

# **Addendum**

REPLACEMENT OF TUBULAR STEEL POLES WITH  
LATTICE STEEL TOWERS ALONG SEGMENT 8, PHASE 3

**ON SOUTHERN CALIFORNIA EDISON'S APPLICATION FOR THE**

## **Tehachapi Renewable Transmission Project**

Application No. A.07-06-031

SCH No. 2007081156

Prepared By:



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## A. Introduction and Background

On June 29, 2007, Southern California Edison (SCE) submitted to the California Public Utilities Commission (CPUC) application A.07-06-031 for a Certificate of Public Convenience and Necessity (CPCN) and a Proponent's Environmental Assessment (PEA) for the construction and operation of the proposed Tehachapi Renewable Transmission Project (TRTP or Project). The TRTP includes new and upgraded transmission infrastructure along approximately 173 miles of new and existing rights-of-way (ROW) in southern Kern County, portions of Los Angeles County, including the Angeles National Forest (ANF), and the southwestern portion of San Bernardino County, California, to interconnect new wind energy projects in eastern Kern County to the electrical grid. The Project will provide the electrical facilities necessary to integrate levels of new wind generation in excess of 700 megawatts (MW) and up to approximately 4,500 MW in the Tehachapi Wind Resource Area.

In reviewing SCE's application, the CPUC determined that the proposed Project could cause a significant adverse effect on the environment and, therefore, determined that the preparation of an Environmental Impact Report (EIR) would be needed. The CPUC filed a Notice of Preparation (NOP) with the State Clearinghouse in the Office of Planning and Research as an indication that a Draft EIR would be prepared. A Draft EIR was prepared and distributed on February 13, 2009, for public review and comment in accordance with CEQA procedures (State CEQA Guidelines §15087). Responses to substantive comments received on the Draft EIR were prepared by the Lead Agency (CPUC) and published in the Final EIR (State CEQA Guidelines §15088) on October 30, 2009 (Aspen, 2009). The Final EIR was certified and a CPCN was granted by the CPUC (Decision 09-12-044, SCH #2007081156) on December 17, 2009 (CPUC, 2009).

Since that time, SCE has completed final engineering on portions of the approved Project. Based on final engineering, additional details associated with the construction of Segment 8, Phase 3 have been further defined, as presented in Data Request Set TRTP CPUC-ED-10 dated August 30, 2011 (SCE, 2011). This Addendum is required to determine whether or not this modification to the Project was previously covered by the analysis completed in the Final EIR or would result in any new or different impacts from what was previously analyzed in the Final EIR. This modification is described in detail in Section C, below. A description of the Project, as approved by the CPUC, is also provided below (Section B).

Based on the evaluation of SCE's proposed modification to the approved Project described in Section D below, no new or substantially different impacts have been identified, no changes to impact significance conclusions are needed, and no new mitigation is necessary. Therefore, there is no need for any additional CEQA analysis of the Project modification described in Section C, below.

## B. Overview of the Approved Project

The Project, as approved by the CPUC, includes the installation of new and upgraded transmission infrastructure along approximately 173 miles of new and existing ROW in southern Kern County, portions of Los Angeles County, including the ANF, and the southwestern portion of San Bernardino County, California.

For descriptive purposes, the Project is separated into eight distinct segments, referred to as Segments 4 through 11. Segments 4 through 8, as well as Segments 10 and 11 of the Project are transmission facilities, while Segment 9 addresses the addition and upgrade of substation facilities. The Project's major components include (see Section 2 of the Final EIR for a detailed description of the Project):

