scoping period ended. Significant issues identified during the scoping process are described in Section F.

A.2 Proposed Project/Action and Alternatives

A.2.1 Overview of Proposed Project/Action

The proposed Antelope-Pardee 500-kV Transmission Project would involve the construction of a new 25.6-mile 500-kV transmission line between SCE's existing Antelope and Pardee Substations. The Antelope Substation is located in the City of Lancaster and the Pardee Substation is located in the City of Santa Clarita, both of which are situated in northern Los Angeles County (see Section B, Project Description). The proposed Project would consist of the following major components:

- Construction of a 500-kV single-circuit transmission line within an existing SCE 66-kV transmission line right-of-way (ROW)¹ for 22.8 miles. This includes widening the existing ROW from 100 feet to 160 feet within the ANF (12.6 miles on NFS lands and 0.3 miles on non-NFS lands) and from 50 feet to 180 feet on lands northeast and southwest of the ANF;
- Establishment of a new 500-kV ROW for 2.8 miles (entirely on non-NFS lands);
- Removal of existing 66-kV and 500-kV facilities (i.e., towers, conductors, associated hardware, and foundations) and relocation of 66-kV and 12-kV facilities;
- Installation of new double-circuit 500-kV towers in the existing ROW for 5.3 miles northeast of the Pardee Substation and removal of existing 500-kV single-circuit towers;
- Modification of Antelope and Pardee Substations, ~~and~~ expansion of Antelope Substation, and increase in the rating of Antelope Substation from 220 kV to 500 kV; and
- Installation of associated telecommunication infrastructure.

Additionally, the proposed Project would provide transmission capacity for certain wind energy resources that are expected to develop in Kern and northern Los Angeles Counties for utilization by southern California residents and businesses in response to the State of California Renewable Portfolio Standard Program requirements. The Tehachapi area in southeastern Kern County is widely considered the largest resource for wind energy in California. Wind energy development in this area, as well as in other areas of Kern County and northern Los Angeles County, could meet a significant portion of the State's goals for provision of renewable energy in California. However, a current lack of transmission capacity in the area limits new wind installations. Large-scale transmission upgrades, such as the proposed Project, which are capable of transporting power from multiple wind projects, are needed to cost effectively utilize the Tehachapi area's potential for generation of renewable energy. SCE proposes to initially energize the line at 220 kV and, as energy demand increases, upgrading it to 500 kV.

According to the California Independent System Operator (CAISO) interconnection queue, estimates that wind projects generating a combined total of 2,122 megawatts (MW) are currently being planned in the Tehachapi and Mojave areas in Kern County (CAISO, 2006). Currently information is available for ~~only~~ one planned wind project, the PdV Wind Energy Project, that could be served by the proposed Project. At the time the preparation of this EIR/EIS was initiated, this is the only wind energy project with an active application submitted to Kern County². The additional transmission capacity that would be provided by the proposed Antelope-Pardee Transmission Project is needed to accommodate the potential wind energy that would be generated by the PdV Wind Energy Project located in the south Tehachapi Mountains in rural Kern County.

¹ Right-of-way (ROW) refers to land that the transmission line has permission to cross. SCE has fee ownership of portions of the existing ROW, and SCE has an easement across property owned by another party. ROW on NFS lands refer s to the strip of land over which facilities such as power lines are built.

² Another wind energy project, the Aero Wind Energy Project, had previously submitted an application to Kern County, but that application was not considered active by the County at the time this EIR/EIS was initiated. ~~Because it is not located near an existing SCE transmission line, it is unlikely that the Aero Wind Energy Project could be directly served by the proposed Project.~~

The potential development of this wind energy project may be considered an indirect effect from the proposed Project. This EIR/EIS provides a discussion of potential impacts of the proposed Project in Sections C.2 through C.15, and also includes analysis of the potential impacts of the PdV Wind Energy Project, in Section E.3. Consideration of any other projects is speculative and, therefore, they are not analyzed in this EIR/EIS. Other transmission projects that address separate constraints to the transmission of wind power from the Tehachapi area are also being planned and are included in the cumulative impact analysis for each environmental issue area.

The proposed action, related to Forest Service jurisdiction, is to approve SCE's Special Use Application by issuing a 50-year term Special Use Easement³ to SCE authorizing the construction, maintenance, and use of approximately 12.6 miles of improvements (500-kV transmission line along with ancillary improvements), along a 160-foot-wide ROW on NFS lands. Any ground-disturbing activities that occur during construction on NFS lands and are outside the proposed 160-foot wide ROW would be authorized by one or more temporary Special Use Permits. Additional resource review may be necessary prior to issuing any temporary permit(s). This action would be in compliance with the 2005 Angeles National Forest Land Management Plan (Forest Plan) through mitigation measures and through amendments to the Forest Plan (i.e., modifying the Scenic Integrity Objectives along the Project route and modifying the Forest Standard related to the Pacific Crest Trail (S1) specifically regarding this Project).

A.2.2 Overview of Alternatives

Pursuant to CEQA (Guidelines Section 15126.6(a)) and NEPA (40 CFR 1505.1(e)), this EIR/EIS examines a reasonable range of alternatives, which were each selected based on their potential to feasibly achieve the objectives, purpose, and need of the proposed Project. As discussed in detail in Sections C and D, this EIR/EIS provides an in-depth review of five alternatives to the proposed Project, plus a No Project/Action alternative. In summary, the alternatives to the proposed Project include the following:

Alternative 1: Antelope-Pardee Partial Underground. This alternative would place two portions of the proposed transmission line underground. This alternative is proposed to reduce visual impacts, minimize constraints on USDA Forest Service management activities, such as wildland fire suppression, and decrease the risk of avian collisions and electrocutions. The underground segments would include an approximately 4-mile segment along Del Sur Ridge in the ANF and a 2.9-mile segment in Copper Hill Drive within Santa Clarita, from a point near San Francisquito Road to Pardee Substation. With the exception of the underground portions of Alternative 1, this alternative is the same as the proposed Project. Implementation of Alternative 1 would include the issuance of a 50-year term Special Use Easement by the Forest Service. This Special Use Easement would authorize the use of a 160-foot-wide ROW along approximately 12.6 miles of NFS lands. In addition, Forest Land Management Plan amendments would modify the Scenic Integrity Objectives on NFS lands along the alternative route, modifying the Forest Standard related to the Pacific Crest Trail (S1) specifically regarding this Project, and modify the route of the designated Saugus-Del Sur Utility Corridor to follow the alternative's route.

Alternative 2: Antelope-Pardee East Mid-Slope Alternative. This alternative would take a more easterly route through the ANF and is proposed to reduce the visual prominence of transmission towers along Del Sur Ridge and other locations in the ANF, as well as to minimize constraints on USDA Forest Service management activities, such as wildland fire suppression, and decrease the risk of avian collisions and electrocutions. This route places the line in locations less visible to the public and also relocates the line from ridge tops to mid-slope

³ Direction on when a Special Use Easement is the appropriate authorization can be found in FSM 2711.4.

locations, where feasible. Implementation of Alternative 2 would include the issuance of a 50-year term Special Use Easement by the Forest Service. This Special Use Easement would authorize the use of a 160-foot-wide ROW along approximately 13.2 miles of NFS lands. In addition, a Forest Land Management Plan amendment would modify the Scenic Integrity Objectives along the transmission route, modifying the Forest Standard related to the Pacific Crest Trail (S1) specifically regarding this Project, and reroute the location of the Saugus-Del Sur Utility Corridor to follow the Alternative 2 transmission line location on NFS lands. Other than the reroute on NFS lands, this alternative is the same as the proposed Project.

Alternative 3: Antelope-Pardee Single-Circuit 500-kV Towers between Haskell Canyon and Pardee Substation. Instead of removing the existing single-circuit towers along the southern 5.3 miles of the proposed transmission route and replacing them with double-circuit towers, this alternative would retain the existing towers and construct a new parallel set of single-circuit 500-kV towers from Haskell Canyon to Pardee Substation (entirely on non-NFS lands). All other aspects of this alternative are the same as the proposed Project. Alternative 3 would reduce the visual impacts of transmission towers in the final 5.3 miles of the route, due to the difference in height and bulk between single-circuit towers and double-circuit towers. Implementation of Alternative 3 would include the issuance of a 50-year term Special Use Easement by the Forest Service. This Special Use Easement would authorize the use of a 160-foot-wide ROW along approximately 12.6 miles of NFS lands. In addition, a Forest Land Management Plan amendment would modify the Scenic Integrity Objectives on NFS lands along the alternative's route, and modifying the Forest Standard related to the Pacific Crest Trail (S1) specifically regarding this Project).

Alternative 4: Antelope-Pardee Re-Routing of New Right-of-Way along Haskell Canyon. In this alternative, the transmission line would follow a different alignment than the proposed Project for approximately 3 miles in the vicinity of Haskell Canyon (from about Mile 17.5 to Mile 20.3). This alternative is proposed to circumvent, rather than traverse, the Veluzat Motion Picture Ranch and a planned residential development (known as Meadow Peak) located between the southern boundary of the ANF and the City of Santa Clarita. All other aspects of this alternative are the same as the proposed Project. The implementation of Alternative 4 would include the issuance of a 50-year term Special Use Easement by the Forest Service. This Special Use Easement would authorize the use of a 160-foot-wide ROW for the transmission line with ancillary improvements on 12.8 miles of NFS lands. In addition, a Forest Land Management Plan amendment would modify the Scenic Integrity Objectives on NFS lands along the alternative's route, modifying the Forest Standard related to the Pacific Crest Trail (S1) specifically regarding this Project, and reroute 1.3 miles of the Saugus-Del Sur utility corridor to follow the proposed route for Alternative 4.

Alternative 5: Antelope-Pardee Sierra-Pelona Re-Route. This alternative would establish a new overhead transmission line between the Antelope and Pardee substations along a route that was originally proposed to circumvent the ANF. This new transmission ROW (approximately 19 miles in total length) would be located along the eastern edge of the ANF boundary and traverse the ANF for approximately one-half mile along this route. Alternative 5 would connect with the existing SCE transmission corridor between Vincent Substation and Pardee Substation at Mile 19 of the proposed route and continue within this existing ROW for approximately 18.4 miles, to Pardee Substation on double-circuit 500-kV towers. In addition to the one-half mile of NFS lands traversed in the ANF, Alternative 5 would also traverse approximately one mile of NFS lands outside the ANF congressional boundary just before joining the existing Vincent-Pardee ROW and potentially traverse a small portion of public lands managed by the Bureau of Land Management. A new 500-kv line approximately 37 miles in length would be constructed in the Vincent-Pardee ROW, terminating at Pardee Substation.

Alternative 5 was initially proposed in response to Forest Service Manual (FSM) Directive 2703.2(3), “Denial of Use,” which stipulates that the USDA Forest Service may deny proposals for use of National Forest System lands if the proposal “can reasonably be accommodated on non-National Forest System lands” and Forest Land Management Plan objective of authorizing special uses only when they cannot be reasonably accommodated on non-NFS lands (Part 2, p. 35). Alternative 5 would cross one-half mile of NFS lands in the ANF in order to avoid direct impacts to residences near the ANF boundary in the Leona Valley. Implementation of Alternative 5 would include the issuance of a 50-year term Special Use Easement by the Forest Service. This Special Use Easement would authorize a 160-foot-wide ROW for the transmission line with ancillary improvements on approximately 1.5 miles of NFS lands (one-half mile with the ANF and one mile outside the ANF congressional boundary). In addition, a Forest Land Management Plan amendment would modify the Scenic Integrity Objectives, remove the Saugus/Del Sur Utility Corridor, and designate a new utility corridor where the transmission line crosses NFS lands. The BLM would need to issue a Right-of-Way Grant to SCE for any improvements on public lands it manages.

No Project/Action Alternative. This EIR/EIS also includes analysis of a No Project/Action alternative. With the No Project/Action Alternative, the Forest Service would deny SCE’s special use application and the Project would not be constructed. No amendments would be necessary to the Forest Land Management Plan to implement this alternative.

These alternatives were selected for analysis based on a screening process described in Section B.3. An Alternatives Screening Report, which documents the screening process, is provided in Appendix 1.

A.3 Purpose and Need

A project’s statement of objectives (required by CEQA) and purpose of and need for action (required by NEPA) describe the underlying purpose of the project and the reasons for undertaking the project. The purpose and need statement is used to identify a range of reasonable alternatives to be analyzed in the EIR/EIS. To fulfill this requirement, the project proponent must define its objectives for the project and provide a description of the need for the project. SCE’s stated purpose and need for the Antelope-Pardee 500-kV Transmission Project is presented in Section A.3.1 below.

In addition, each Lead Agency has its own purposes to consider in evaluating a proposed project/action and the alternatives to the proposed project/action. An agency’s statement of objectives and/or statement of purpose and need discusses the reason and need for that agency’s action and explains what the agency is called upon to do, given its authority with respect to a project. CEQA (Guidelines Section 15124(b)) and NEPA (CFR Title 40 Section 1502.13) explain that an agency’s statement of objectives or purpose and need should describe the underlying purpose of the proposed Project. Because each agency’s jurisdiction is unique, the decision it is called upon to make is also unique, and thus each agency’s statement of objectives or purpose and need is different. Therefore, the two Lead Agencies for the proposed Project have prepared their own purpose and need statements, which are described in Sections A.3.2 and A.3.3 below.

A.3.1 SCE: Purpose and Need

In order to proceed with its proposed Project, SCE must obtain respective authorizations and approvals from the CPUC and the Forest Service, as well as other local, State, and federal agencies. Per CPUC Decision 04-06-010, Ordering Paragraph No. 8, SCE is required to “...file an application seeking a certificate authorizing construction of” the proposed Project. SCE submitted its application for a CPCN on December 9, 2004. The CPUC must approve this application in order for SCE to be authorized to construct and operate the proposed

transmission facility. In addition, SCE submitted a Special Use Application to the ANF requesting authorization of the proposed transmission line on NFS lands. The Forest Service must issue the special use authorization prior to construction of the proposed Project or an alternative on NFS lands. Specifically, through approval and implementation of the proposed Project, SCE seeks to provide accommodation of potential renewable power generation in the Tehachapi area, while also preventing the overloading of existing transmission facilities and complying with reliability criteria for transmission planning. Each of these aspects of SCE's purpose and need for the proposed Project are described below.

Accommodation of Potential for Renewable Power Generation

Under Sections 210 and 212 of the Federal Power Act (16 U.S.C. § 824 (i) and (k)) and Sections ~~3-224~~ and ~~5-725~~ of the California Independent System Operator's (CAISO) Tariff, SCE is obligated to interconnect and integrate power generation facilities into its electric system. Therefore, SCE needs to develop and maintain a reliable transmission network with adequate capacity to transmit electrical power from new generation sources to areas of electrical load or demand. For SCE, this entails transmission of electrical power from sources north, east, and south of the Los Angeles metropolitan area. Within and near the northern portion of SCE's service region, power is generated from gas-fired thermal power plants, hydroelectric plants, and wind farms. Wind is an increasingly important source of power in the Antelope Valley and Tehachapi areas, which offer geographic and climatic conditions that are conducive to power generation through wind farms. As a variety of power sources continue to develop and become operational in the Antelope Valley and Tehachapi areas, transmission capacity beyond that which is currently available will be required in order to ~~supply customers in SCE's service region~~ deliver energy from the region to SCE's load centers.

The SCE power grid is a complex network of generation, transmission, and distribution infrastructure. For instance, the existing corridor between Antelope Substation and Vincent Substation contains one 500-kV line (Midway-Vincent No. 3) and three 220-kV lines (Antelope-Vincent, Antelope-Mesa, and a non-SCE line). As this corridor proceeds south, it is joined by two 500-kV lines (Midway-Vincent No. 1 and No. 2). Use of the existing Antelope-Vincent corridor from the Antelope Substation to the Vincent Substation for provision of the necessary transmission capacity is not feasible because the corridor is not wide enough to support the installation of an additional transmission line, unless an existing line is removed. Therefore, in order to transmit power from wind farms north of Antelope Substation, additional transmission capacity is needed south of the Antelope Substation. The proposed Project is needed to expand the SCE transmission grid and deliver power from current and future renewable power sources in the Antelope Valley and Tehachapi areas to SCE's high electrical demand areas further south.

Transmission of wind power from the Tehachapi and Antelope Valley areas is currently restricted by limited capacity and reliability of the existing SCE system. As discussed Section ES.1.2, the existing Antelope-Mesa 220-kV transmission line is restrictive to wind power transmission due to limited capacity. This transmission line would overload with the addition of new power to the system, including that received from wind generation. Overloading of the Antelope-Mesa transmission line would cause widespread system instability and reliability issues. Furthermore, the existing transmission lines, which originate at SCE PG&E's Big Creek hydroelectric generation facilities and currently deliver power through Kern County and Magunden Substation to Antelope Substation, are also restrictive to wind power transmission due to reliability considerations. Meanwhile, there is ongoing development of wind power generation projects in the Tehachapi region, north of Antelope Substation. Because SCE is obligated to allow connection of new wind projects to its system, upgrades must be implemented to mitigate identified overload of the Antelope-Mesa transmission line in order to maintain system reliability as required by the National Electric Reliability Council (NERC) and the Western Electric

Coordinating Council (WECC) planning standards as well as the CAISO planning standards. ~~Despite the fact that the Antelope Mesa transmission line would overload with the addition of new power, SCE must allow connection of any new wind projects to its system due to its obligations per the Federal Energy Regulatory Commission (FERC) and CAISO, as described above.~~ As of February 2006, one active wind project called the PdV Wind Energy Project (“PdV”) was in the application review process with Kern County. PdV would connect up to 300 MW of new power into SCE’s system. SCE estimates that when the proposed Project is energized to 220 kV, it would allow for the connection of up to 350 MW of new power without overloading the Antelope-Mesa 220-kV line. It would accomplish this by providing the capacity to transmit power from the Antelope Substation to the Pardee Substation rather than directing more power to the Antelope-Mesa line.