- Two new single-circuit 220-kilovolt (kV) transmission lines traveling in parallel approximately 4 miles over new right-of-way (ROW) from the Cottonwind Substation to the proposed new Whirlwind Substation (Segment 4 - 220 kV).
- A new single-circuit 500-kV transmission line, initially energized to 220 kV, traveling approximately 15.6 miles over new ROW from the proposed new Whirlwind Substation to the existing Antelope Substation (Segment 4 - 500 kV).
- Replace approximately 17.4 miles of the existing Antelope-Vincent 220-kV transmission line and the existing Antelope-Mesa 220-kV transmission line with only one new transmission line built to 500-kV standards in existing ROW between the existing Antelope Substation and the existing Vincent Substation (Segment 5).
- Rebuild approximately 31.9 miles of existing 220-kV transmission line to 500-kV standards from existing Vincent Substation to the southern boundary of the Angeles National Forest (ANF). This segment includes the rebuild of approximately 26.9 miles of the existing Antelope-Mesa 220-kV transmission line and approximately 5 miles of the existing Rio Hondo-Vincent 220-kV No. 2 transmission line (Segment 6).
- Rebuild approximately 15.8 miles of existing 220-kV transmission line to 500-kV standards from the southern boundary of the ANF to the existing Mesa Substation. This segment would replace the existing Antelope-Mesa 220-kV transmission line (Segment 7).
- Rebuild approximately 33 miles of existing 220-kV transmission line to 500-kV standards from a point approximately 2 miles east of the existing Mesa Substation (the "San Gabriel Junction") to the existing Mira Loma Substation (Segment 8A). This segment would also include the rebuild of approximately 7 miles of the existing Chino-Mira Loma No. 1 line from single-circuit to double-circuit 220-kV structures (Segment 8B). A new circuit between Chino Substation and approximately 0.8 mile west of the Mira Loma Substation (6.4 miles) would also be installed on the new double-circuit 500-kV structures built as part of Segment 8A (Segment 8C).
- Whirlwind Substation, a new 500/220-kV substation located approximately 4 to 5 miles south of the Cottonwind Substation near the intersection of 170th Street and Holiday Avenue in Kern County near the TWRA (Segment 9).
- Upgrade of the existing Antelope, Vincent, Mesa, Gould, and Mira Loma Substations to accommodate new transmission line construction and system compensation elements (Segment 9).
- Build a new 500-kV transmission line traveling approximately 16.8 miles over new ROW between the approved Windhub Substation (not part of this project) and the proposed new Whirlwind Substation (Segment 10).
- Rebuild approximately 18.7 miles of existing 220-kV transmission line to 500-kV standards between the existing Vincent and Gould Substations. This segment would also include the addition of a new 220-kV circuit on the vacant side of the existing double-circuit structures of the Eagle Rock-Mesa 220-kV transmission line, between the existing Gould Substation and the existing Mesa Substation (Segment 11).
- Installation of associated telecommunications infrastructure.

## C. Modification to the Project

Based on final engineering completed to date by SCE for the TRTP, an additional modification to the Project associated with the construction of Segment 8, Phase 3 has been identified. Segment 8B of the TRTP is now referred to as Phase 2 and Segments 8A and 8C between Chino Substation and Mira Loma Substation have been combined into Segment 8, Phase 3 (Appendix B).

In response to the Federal Aviation Administration's (FAA) recommendations for certain transmission structures near the Chino Airport, SCE reduced the height of 21 transmission structures by approximately 20 feet. SCE prioritized maintaining as much of the originally approved configuration as possible to minimize any potential impacts. SCE has worked closely with the Cities of Chino and Ontario on the

originally approved structure locations to minimize any impacts to future community expansion plans. Maintaining the originally approved structure locations is consistent with SCE’s previous understandings with the Cities of Chino and Ontario. Maintaining the originally approved structure locations also limits any potential additional environmental disturbance.

The SCE Engineering Department determined that a combination of lowered Tubular Steel Poles (TSPs) and specially designed dead-end Lattice Steel Towers (LSTs) would allow for the lower height while maintaining the number of structures without any significant shift in structure locations. This configuration includes replacing six TSPs with specially designed dead-end LSTs. TSPs cannot be used in these six locations because lowering a TSP to the appropriate height results in a lower conductor ground clearance that would violate ground clearance requirements of CPUC General Order 95 (GO 95). This is because insulators hang vertically on a TSP. In contrast, an LST’s insulators hang horizontally. When an LST is lowered, the conductor maintains more distance from the ground. In other words, when a TSP is lowered to a certain height, the conductor moves closer to the ground than when an LST is lowered to the same height. LSTs can therefore meet the height limit recommended by the FAA and still maintain the ground clearance requirements of GO 95. See Appendix C. The heights of the TSPs and LSTs originally proposed to be located along Segment 8, Phase 3 were 195 feet and 198 feet, respectively. With the FAA reduction of approximately 20 feet in height, the TSPs and LSTs will be approximately 175 – 178 feet in height. The TSPs that would be changed in height from approximately 195 feet to 175 feet include:

M68-T5	M69-T2	M69-T5
M70-T1	M70-T5	M70-T6

None of the newly proposed towers have been built yet and current standing towers would not be reduced in height. The proposed modification is a change in plans to build new towers at a lower height than originally planned. The new towers would be built at the same originally planned locations. [This Addendum addresses the 6 TSPs that will be replaced by specially designed dead-end LSTs.](#)

#### D. Evaluation of Modification

After review of the Final EIR, the CPUC has determined that the proposed modification would not result in any impacts that are new or substantially different from those described in the Final EIR, as discussed below. Those environmental issue areas for which a potential change in the nature or magnitude of an impact could occur as a result of the proposed modification are discussed in Section D.1 and are indicated in Table 1 below. The determination made from this evaluation is that all impacts from the proposed modification are either within the range of impacts already discussed in the Final EIR or are substantially similar to those impacts. No new significant impacts would result from the proposed modification and there would be no significant change in the magnitude of impacts previously disclosed in the Final EIR. As a result, no new mitigation measures are needed. Those issue areas for which it was determined that no change in impacts would occur as a result of the proposed modification are discussed briefly in Section D.2.

**Table 1 – Environmental Issue Areas Where Potential Change May Occur**

<input type="checkbox"/> Agricultural Resources	<input type="checkbox"/> Air Quality	<input type="checkbox"/> Biological Resources
<input type="checkbox"/> Cultural Resources	<input type="checkbox"/> Geology/Soils/Paleontology	<input type="checkbox"/> Hazards and Hazardous Materials
<input type="checkbox"/> Hydrology/Water Quality	<input type="checkbox"/> Land Use	<input type="checkbox"/> Mineral Resources
<input type="checkbox"/> Noise	<input type="checkbox"/> Population/Housing	<input type="checkbox"/> Public Services

<input type="checkbox"/> Transportation/Traffic	<input type="checkbox"/> Utilities/Service Systems	<input checked="" type="checkbox"/> Visual Resources
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## D.1 Issue Areas Where Modification Results in a Potential Change in Impacts

### Visual Resources

SCE identified Key Observation Point (KOP) locations in the vicinity of Segment 8, Phase 3 (Cities of Chino and Ontario) of the TRTP and prepared visual simulations. The attached visual simulations (Appendix D) and accompanying analysis support the conclusion that the minor modifications to Segment 8, Phase 3 do not result in any new significant impacts to visual resources that have not already been analyzed in the Final EIR. The FAA has not yet issued recommendations regarding whether these structures, once constructed, would need to be marked or lit.

KOP 1 is representative of the residential viewers on the west side of the Project. KOP 1 is located on a bike path that crosses the ROW and connects neighborhoods located north and south of the ROW. As such, it represents views for both recreationalists as well as local residents. These viewers are typically considered to have medium to long-duration views and high viewer sensitivity. Figure 3a of Appendix D shows the existing condition for the Original Segment 8, Phase 3 from KOP 1. As seen in Figure 3a of Appendix D, the foreground of KOP 1 consists of the bike path and strawberry fields in the ROW. In the middleground and background, the transmission structures for Segment 8 Phases 2 and 3 are visible. The transmission structures are the most visually dominant features in the view due to their height and absence of other structures or features that would block views.

The change between the Original Segment 8, Phase 3 and the Modified Segment 8, Phase 3 from KOP 1 is shown in Figures 3a and 3b of Appendix D. In the view from KOP 1, the transmission structures visible in the background associated with Modified Segment 8, Phase 3 change from TSPs to shorter structures that are a mixture of TSPs and LSTs, resulting in a slight diminishment in the unity of the structures in the view. Despite this change, however, the overall visual character and quality of the view remains unchanged from the Original Segment 8, Phase 3. Figure 3c of Appendix D shows the current condition for Segment 8, Phase 3 from KOP 1.