According to SCE, the proposed Antelope-Pardee 500-kV Transmission Project is needed now to accommodate wind generation projects that have applications pending before Kern County or Los Angeles County, or that may submit applications in the near future. However, due to the location of the PdV Wind Energy Project and other potential wind generation projects in the Tehachapi Wind Resource Area, it is reasonably foreseeable that multiple wind generation projects will need to interconnect to the Antelope Substation to allow power to be delivered to load in the Los Angeles area. Furthermore, as discussed above in Section A.2.1, the CAISO estimates interconnection queue indicates that a total of 2,122 MW of wind energy generation facilities are currently in the planning stages for the Tehachapi and Mojave areas of Kern County (CAISO, 2006). The proposed Project is needed to meet the demands of SCE customers south of Antelope Substation by increasing the capacity of the SCE system to a level that would accommodate proposed or planned wind energy projects. As mentioned, the PdV Wind Energy Project was the only active wind project with an application pending with Kern County at the time preparation of this EIR/EIS was initiated. In accordance with NEPA (CEQ Regulations § 15008.8(b)) and CEQA (State CEQA Guidelines § 15358(a)(2)), the PdV Wind Energy Project is addressed in this document as an indirect effect of the proposed Project. Please see Section E.3 for the full analysis of this indirect effect.

Prevention of Overloading of Existing Transmission Facilities

Based on information provided by SCE in its PEA for the proposed Project, there is not sufficient capacity in the current transmission grid to safeguard the system from overload under increasing renewable power generation and loading. As load grows due to increased electrical demand and power is received from other sources of generation, transmission overloading would occur in the vicinity of the proposed Project. As described above, the Antelope-Mesa 220-kV transmission line could experience thermal overload if current power loads are increased, ~~which is expected to occur as southern California’s population continues to grow at projected rates.~~ The proposed Project would reduce loading on the Antelope-Mesa 220-kV transmission line to within the allowable line conductor thermal limits. The proposed Project would also increase transmission capability south of the Antelope Substation and allow power generated in the Antelope Valley and Tehachapi areas to be safely transferred, thus serving system load on the SCE grid.

The proposed Project would initially be operated at 220-kV in order to meet current transmission needs associated with ongoing wind development and energy needs in southern California. However, the line would be built to 500-kV standards so that as renewable power generation increases and SCE customer demands increase, future overloading of transmission facilities would be avoided. The CAISO, which manages transmission grid reliability for the State of California, has approved construction of the proposed Project using a 500-kV transmission line. The CAISO maintains that the use of 500-kV standards for the proposed Project will avoid the future need to construct and/or tear down and replace multiple 220-kV facilities with 500-kV facilities to meet growing power generation and transmission needs.

Compliance with Reliability Planning Criteria

Use of a common utility ROW, such as the Antelope-Vincent corridor, triggers reliability planning criteria, including that developed by the CAISO, the Western Electricity Coordinating Council (WECC), and the North American Electric Reliability Council (NERC). These criteria require the potential loss of transmission lines (proposed and existing) to be analyzed. A transmission line could be lost (i.e., removed from service) due to a natural disaster, accident, or even intentional attack. To the extent that simultaneous loss of multiple lines occurs and creates a problem with respect to system reliability, SCE must automatically utilize acceptable mitigation measures, which are referred to collectively as a Remedial Action Scheme (RAS) or a Special Protection Scheme (SPS). If both of the existing Antelope-Vincent transmission lines were lost, other lines connected to the Antelope Substation would accept the power that was previously flowing on the lines that were lost.

Of particular concern in terms of reliability is the Antelope-Mesa 220-kV line, which would overload with any additional power in the system. As discussed, the Antelope-Mesa 220-kV transmission line is currently operating at capacity. According to SCE power flow studies, the addition of new power to the SCE system north of Antelope Substation would cause the Antelope-Mesa line to exceed its reliability (or capacity) rating for line conductor thermal limits (SCE, 2004, PEA page 2-2). Steps must be taken to reduce the power flow on this line in order to maintain acceptable system reliability once new power from wind projects is connected to the system north of Antelope Substation. Reliability criteria require that for the loss of a single line, the system is designed such that there is no overloading on other lines. In the case where both Antelope-Vincent lines are lost, it would be necessary to reduce power flowing into the Antelope Substation from power generation plants such as Pastoria and Big Creek, to the north, as well as any other power generation sources that are connected to the Antelope Substation such as potential future wind projects. In addition, CAISO criteria limit the amount of generation reduction to not more than 1,400 MW, ensuring reliability for customers of the SCE grid. While the Antelope-Mesa line is currently within line conductor thermal limits for reliability, the addition of new power to the SCE system north of Antelope Substation would cause the Antelope-Mesa line to exceed thermal limits, forcing reduction of power generation from northern power plants and potential future wind development.

The integration of additional power generation sources into the existing Special Protection Scheme (SPS) would be extremely complex in that it is based upon a number of different criteria (e.g., monitoring of various line loadings and generator levels) and is designed to limit the need to reduce generation (i.e., limit the amount of electricity power plants are allowed to generate) to situations only where certain line flows and other parameters are exceeded. The CAISO has stated in a letter to SCE "...due to high complexity of the existing and planned SPS in the Big Creek Corridor⁴, any further expansion of the SPS should be very limited and will have to be approved by the California ISO..." A SPS is a plan that automatically initiates one or more actions designed to protect the transmission system. Such plans are usually designed to decrease or increase generation at pre-specified locations or decrease pre-identified loads. Such actions are designed to result in relieving stress on the transmission system resulting from the occurrence of contingencies on that system, thereby ensuring system reliability.

Instead of undertaking extensive modifications to the SPS, SCE is planning a series of upgrades to increase transmission capacity, including the proposed Antelope-Pardee 500-kV Transmission Project. Upgrades to the Antelope-Mesa and Antelope-Vincent lines are expected in the future to provide further transmission capacity

⁴ CAISO refers to the "Big Creek Corridor" as encompassing those transmission lines which originate at SCE/PG&E's hydroelectric power generation facilities in Madera and Fresno Counties and continue through Tulare and Kern Counties, into Los Angeles County.

and to facilitate planned wind generation north of the Antelope Substation. The implementation of additional transmission capacity, such as that provided through the proposed Project, would create greater system reliability without altering the already complex SPS.

SCE Purpose and Need Summary

Per CPUC Decision 04-06-010, Ordering Paragraph No. 8, SCE is required to "...file an application seeking a certificate authorizing construction of the first phase of...transmission upgrades consistent with its 2002 [2003] conceptual study and the [Tehachapi Collaborative] study group's recommendation..." These transmission upgrades include the proposed Antelope-Pardee 500-kV Transmission Project. Additionally, SCE's purpose and need for the approval and implementation of the proposed Project has two primary aspects, as follows:

- 1) Prevent overloading of the existing Antelope-Mesa transmission line by adding capacity between Antelope Substation and Pardee Substation.
 - Increased capacity is necessary to allow for the transmission of renewable wind power generated in the Antelope Valley and Tehachapi areas.
 - Wind power is being developed in the Antelope Valley and Tehachapi areas to increase the amount of energy delivered in California from renewable resources.
 - The amount of wind power generated by renewable resources is being increased in response to the California Renewables Portfolio Standard Program (SB 1078), which requires utilities to increase the amount of power generated from renewable sources.
- 2) Increase reliability of the SCE transmission grid by providing a new pathway to deliver power to load south of Antelope Substation from generation facilities located north of Antelope Substation. Existing transmission lines originating at PG&E's Big Creek hydroelectric generation facilities in Madera and Fresno Counties deliver power to Antelope Substation in Los Angeles County by connecting through SCE's Magunden Substation in Kern County. Currently, there is only one transmission corridor available to deliver power from Antelope Substation to areas of demand (load) to the south, including the Los Angeles metropolitan area. The proposed Project would increase system reliability by providing an additional pathway for power transmission south of Antelope Substation from power generated north of the substation, including future wind power delivered from the Tehachapi area.
 - Use of a common utility ROW triggers reliability planning criteria implemented by the CAISO, the Western Electricity Coordinating Council (WECC), and the North American Electric Reliability Council (NERC), which require the potential loss of transmission lines (proposed and existing) to be analyzed.
 - Instead of undertaking extensive modifications to the already-complex SPS, SCE is planning a series of system upgrades, including the proposed Project, which would increase overall reliability of the grid and ensure compliance with the reliability planning criteria mentioned above.

A.3.2 CPUC: Purpose and Objectives

The CPUC is charged with the regulation of Investor-Owned Utilities (IOUs) in California, such as SCE. Under CEQA, the CPUC is the Lead Agency for the proposed Project and must assure compliance with CEQA. Prior to taking action to approve SCE's application for a CPCN for the proposed Project, the CPUC must also determine that the proposed Project is consistent with the CPUC's purpose and objectives for granting CPCNs, including, where applicable, compliance with CPUC General Order 131-D. This order states that no electric public utility shall construct electric transmission line facilities designed for operation at 200 kV or more without the CPUC having first found that the facilities are necessary "to promote the safety, health, comfort, and convenience of the public, and that they are required by the public convenience and necessity."

In addition, the CPUC seeks to facilitate the achievement of the State of California's goals for the distribution of renewable energy generated by IOUs operating within California. As a crucial step in fulfilling this purpose, the CPUC must explore possibilities for the removal of constraints on the transmission of electricity from its point of generation to its point of use. In addition, the CPUC must attempt to further the implementation of other State policies and programs related to power generation and transmission. Following is a discussion of factors leading to the CPUC's purpose and objectives for seeking the implementation of the proposed Project.

Senate Bill 1038 (SB 1038)

SB 1038 took effect January 1, 2003, and is codified in the Public Utilities Code (PUC) and Public Resources Code (PRC). This bill required the California Energy Commission (CEC) to submit a comprehensive renewable electricity generation resource plan to the California State Legislature (Legislature), describing the potential renewable resources available in California, and also to develop a plan to increase the annual amount of electricity generated from renewable resources. In addition, the bill required the CPUC to prepare and submit to the Legislature a comprehensive transmission plan (Plan) for renewable electricity generation facilities that would provide for the rational, orderly, and cost-effective expansions of transmission facilities that may be necessary to facilitate the development of renewable electricity generation facilities identified in the CEC's renewable electricity generation resource plan. The Plan was submitted to the Legislature on December 1, 2003, pursuant to PUC Section 383.6. The Plan has two sections: a policy text that describes key issues emerging from the development of the Plan, and a Transmission Plan detailing the transmission line and substation additions and modifications necessary to attain the legislative target of 20 percent renewable power generation by 2017 (see SB 1078, below).

Senate Bill 1078 (SB 1078): California Renewables Portfolio Standard Program

The Renewables Portfolio Standard (RPS) was established in 2002 by Senate Bill 1078 (SB 1078). Pursuant to SB 1078, the RPS requires investor-owned utilities, including retail sellers of electricity such as SCE, to increase their sale of electricity produced by renewable energy sources (such as wind) by at least one percent per year, achieving 20 percent by 2017 (at the latest). Subsequent to the RPS, the CPUC, the CEC, and the Consumer Power and Conservation Financing Authority (CPA - which is now defunct) adopted the Energy Action Plan (EAP). The EAP established a target of 20 percent renewables by 2010 (CEC, 2003), which is a more aggressive goal than the previous SB 1078 goal of 20 percent by 2017.

Wind Generation in the Antelope Valley-Tehachapi Region

The unique geography of the region has made the Antelope Valley and Tehachapi areas one of the world's leading wind energy centers (Tehachapi Central, 2005). Prevailing northwesterly winds blow through passes in the Tehachapi Mountains that connect the San Joaquin Valley with the Mojave Desert. As a result of the regional geography, tax incentives, and favorable legislation in the wake of the 1970s energy crisis, California became the first state to develop large wind farms in the early 1980s. Upgrades to the SCE transmission grid (such as the proposed Project) are necessary in order to maximize benefits from continuing regional development of power generation such as renewable wind power.

According to the California Energy Commission's 2005 Integrated Energy Policy Report (IEPR), "California needs major investments in new transmission infrastructure to interconnect with remote renewable resources in the Tehachapi and Imperial Valley areas, without which it will not be able to meet its RPS targets" (CEC, 2005). RPS, or Renewable Portfolio Standard, targets are required by Public Utilities Code Section 399.14. The IEPR further explains that the "Tehachapi area transmission projects" proposed by SCE and including the

Antelope-Pardee Transmission Project are critical in order to facilitate the development of renewable energy resources required by the State RPS targets. Notably, the IEPR recommends that the Antelope-Pardee Transmission Project (“Phase 1”) should move forward “expeditiously.”

SCE Renewable Conceptual Transmission Plan

SCE developed the first version of its Renewable Conceptual Transmission Plan (RCTP) in accordance with the Scope of Work described by the CPUC in a March 27, 2003 ruling (Proceeding I0011001). The plan describes all SCE conceptual transmission upgrades and their estimated costs that are needed to connect potential renewable energy resources in the SCE and Imperial Irrigation District territories. The identified upgrades would allow the congestion-free interconnection of up to 470 MW of renewable resources in 2005, up to 1,755 MW of renewable resources by 2008, and up to 4,220 MW of renewable resources by 2017. The proposed Project is the initial transmission upgrade described in the RCTP and part of the first phase of upgrades referenced in CPUC Decision 04-06-010, Ordering Paragraph No. 8, which orders SCE to submit an application to the CPUC to authorize construction of these upgrades (see Section A.3.1 above).

Federal Energy Regulatory Commission (FERC) Transmission Rate Limits on California Wind Projects

On July 1, 2005, FERC approved SCE’s request for rolled-in rate treatment for, among others components, the transmission segment of the proposed Project, thus granting SCE’s request to allow SCE to recover 100 percent of costs for the proposed Project (112 FERC 61,014, Docket No. EL05-80-000). FERC allowed recovery of costs for the proposed Project because it provides “...network upgrades to existing high-voltage transmission lines that can be fully integrated with the existing transmission network for the benefit of transmission ratepayers” (Stanfield, 2005).

California Independent System Operator (CAISO)

The CAISO was established in 1998 to plan and operate a reliable electricity grid for California, provide non-discriminatory electric transmission services, and facilitate investment in electric transmission and generation infrastructure. The CAISO is a not-for-profit public benefit non-profit corporation that is chartered by the State of California and regulated by the FERC. As part of an overall grid planning process, the CAISO studies and approves new transmission proposals. Per the CAISO Tariff, Section ~~3-224~~ (Transmission Expansion) and Section ~~5-725~~ (Interconnection of Generating Units and Generating New Facilities to the ISO Controlled Grid), SCE is obligated to interconnect and integrate power generation facilities into its electric system.

CAISO Management considered SCE’s proposed Antelope Transmission Project, which includes the proposed Project as well as other future transmission upgrades in the Antelope Valley, and recommended approval of the Project to the CAISO Board of Governors. On July 29, 2004, the Board of Governors accepted CAISO Management’s recommendation and moved to: (1) approve the proposed Project (in addition to other segments of the Antelope Transmission Project) as an initial step towards developing a longer-term transmission solution to connect several thousand MWs of potential wind generation in the Tehachapi area of the CAISO-controlled grid; and (2) direct SCE to proceed with the design and environmental permitting activities necessary to construct the proposed Project to 500-kV standards.

CPUC Decision 04-06-010

The CPUC issued this decision on the transmission needs in the Antelope Valley and Tehachapi areas identifying potential power generation in this area to be several thousand MWs. CPUC Decision 04-06-010 mandated the convening of a collaborative study group to develop a comprehensive development plan for the

phased expansion of transmission capabilities in the Tehachapi area. Subsequently, the Tehachapi Collaborative Study Group (TCSG) was formed with coordination by the CPUC, assistance from the CAISO, and with the participation of the IOUs (such as SCE), wind-power developers, and other stakeholders.

The CEC's Renewable Resources Report Finding of Fact No. 18 found that the "magnitude and concentration" of renewable resources justified a "first phase of Tehachapi transmission upgrades" to facilitate achievement of the goals under PUC Section 399.14. As a result, CPUC Decision 04-06-010, Ordering Paragraph No. 8, required SCE to "file an application seeking a certificate authorizing construction of the first phase [i.e., the proposed Project] of Tehachapi transmission upgrades consistent with its 2002 [2003] conceptual study and the [Tehachapi Collaborative] study group's recommendation..." The Final Report produced by the TCSG in 2005 identified four possible transmission phases (including the proposed Project) for integrating several thousand MWs of potential renewable energy generation from the Tehachapi region. The "first phase" of these transmission upgrades mentioned in CPUC Decision 04-06-010, Ordering Paragraph 8, includes SCE's proposed Project, as evaluated in this joint EIR/EIS.

CPUC Purpose and Objectives Summary

The CPUC's primary purpose and objective in approving the proposed Project is to facilitate the distribution of renewable energy within the State of California.

- The Tehachapi area is considered the largest wind resource area in the State and, therefore, both federally and State-regulated utilities have focused on the development of wind projects in this area.
- Per the State of California EAP, the State's RPS goal is to achieve power transmission of 20 percent renewable energy by 2010. As a crucial step in fulfilling this purpose, the CPUC must explore possibilities for the removal of constraints on the transmission of electricity from its point of generation to its point of use.
- The CPUC must attempt to further the implementation of other State policies and programs related to power generation and transmission, with specific regard to the potential wind energy available in the Antelope Valley-Tehachapi Region.

A.3.3 USDA Forest Service: Purpose and Need

The proposed Project route traverses approximately 12.6 miles of NFS lands and would replace existing transmission facilities within an established utility corridor. SCE must obtain approval through a Special Use authorization from the Forest Service in order to construct, maintain, and operate the proposed Project on NFS lands.