KOP 2 is representative of the residential viewers on the east side of the TRTP. KOP 2 is located adjacent to a church and preschool at the approximate transition between rural residential/agricultural areas in the middle portion of the Project and residential areas on the eastern end of the Project. These viewers are typically considered to have long-duration views and high sensitivity. Figure 4a of Appendix D shows the existing condition for the Original Segment 8, Phase 3 from KOP 2. As seen in Figure 4a, the foreground of KOP 2 consists primarily of fallow agricultural fields within the ROW, as well as a block wall and vegetation associated with the church and preschool. In the middleground and background, the transmission structures for Segment 8, Phases 2 and 3 are visible, along with structures associated with rural residences and agricultural uses, a line of trees, and mountains in the far background. Phase 2 transmission structures are the most visually dominant features in the view due to their height and absence of other structures or features that would block views.

The change between the Original Segment 8, Phase 3 and the Modified Segment 8, Phase 3 from KOP 2 is shown in Figures 4a and 4b of Appendix D. In the view from KOP 2, the transmission structures visible in the background associated with Modified Segment 8, Phase 3 are replaced with a mixture of TSPs and LSTs that are shorter than the TSPs and LSTs in the Original Segment 8, Phase 3. From KOP 2, these changes are visible but unremarkable and the overall visual character and quality of the view remains unchanged from the Original Segment 8, Phase 3. Figure 4c of Appendix D shows the current condition for Segment 8, Phase 3 from KOP 2.

No change to the visual character of the area and no additional impacts to visual resources are anticipated. No new or substantially different visual impacts would occur and no new mitigation measures would be necessary.

## **D.2 Issue Areas Where Modification Results in No Change**

The proposed modification does not change the characteristics or overall scale of the approved Project and involves only negligible changes to the Project's design. Therefore, potential environmental impacts to agricultural resources, air quality, biological resources, cultural resources, geology, soils and paleontology, hazards and hazardous materials, hydrology and water quality, land use, mineral resources, noise, population/housing, public services, transportation and traffic, and utilities and service systems, are not expected to change or increase in severity compared to what was described for in the Final EIR of the approved Project.

## **E. Other CEQA Considerations**

### **E.1 Significant Unavoidable Impacts**

The environmental impacts of the approved Project are described in detail in Section 3 (Effectuated Environment and Environmental Consequences) of the Final EIR, and for the proposed modification, in Section D (Evaluation of Modification) of this Addendum. All the significant and unavoidable (Class I) impacts identified for the approved Project, as discussed in Section 5.1.3 (Adverse Environmental Effects that Cannot Be Avoided) of the Final EIR, would be the same as for the approved Project with implementation of the proposed modification.

### **E.2 Irreversible and Irretrievable Commitment of Resources**

As described in the Final EIR, the approved Project would result in the irreversible and irretrievable commitment of resources. The proposed modification, minor in comparison, would be similar to the approved Project. Construction of the proposed modification identified by SCE would result in the same irretrievable commitment of natural resources as described in the Final EIR. Please see Section 5.1.2 of the Final EIR for a complete discussion of irreversible and irretrievable commitment of resources for the approved Project.

### **E.3 Growth-Inducing Effects**

As described in the Final EIR, the primary purposes of the approved Project are to accommodate potential renewable power generation in the Tehachapi area, prevent overloading of existing transmission facilities, and comply with reliability criteria for transmission planning. The proposed modification serves the same purposes and is minor in comparison to the approved Project. Construction and operation of the proposed modification identified by SCE would not change the growth-inducing effects described for the approved Project in the Final EIR. Please see Section 5.1.4 of the Final EIR for a complete discussion of growth-inducing effects for the approved Project.

### **E.4 Cumulative Impact Analysis**

Construction and operation of the proposed modification identified by SCE would not change the cumulative impacts described for the approved Project in the Final EIR. Please see Section 3 (Cumulative

Impact Analysis by Issue Area) of the Final EIR for a discussion of the impacts of the Project that could potentially be “cumulatively considerable” or might be able to combine with similar impacts of other identified projects in a substantial way.

## **F. References**

Aspen Environmental Group (Aspen). 2009. Final Environmental Impact Report, Tehachapi Renewable Transmission Project. Report prepared for the California Public Utilities Commission. October 2009. Agoura Hills, California.

California Public Utilities Commission (CPUC). 2009. Decision Granting a Certificate of Public Convenience and Necessity for the Tehachapi Renewable Transmission Project (Segments 4-11). Decision 09-12-044. December 17.

Southern California Edison (SCE). 2011. Data Request Set TRTP CPUC-ED-10. August 30.