Purpose of Action

Executive Order 13212 encourages increased production and transmission of energy in a safe and environmentally sound manner (CEQ, 2001). According to Executive Order 13212, for energy-related projects, agencies shall expedite their review of permits or take other actions as necessary to accelerate the completion of such projects. The agencies shall take such actions to the extent permitted by law and regulations and where appropriate.

The Forest Service's purposes (objectives) in authorizing the proposed Project are the following:

- Minimize adverse environmental effects to NFS lands, such as impacts to the following resources: visual, biological, cultural, air, soil, and water, among others as applicable (Forest Plan, Part 1, pp. 38 and 47; Part 2, pp. 7, 32, 35, 69, and 79);
- Minimize the effects of urbanization, or negative effects to open space and natural settings, on the Angeles National Forest (Forest Plan, Part 2, pp.35, 67-70);

- Ensure that future Forest management activities such as wildland fire fighting, among others, are not detrimentally affected by the location and/or design of the proposed Project (Region 5 Supplement FSM 2726.43; Forest Plan, Part 1, p. 19; Part 2, p. 37); and
- Ensure that the location of the transmission line on NFS lands maximizes the accommodation of future utility needs (Forest Plan, Part 2, p. 121; Part 3, p. 59).

The Forest Service may deny authorization for special uses for a number of different reasons, such as if “the proposed use would be inconsistent or incompatible with the purpose(s) for which the lands are managed, or with other uses,” or the proposed use “would not be in the public interest” (36 CFR 251.5). In order to authorize SCE to occupy and use NFS lands for the proposed Project, the Forest Service must change incompatible management direction in the Forest Plan so that all actions occurring on NFS lands are consistent with the Forest Plan, per 36 CFR 219.10(e): “...the Forest Supervisor [must]...ensure that, subject to valid existing rights, all...instruments for occupancy and use...are consistent with the [forest] plan.”

Need for Action

Pursuant to the Federal Land Policy and Management Act (FLPMA) of 1976 (as amended), the Forest Service’s need for action is to respond to an application from SCE for a Special Use authorization to construct, maintain, and use a transmission line (and ancillary improvements) through the Santa Clara/Mojave Rivers Ranger District of the ANF. The Forest Service will consider the application for use of NFS lands to ensure that the proposed Project is in the public interest and is appropriate based on the governing land management plan. The FLPMA provides the authority to the Secretary of Agriculture (Forest Service) to issue, renew, or grant authorizations to occupy, use, or traverse NFS lands for the generation, transmission, and distribution of electrical power (43 U.S.C. 1761). The proposed Project would interconnect and integrate energy generated in the Antelope Valley and Tehachapi areas into SCE’s electrical system, including wind generation projects currently being planned or expected in the future.

The Forest Service is required (under 36 CFR 219.10) to review all site-specific projects, including authorized uses of the land, to ensure they are consistent with the 2005 Angeles National Forest Land Management Plan (“Forest Plan”), per the National Forest Management Act (NFMA) (16 U.S.C 1600-1614, as amended). A Special Use authorization cannot be issued to SCE without first ensuring its consistency with the Forest Plan (through improvement in design and/or Forest Plan amendment). Any proposed Forest Plan amendments pertaining to this Project will be included as part of the need for action and included in the appropriate alternatives analyzed in this document. The Forest Plan amendments must be completed before Special Use authorization(s) can be issued to the Applicant (SCE) for the proposed Project or a Project alternative. A description of the Forest Plan amendments required to approve the proposed Project are described in Section A.5.2 below.

Necessary amendments to the Forest Plan will be made using the amendment process defined in the Forest Service Manual 1920 and Forest Service Handbook 1909.12, following all “appropriate public notification and satisfactory completion of NEPA procedures.” The decision by the Forest Service to approve or deny Forest Plan amendments associated with the proposed Project and each of the Project alternatives in this EIR/EIS will be based, in part, on the findings of the impact analyses reported in this EIR/EIS and also on the NFMA determination of the consistency of the proposed use with the parameters specified in the Forest Plan.

USDA Forest Service Purpose and Need Summary

The need for action by the USDA Forest Service is to respond to SCE’s application for a Special Use authorization to construct the proposed Project on NFS lands through the ANF and ensure the Project is in

compliance with the Forest Plan. The purposes (objectives) are to minimize adverse impacts on NFS lands and minimize adverse impacts to forest management activities.

A.3.4 Purpose, Need, and Objectives Summary

As previously described, the jurisdiction of each decision-making agency associated with the proposed Project is unique from one another. Therefore, each agency's statement of objectives or purpose and need is also unique. In summary, the combined objectives, purpose, and need for the proposed Project as defined by SCE, the CPUC, and the USDA Forest Service include the following:

- Respond to applications from SCE to the CPUC and Angeles National Forest (ANF).
- Facilitate the distribution of renewable wind energy from the Antelope Valley-Tehachapi region and accommodate the area's potential for renewable power generation in order to achieve the State of California RPS goal of 20 percent renewables by 2010.
- Prevent overloading of existing transmission facilities in the SCE grid, specifically the Antelope-Mesa 220-kV transmission line.
- Comply with reliability planning criteria defined by the CAISO, WECC, and NERC, as well as other State policies and programs related to power generation and transmission.
- Minimize adverse environmental impacts to NFS lands while ensuring the continuation of future USDA Forest Service activities in the ANF, such as wildland fire suppression and natural resources protection.

A.4 The Antelope Transmission Project

As mentioned above, the proposed Project is part of a series of anticipated future transmission system upgrades. These potential upgrades are based on SCE's Renewables Conceptual Transmission Plan (RCTP) of 2003 and have been recommended by the Tehachapi Collaborative Study Group (TCSG). The proposed Project, or the Antelope-Pardee 500-kV Transmission Project, is Segment 1 of the Antelope Transmission Project, a three-segment plan to provide upgrades to the SCE transmission system.

The proposed Project would relieve a specific existing thermal overload problem on the Antelope-Mesa 220-kV transmission line by increasing transmission capacity of the SCE grid south of Antelope Substation. This problem needs to be addressed in the near term to allow planned wind energy projects, such as the PdV Wind Energy Project, to deliver wind power and help meet the State's Renewables Portfolio Standard (see Section A.3.2 above). The main purpose for Segments 2 and 3 is entirely based on potential future development of unspecified wind energy projects, whereas the main purpose for the proposed Project is based on immediate needs due to current development of wind resources. This distinguishing feature of this immediate necessity is verified by Docket I. 00-11-001 which, as described below, required that the proposed Project be addressed as a separate project from Segments 2 and 3 in order to avoid delay in its implementation.

The proposed Antelope-Pardee 500-kV transmission line, initially energized to 220 kV, would increase the overall capacity of SCE's system south of Antelope Substation to deliver up to 350 MW of additional power. Therefore, in comparison to the existing system, implementation of the Antelope-Pardee transmission line would allow up to 350 MW of additional power generated from wind projects to be transmitted south without overloading the Antelope-Mesa transmission line. The additional transmission capacity provided by the proposed Antelope-Pardee line may be used to accommodate power from any source injecting new power to the system at Antelope Substation. Specifically, developing wind generation projects, which are currently in the CAISO queue, would have up to 350 MW of necessary transmission capacity available. Up to 300 MW of this new capacity would be needed to serve the planned PdV Wind Energy Project. Without this transmission

capacity, Tehachapi-area wind energy projects that are scheduled to go online within the next few years, such as the PdV Project, cannot deliver additional wind energy to customers through Antelope Substation.

In addition to providing increased system capacity, the proposed Project would also increase the reliability of the regional transmission network by creating a new pathway to deliver power to load south of Antelope Substation. Currently, power from the north is delivered to the Antelope Substation and points south via a 230-kV transmission corridor from the Magunden Substation in Kern County. From the Antelope Substation, this transmission corridor continues southeast to the Vincent Substation and to other SCE substations further south to serve customers in the Los Angeles area. If the proposed Project is constructed, power delivered through the Magunden Substation to the Antelope Substation via existing transmission lines (see description above, in Section A.3.1) could be routed to either Vincent Substation or to Pardee Substation. This flexibility in power transmission routing would effectively increase overall system reliability.

A.4.1 Certificates of Public Convenience and Necessity

The purpose for making application for the Antelope Transmission Project is derived from 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 [the Antelope Transmission Project] consistent with its 2003 conceptual study and the study group’s recommendation within six months of the effective date of this order...” This order was premised on Finding of Fact No. 18, which described that the “magnitude and concentration” of renewable resources identified in the California Energy Commission’s Renewable Resources Report justified a “first phase of Tehachapi transmission upgrades” to facilitate achievement of the Renewable Portfolio Standard (RPS) goals required by Public Utilities Code Section 399.14.

In addition, in Docket I. 00-11-001 (Order Instituting Investigation into Implementation of Assembly Bill 970 Regarding the Identification of Electric Transmission and Distribution Constraints, Actions to Resolve those Constraints, and Related Matters Affecting the Reliability of Electric Supply), an Assigned Commissioner Ruling required SCE to file two separate applications for the Antelope Transmission Project; one CPCN application for Segment 1 of the Antelope Transmission Project (the proposed Project) and one CPCN application for Segments 2 and 3 (CAISO, 2004a). The purpose of the ruling for separate applications was to avoid delay in the implementation of the proposed Antelope-Pardee 500-kV transmission line, which is Segment 1 of the first phase of the Tehachapi Conceptual Transmission Plan. As stated by Assigned CPUC Commissioner Loretta M. Lynch in the aforementioned Docket I. 00-11-001, Segment 1 should be addressed as a separate project from Segments 2 and 3 of the Antelope Transmission Project because there is an immediate need for the Antelope-Pardee transmission line to accommodate developing wind projects in the Tehachapi area.

A.4.2 Transmission System Stability and Reliability

As described by SCE’s transmission planning team (Nelson, 2005), there are specific, known limits to the transmission capacity of the existing and planned SCE system. Of immediate concern is the existing Antelope-Mesa 230-kV transmission line, which is currently supporting its full load of power. The Antelope-Mesa line travels in a southwest direction from Antelope Substation to Mesa Substation. Without implementation of the Antelope-Pardee transmission line, the Antelope-Mesa line would be relied upon for the transmission of new power generated north of Antelope Substation connected to the SCE system. However, due to its current load, this line would overload with the addition of additional power to the system. According to SCE, overloading of the Antelope-Mesa transmission line would cause widespread system stability and reliability issues.

Meanwhile, there is ongoing development of wind power generation projects in the Tehachapi region, north of Antelope Substation. SCE is obligated to interconnect and integrate new generation resources into its system per the Federal Power Act, Sections 210 and 212 (16 USC Section 824 (i) and (k)), as well as the CAISO Tariff, Sections ~~3-224~~ and ~~5-725~~. Despite the fact that the Antelope-Mesa transmission line would overload with the addition of new power, SCE must allow connection of any new wind projects to its system. Furthermore, as of February of 2006, the PdV Wind Energy Project had an active application pending with Kern County. The PdV project would connect up to 300 MW of new power into SCE's system, for the purpose of transmitting power to Antelope Substation and south into the Antelope Valley region.

The Tehachapi Collaborative Study Group (TCSG) has developed a conceptual transmission plan called the Tehachapi Transmission Project (TTP) for the purpose of accommodating the generation of renewable wind energy in the Tehachapi region. Per the TCSG, a total of 4,060 MW of wind generation are anticipated to be produced in the Tehachapi area, with associated transmission capacity required (CPUC, 2005). The TTP would be implemented in four separate phases, and include upgrades to both the SCE system and the PG&E system, as Tehachapi-area wind projects proceed to develop and connect to the existing SCE transmission system. The Antelope Transmission Project is Phase 1 of the TTP. Initially energized at 220 kV, the Antelope Transmission Project is expected to account for approximately 700 MW of total Tehachapi wind development (of which the PdV Wind Energy Project is expected to account for up to 300 MW). For the purposes of the TTP, the Antelope Transmission Project would interconnect the Tehachapi collector system⁵ to the existing SCE grid.

For the reasons described above, Segments 2 and 3 of the Antelope Transmission Project have independent utility and are not considered part of the proposed Project analyzed in this EIR/EIS. The CPCN application for Segments 2 and 3 is under separate consideration by the CPUC and a separate EIR will be prepared to analyze and disclose the potential environmental effects of constructing and operating Segments 2 and 3.

A.5 Agency Use of this Document

When applicable, both CEQA and NEPA encourage agencies to prepare a single joint environmental analysis/assessment document, because the environmental review process under both laws are similar and somewhat parallel. Therefore, the CPUC and the Forest Service entered into a Memorandum of Understanding (MOU) to jointly direct the preparation of this EIR/EIS for the proposed Project thereby serving the permitting and decision-making requirements of both agencies. However, the CPUC and the Forest Service will take separate decision actions on the EIR/EIS prepared for the proposed Project. For a detailed discussion of the environmental review process for the proposed Project, see Section F (Public Participation and Notification).

A.5.1 CPUC

Pursuant to Article XII of the Constitution of the State of California, the CPUC is charged with the regulation of investor-owned public utilities, including SCE. The CPUC is the lead State agency for CEQA compliance in evaluation of SCE's proposed Antelope-Pardee 500-kV Transmission Project and, in conjunction with the Forest Service, has directed the preparation of this joint EIR/EIS. This EIR/EIS will be used by the CPUC, in conjunction with other information developed in the CPUC's formal record, to act on SCE's application for a CPCN, the approval of which would allow for construction and operation of the proposed Project or an alternative to the proposed Project. Under CEQA requirements, the CPUC will determine the adequacy of the Final EIR/EIS and, if adequate, will certify the document as complying with CEQA. If the Final EIR/EIS

⁵ The "Tehachapi collector system" is the network of infrastructure and facilities used to carry wind energy from its point of generation in the Tehachapi region to the interconnection and distribution system which travels south of Antelope Substation.

shows that the proposed Project or an alternative to the proposed Project that would have significant and unmitigable impacts but the CPUC still approves the CPCN, then the CPUC's decision on the application must include a "Statement of Overriding Considerations," which would explain the reasons for the application's approval.

The CPUC has assigned Administrative Law Judge (ALJ) Julie Halligan to oversee the hearings on the proposed Project, and Commissioner Dian Grueneich is the Assigned Commissioner for the CPCN application. The ALJ, in accordance with her Scoping Memo, will hold Evidentiary Hearings on the CPCN application and expects to issue a Proposed Decision on the Project in November 2006. The ALJ's Decision and the Evidentiary Hearings will cover issues of project need, project cost, and other considerations.

A.5.2 USDA Forest Service

Special Use Authorization

The proposed Project or a Project alternative would require Special Use authorization(s) from the USDA Forest Service for the portion of the project located on NFS lands. In order to consider issuance of the authorization (easement) to allow construction of the transmission line, the Forest Service must comply with NEPA. Based on potential impacts identified in SCE's PEA for the proposed Project, preparation of an EIS is required. After the completion of the Final EIR/EIS, the Forest Service will issue a Record of Decision (ROD), which documents the Forest Service decision on whether to approve authorizing a Special Use Easement (and possibly temporary special use permits for construction) as proposed, approve an alternative to the proposed action, or deny SCE's application and the rationale for that decision. The ROD will include a decision on Forest Plan amendments if necessary, before Special Use authorizations can be issued to SCE for this Project. This ROD is subject to administrative review and may be appealed under 36 CFR 215. To implement the Project, the Regional Director of Natural Resource Management of the Forest Service would authorize a 50-year term Special Use Easement for the construction, maintenance, and use of the 500-kV transmission line along with ancillary improvements on NFS lands. Temporary Special Use Permits would also likely be necessary for any construction work that occurs on NFS lands outside the proposed 160-foot-wide ROW. These temporary permits would be issued by the Santa Clara-Mojave Rivers District Ranger. If resource studies were not completed in these areas with this analysis, additional environmental review would be necessary.

Forest Land Management Plan Amendment

To ensure consistency with management direction in the governing 2005 Forest Land Management Plan (Forest Plan), the proposed Project (Action) and alternatives would require several amendments to the Forest Plan. The three types of Forest Plan amendments include:

- Changing the Scenic Integrity Objectives along the existing or proposed utility corridor;
- Modifying the Forest Standard related to the Pacific Crest Trail (S1) specifically regarding this project, as the proposed utility corridor and transmission line would adversely impact the foreground views; and
- Relocating the designated 1,000-foot-wide Saugus-Del Sur Utility Corridor. For any route alternative that is approved on NFS lands that moves any portion of the new transmission line outside of the existing 1,000-foot-wide Utility Corridor, a new corridor would need to be designated to follow the new proposed route on NFS lands.

Table A.5-1 shows the five Scenic Integrity Objectives, and definition for each Scenic Integrity Level, plus a level of scenic integrity used for inventory purposes only.

Scenic integrity Objective (SIO)	Definition of Scenic Integrity Levels
Very High SIO	Landscapes where the valued landscape character “is” intact with only minute if any visual deviations. The existing landscape character is expressed at the highest possible level.
High SIO	Landscapes where the valued landscape character “appears” intact. Visual deviations (human-made structures) may be present but must repeat the form, line, color, texture, and pattern common to the landscape character so completely and at such a scale that they are not evident.
Moderate SIO	Landscapes where the valued landscape character “appears slightly altered.” Noticeable deviations must remain visually subordinate to the landscape character being viewed.
Low SIO	Landscapes where the valued landscape character “appears moderately altered.” Visual deviations (human-made structures) begin to dominate the valued landscape character being viewed but they borrow valued attributes such as size, shape, edge effect and pattern of natural openings, vegetative type changes or architectural styles outside the landscape being viewed. They should not only appear as valued character outside the landscape being viewed but compatible or complimentary to the character within.
Very Low SIO	Landscapes where the valued landscape character “appears heavily altered.” Visual deviations (human-made structures) may strongly dominate the valued landscape character. They may not borrow from valued attributes such as size, shape, edge effect and pattern of natural openings, vegetative type changes or architectural styles within or outside the landscape being viewed. However, visual deviations (human-made structures) must be shaped and blended with the natural terrain (landforms) so that elements such as unnatural edges, roads, landings, and structures do not dominate the composition.
For Inventory and Scenic Effect Prediction Purposes Only	
Unacceptably Low Scenic Integrity¹	Landscapes where the valued landscape character being viewed appears extremely altered. Visual deviations (human-made structures) are extremely dominant and borrow little if any form, line, color, texture pattern or scale from the landscape character. Landscapes of this level of integrity need rehabilitation. This level should only be used to inventory existing integrity. It must not be used as a management objective.

¹ According to the SMS, there is a level of landscape alteration that is excessive, where deviations are extremely dominant. This level of scenic integrity is to be used for inventory purposes only – it must not be used as a management objective. This level of scenic integrity is useful for inventorying the existing 66-kV transmission line facilities, and for possible use in predicting future scenic integrity of proposed projects and activities. Source: USDA, 1995.

Table A.5-2 displays the Scenic Integrity Objectives for the proposed Project by Mile (with Mile 0 at the Antelope Substation and Mile 25.6 at the Pardee Substation where the proposed transmission line would end).

Mile	Scenic Integrity Objective	Definition
5.7 to 15.9 16.0 to 17.6 17.9 to 18.6	High	Landscapes where the valued landscape character “appears” intact. Visual deviations (human-made structures) may be present but must repeat the form, line, color, texture, and pattern common to the landscape character so completely and at such a scale that they are not evident.
15.9 to 16.0 17.6 to 17.9	Moderate	Landscapes where the valued landscape character “appears slightly altered.” Noticeable deviations must remain visually subordinate to the landscape character being viewed.

Table A.5-3 details by Mile of the proposed Project, and by Mile of each Alternative, the level to which Scenic Integrity Objectives would have to be changed in the Forest Plan amendment. The SIO changes shown in Table A.5-3 assume the implementation of mitigation measures recommended in Section C.15, Visual Resources. Viewsheds of affected landscapes may be greater than the utility corridor’s 1,000-foot width.

Table A.5-3. Forest Plan Amendment to Change Scenic Integrity Objectives	
Forest Plan Elements	Scenic Integrity Objective (SIO)
Proposed Project Corridor (Changes Required)	High SIO to Very Low SIO from Mile 5.7 to 15.9 and 16.0 to 17.6 Moderate SIO to Very Low SIO from Mile 15.9 to 16.0
Alternative 1 Partial Underground (Changes Required)	High SIO to Very Low SIO from Mile 5.7 to 11.0, 15.0 to 15.9, and 16.0 to 17.6 High SIO to Unacceptably Low from Mile 11.0 to 15.0 Moderate SIO to Very Low SIO from Mile 15.9 to 16.0
Alternative 2 East Mid-Slope (Changes Required) (Mile Markers on New Alignment)	High SIO to Low SIO from Mile 5.7 to 5.8, 6.15 to 6.4, 7.7 to 8.1, 8.6 to 10.4, 10.7 to 12.7, and 12.8 to 13.5 Moderate SIO to Low SIO from Mile 5.8 to 6.15 High SIO to Very Low SIO from Mile 6.4 to 7.7 and 13.5 to 14.0
Alternative 3 Single-circuit Towers in Santa Clarita (Changes Required)	High SIO to Very Low SIO from Mile 5.7 to 15.9 and 16.0 to 17.6 Moderate SIO to Very Low SIO from Mile 15.9 to 16.0
Alternative 4 Haskell Canyon Reroute (Changes Required) (Mile Markers on New Alignment)	High SIO to Very Low SIO from Mile 5.7 to 15.9, 16.0 to 17.5, 17.5 to 17.6, and 18.3 to 18.8 Moderate SIO to Very Low SIO from Mile 17.6 to 18.0
Alternative 5: Sierra Pelona Re-Route	
Existing 66-kV utility corridor Spunky Canyon Area and Del Sur Ridge Area	No Changes Required to Forest Plan for removal of 66-kV Line
Sierra Pelona Ridge (Changes Required)	High SIO to Low SIO from Mile 5.6 to 5.85 High SIO to Very Low SIO from Mile 17.1 to 17.4 and 17.7 to 18.4

Note: The various alternatives have different lengths and, therefore, the Mile indicators for each alternative are unique. Because the initial routes of the proposed Project and several alternatives are the same, the Mile indicators become unique at the point where the alternative routes diverge from the proposed Project route.

In addition, if an alternative is approved that moves any portion of the new transmission line outside the existing 1,000-foot-wide Saugus-Del Sur Utility Corridor identified in the Forest Plan, the Forest Plan would need to be amended to reroute the designated alignment of the Utility Corridor to correspond to the approved transmission line alignment through NFS lands. The proposed Project, like the existing Antelope-Pole Switch 74 66-kV line, is located within the existing utility corridor. The total length of this corridor through the ANF is approximately 13.6 miles (12.6 on NFS lands), from Mile 5.7 to 19.3, encompassing approximately 1,650 acres.

A.5.3 Other Agencies

Several other State agencies will rely on information in this EIR/EIS to inform them in their decision regarding the issuance of specific permits related to the proposed Project or other Project alternative construction or operation. In addition to the CPUC and Forest Service, State agencies such as the Department of Transportation, Department of Fish and Game, Regional Water Quality Control Board, California Air Resources Board, and Office of Historic Preservation would be involved in reviewing and/or approving the proposed Project or other Project alternative. On the federal level, agencies with potential reviewing and/or permitting authority include the U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers, Advisory Council on Historic Preservation, the Occupational Safety and Health Administration, and the Bureau of Land Management (if Alternative 5 is chosen).

No local discretionary permits (e.g., use permits) are required because the CPUC has preemptive jurisdiction over the construction, maintenance, and operation of SCE facilities in California and the Forest Service has jurisdiction over NFS lands. SCE would still have to obtain all ministerial building and encroachment permits from local jurisdictions. The CPUC's General Order 131-D also requires SCE to comply with local building, design, and safety standards to the greatest degree feasible to minimize Project conflicts with local conditions. The Forest Service requires SCE to comply with all applicable federal, State, and local laws, regulations, and

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standards for public health and safety, environmental protection, siting, construction, operation and maintenance in exercising the rights granted by the Special Use authorization(s). The Forest Service and CPUC authority does not preempt the authority of special districts, such as the South Coast Air Quality Management District, or other State agencies or the federal government.

Table A.5-4 lists the anticipated federal, State, and local permits and authorization required for the proposed Project.

Table A.5-4. Required Permits and Approvals	
Agency	Permit / Approval / Consultation
FEDERAL	
USDA Forest Service	50-year-term Special Use Easement for the construction, maintenance, and use of a 500-kV transmission line Temporary Special Use Permits required for any construction activities occurring outside the proposed 160-foot ROW width
U.S. Army Corps of Engineers	Clean Water Act Section 404 permit
Department of Energy	Consultation of transmission line on NFS lands (per 36 CFR 251.54(f)(2))
U.S. Fish and Wildlife Service	The Project not expected to result in adverse impacts to federally listed species on NFS lands. The Project may affect but is not likely to adversely affect populations of listed species on non-NFS lands. Informal consultation will be needed for concurrence of avoidance measures and effects determination.
Bureau of Land Management (Alternative 5 only)	Right-of-Way Grant
STATE / REGIONAL	
California Public Utilities Commission (CPUC)	Certificate of Public Convenience and Necessity
California Department of Fish and Game (CDFG)	Streambed Alteration Agreement (per Section 1602 of the California Fish and Game Code)
California Air Resources Board	Portable Engine Registration for specified non-mobile portable engines
Antelope Valley Air Quality Management District	Air Quality Permits for portable engines greater than 50 hp not registered under the CARB Portable Engine Registration Program
South Coast Air Quality Management District	Air Quality Permits for portable engines greater than 50 hp not registered under the CARB Portable Engine Registration Program
State Water Resources Control Board	National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction Activities
California Department of Parks and Recreation (CDPR), State Historic Preservation Officer	Consultation and Memorandum of Understanding (MOU) (under Section 106 of the National Historic Preservation Act)
California Department of Transportation, State and Local Project Development (SLPD), Program Manager	Approval for private facilities running parallel to and falling in the rights-of-way of conventional highways with franchise rights from local agencies
Division of Occupational Safety and Health (formerly CAL OSHA)	Construction permit (for construction of trenches or excavations which are five (5) feet or deeper and into which a person is required to descend.)
COUNTY	
County of Los Angeles, Public Works Department	Permit for road use: moving of oversized or overweight loads. Excavation permit: necessary when any portion of the road right of way, from property line to property line, is cut for the purpose of laying down utility lines, installing electrical cabinets, installing poles or constructing manholes. Encroachment permit: necessary when you wish to place anything in the road right-of-way temporarily or long term. Construction Permit is necessary for activities such as cutting, removing, or reconstructing curbs, curb and gutter, parkway drains, driveways, and/or sidewalks.

Table A.5-4. Required Permits and Approvals	
Agency	Permit / Approval / Consultation
CITY	
City of Lancaster	Encroachment permit for work conducted in the public right-of-way
City of Santa Clarita	Encroachment permit for work conducted in the public right-of-way
City of Palmdale	(Alternative 5 only) Encroachment permit for work conducted in the public right-of-way
<u>Los Angeles Department of Water and Power (LADWP)</u>	<u>Easement to cross over/under LADWP power lines</u>
OTHER	
<u>Mountains Recreation and Conservation Authority (a local partnership between the Santa Monica Mountains Conservancy and local recreation and park districts)</u>	<u>Grant of Easement (Alternative 5 only)</u>

A.6 Overview of the Environmental Review Process

When an EIR and an EIS are required for a proposed project, the California and federal agencies, which are serving as Lead Agencies for the CEQA and NEPA review of the project, may decide to prepare a joint EIR/EIS document. In accordance with CEQA and NEPA, the joint EIR/EIS must be completed before the Lead Agencies make a decision to approve or deny the project. The EIR/EIS must disclose a project’s expected impacts on the environment, recommend measures to reduce or avoid significant impacts, and analyze a reasonable range of feasible alternatives to the proposed project. The purpose of this process is to inform the public about the impacts of the proposed project and to provide information to agency decision makers that could aid them in their decision(s) regarding the project. The basic contents of an EIR/EIS include:

- A description of the proposed project (proposed action);
- A statement of objectives (per CEQA) and Purpose and Need for the action (per NEPA);
- A description of existing conditions in the project area;
- A discussion of the potential significant and less-than-significant environmental impacts of the proposed project;
- Recommendations of measures that would reduce impacts from the proposed project and project alternatives; and
- An evaluation of a reasonable range of feasible alternatives to the proposed project.

The EIR process is initiated by filing a Notice of Preparation (NOP) with the California State Clearinghouse in the Office of Planning and Research, thus indicating that a Draft EIR will be prepared. The EIS process is initiated by publishing a Notice of Intent (NOI) to prepare an EIS in the *Federal Register*. These notices initiate a 30-day period during which public and agency input is solicited on the scope of issues that should be addressed in the EIR/EIS. As part of this scoping process, public meetings are conducted to present information on the proposed project and receive public input.

When the Draft EIR/EIS has been completed, it will be distributed for public review and comment in accordance with CEQA and NEPA procedures (CEQA Guidelines §15087 and NEPA regulations 40 CFR 1506.6). Copies of the Draft EIR/EIS are also submitted to the U.S. Environmental Protection Agency (USEPA) (40 CFR 1506.9) and the California State Clearinghouse, as well as responsible, trustee, and cooperating agencies as defined by CEQA and NEPA. A Notice of Availability (NOA) of the Draft EIR/EIS is published in the *Federal Register* by the USEPA (40 CFR 1506.10). The NOA is also published in local newspapers and with the county clerk (CEQA Guidelines §15087). Publishing the NOA initiates a 45-day public review and comment period for the Draft EIR/EIS. All comments and concerns regarding the Draft EIR/EIS must be received by the Lead Agencies before the end of the 45-day period in order to be considered in the

Final EIR/EIS. During the 45-day comment period following publishing of the NOA, a public hearing may be conducted to obtain public comment on environmental issues addressed in the Draft EIR/EIS. The date, time, and location of any public hearings will be announced in the *Federal Register* and in local newspapers.

Responses to substantive comments received on the Draft EIR/EIS are prepared by the Lead Agencies and published in the Final EIR/EIS (CEQA Guidelines §15088, NEPA regulations 40 CFR 1502.9, Forest Service guidelines FSH 1909.15-2005-2.24.3). The Final EIR/EIS may also present additional information in response to comments made on the Draft EIR/EIS and include minor corrections to the Draft EIR/EIS that were discovered during the comment period. Once the Final EIR/EIS is complete, another NOA is published in the *Federal Register* by the USEPA.

At the end of the EIR/EIS process, the federal Lead Agency prepares a Record of Decision (ROD) in accordance with NEPA requirements (40 CFR 1505.2). The ROD provides a public record explaining why the federal Lead Agency chose a particular course of action. Although the ROD typically cannot be approved until at least 30 days after the publication of the NOA for the Final EIR/EIS in the *Federal Register*, 40 CFR 1506.10(b)(2) provides an exception for lead agencies which have a formal appeal process, including the USDA Forest Service. Therefore, in this case the deciding officer may sign the ROD at the same time the NOA for the Final EIR/EIS is published in the *Federal Register*. Similarly, in accordance with CEQA requirements (CEQA Guidelines §15090), the CEQA Lead Agency will review the Final EIR/EIS and certify the adequacy of the final document prior to taking any action to approve the project. If the Final EIR/EIS determines that the proposed Project would lead to one or more significant environmental effects that cannot be mitigated to a level of insignificance, the CEQA Lead Agency must make specific findings regarding its approval of the project (CEQA Guidelines §15091). These findings must either state that alterations have been made to the project to avoid or substantially reduce each significant impact, or that specific economic, legal, social, technological, or other considerations make mitigation of a significant impact infeasible.

If the CEQA Lead Agency decides to approve the proposed Project or an alternative to the proposed Project even though significant unavoidable impacts would occur, the Lead Agency must prepare and adopt a Statement of Overriding Considerations (SOC), which explains why the significant and unavoidable environmental impacts associated with the selected project are acceptable when compared to the benefits of the selected proposed Project or alternative (CEQA Guidelines §15093). If an SOC is required, it must be acted on before action to approve the proposed Project has been taken. The CEQA Lead Agency is required to file a Notice of Determination (NOD) with the California State Clearinghouse within five working days after approval of a project for which an EIR was prepared (CEQA Guidelines §15094).

The decision documented in the Record of Decision cannot be implemented any sooner than 50 days after the date the legal notice is published in the newspaper of record publicizing the Forest Service decision (36 CFR 215.7; 36 CFR 215.9 (a)). The proposed Project or alternative to the proposed Project cannot be initiated before the NEPA-required ROD is signed and approved, the Final EIR/EIS is certified, and the CEQA-specific findings (including the SOC) are approved. In addition, various other agencies may need to provide approvals prior to initiation of the Project (see Section A.4.3 above). These agencies will utilize the information contained in the Final EIR/EIS in making their decisions regarding permits and approvals required for the Project.

A.7 Reader's Guide to this Document

A.7.1 Incorporation by Reference

SCE's Proponent's Environmental Assessment (submitted as part of its Application No. A.04-12-007 for the Antelope Transmission Project, Segment 1) contains certain information that is incorporated by reference in some sections of this EIR/EIS. This document is available for public review during normal business hours at the CPUC's Central Files (505 Van Ness Avenue, San Francisco), at the USDA Forest Service Santa Clara Mojave Rivers Ranger District Office (30800 Bouquet Canyon Road, Saugus, CA), and via the Internet at:

<http://www.cpuc.ca.gov/environment/info/aspen/antelopepardee/antelopepardee.htm>

A.7.2 EIR/EIS Organization

This EIR/EIS is organized as follows:

Executive Summary. A summary description of the proposed Project, the alternatives, and their respective environmental impacts are included. A summary table lists impacts and the associated mitigation measures for each significant impact identified for the proposed Project and alternatives.

Section A (Introduction). A brief overview of the proposed Project, purpose of and need for the Project, and the public agency use of the EIR/EIS are described.

Section B (Description of Proposed Project/Action and Alternatives). Detailed descriptions of the proposed Project/Action and alternatives to the proposed Project are presented.

Section C (Environmental Analysis). A detailed description of the affected environment and regulatory framework is presented for each technical issue area. Each of the technical issue area sections also provide the detailed analysis of proposed Project impacts and impact of the Project alternatives in equal level of detail. Mitigation measures are presented that would help reduce or minimize any potential impacts identified as resulting from implementation of the Project.

Section D (Comparison of Alternatives). The process for selection of proposed Project alternatives is described along with the steps and rationale for elimination of certain alternatives from further analysis. Also, a comparison of the proposed Project and alternatives are provided.

Section E (Other Federal Requirements and CEQA Considerations). This section addresses the various permitting and compliance requirements should the Project be implemented. The long-term implications of the action are also discussed.

Section F (Public Participation and Notification). A description of the environmental review process and public participation program for the EIR/EIS is provided including a list of agencies, organizations, and persons to whom copies of the EIR/EIS were sent.

Section G (References, Organizations, and Persons Consulted). This section provides a listing of research conducted in preparation of the EIR/EIS.

Section H (Glossary and Acronyms). Definitions to terms used in the EIR/EIS are provided.

Section I (List of Preparers). The authors of the EIR/EIS, their academic and professional credentials, and their roles are provided in tabular format.

Index. An index of important or useful subjects is provided for ease in locating information in the EIR/EIS.

Appendices. Technical background information used in preparation of the EIR/EIS is included.