

# **SUPPLEMENTAL EVALUATION 4 CONSTRUCTION OF DEAD-END LATTICE STEEL TOWERS IN SEGMENT 3B**

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

**Antelope Transmission Project, Segments 2 & 3**

Application No. A.04-12-008

SCH No. 2006041160

Prepared By:



May 2009

## Table of Contents

A.	Introduction and Background.....	1
B.	Modification to the Project .....	1
B.1	Construction of Dead-End Lattice Steel Towers in Segment 3B .....	1
C.	Evaluation of Modification .....	2
C.1	Visual Resources .....	3
D.	Other CEQA Considerations .....	4
D.1	Significant Unavoidable Impacts.....	4
D.2	Irreversible and Irretrievable Commitment of Resources .....	4
D.3	Growth Inducing Effects .....	4
D.4	Cumulative Impact Analysis.....	4
D.5	Effects Found Not to be Significant .....	4
E.	References .....	5

### Figures – Located at the end of this document

A-1	Approved Project Route and Modifications
B.1-1	Location of Dead-End LSTs in Segment 3B
B.1-2	Visual Structure Type Comparison

## **A. Introduction and Background**

The Final Environmental Impact Report (EIR) for the Antelope Transmission Project, Segments 2 & 3 (Project) was certified and a Certificate of Public Convenience and Necessity (CPCN) was granted by the California Public Utilities Commission (CPUC) (Docket #A.04-12-008, SCH #2006041160) on March 15, 2007. For a history, background and overview of the Project, please see Section A of the First Supplemental Evaluation (March 2009).

Southern California Edison (SCE) has completed final engineering on the approved Project and has begun building portions of the Project. Based on final engineering, additional details of various components of the Project have been further defined. Please see Supplemental Evaluations 1 through 3 for a description and analysis of previous Project modifications.

This Fourth Supplemental Evaluation addresses an additional modification to the approved Project that was submitted to the CPUC on April 24, 2009. A description of this modification is described below in Section B.

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

## **B. Modification to the Project**

Based on final engineering completed by SCE, an additional modification to the Project has been identified, as presented in electronic communication dated April 24, 2009. Per Section B.2.1 of the Final Environmental Impact Report (EIR) dated December 2006, all structures in Segment 3B consisted of 220-kV single-circuit Lattice Steel Towers (LST). However, in the document dated June 2008 to comply with Visual Resources Mitigation Measure V-1a, it was proposed that SCE and its Contractors shall take measures to eliminate LSTs from the Project and substitute tubular steel poles (TSP) to reduce significant visual impacts as seen from designated sensitive receptor locations in locations designated by the CPUC.

Based on the requirements above, Construction Site (Const) 3B-78 (Figure B.1-1) was originally proposed as a 3-pole structure. In the design process, it was discovered that three tubular steel poles at this location would not accommodate the future Suncreek Generation Tie Line because of the separation of the poles required and due to the large 90 degree line angle. This resulted in two options: a single TSP or an LST. A scaled comparison of these two options, along with the 3-pole structure is depicted in Figure B.1-2 (Visual Structure Type Comparison). An analysis of this modification to the Project has been conducted herein to determine whether or not any new or significant impacts would result. A description of the modification is provided below.

### **B.1 Construction of Dead-End Lattice Steel Towers in Segment 3B**

A single TSP for Const 3B-78 would pose significant constructability and design issues. During conductor sagging operations, there would be large amounts of deflection induced upon a TSP. As this structure is a dead-end structure with differential tension on either side, this deflection would negatively



impact the conductor and shield wire sags on both sides of the structure and consequently leave insulators out of plumb. As a result, this puts longitudinal force on structures not designed for it, resulting in incorrect sags based on design, and is an aesthetic and safety issue.

An LST needs to be used for Const 3B-78 to avoid the technical and safety issues described above. LSTs have minimal deflection during construction activities and the footprint of the tower would not conflict with the future Sun Creek Generation Tie.

Const 3B-79 needs to be a double-circuit LST as it would be used for a future Sun Creek Generation tie to the line exiting Windhub Substation, in addition to the 220-kV line from Windhub Substation to Highwind Substation. New Const 3B-79 is located inside Windhub Substation. Due to its location inside the substation, the LST would have minimal visual impacts.

No additional biological or cultural impacts are expected as a result of these changes to LST's. The tower footings would be built within the existing disturbance area footprint of the substation (Tower 79) and the proposed wire stringing site (Tower 78) immediately north of the substation.

## **C. Evaluation of Modification**

After review of the Final EIR, it was determined that only one environmental issue area would potentially be affected by the proposed modification: Visual Resources.

The proposed construction of LSTs at Const 3B-78 and 79 would occur within the existing disturbance area footprints of the Windhub Substation and the proposed wire stringing site. Therefore, potential environmental impacts to agriculture, air quality, biological resources, cultural resources, geology/soils, hazards and hazardous materials, land use, and mineral resources are not expected to change or increase in severity from the approved Project.

The installation of LSTs would be expected to result in similar noise levels as generated for the construction of TSPs and would not be expected to result in a change in corona noise levels. Therefore, impacts to noise would not differ from the approved Project.

Groundwater would not be affected by the proposed modification and proposed construction is not expected to require new utilities and service systems or affect existing systems. Public services that would potentially be required for construction of the approved Project would be utilized for the proposed modification. Therefore, impacts to hydrology, public services, and utilities and service systems would not differ from the approved Project.

The same construction crews originally assigned for construction of the TSPs would be utilized to perform construction of the LSTs. Therefore, traffic/transportation impacts would not differ from the approved Project.

The following section evaluates the potential visual resource impacts associated with the modification to the approved Project as identified by SCE in their electronic communication dated April 24, 2009.

## C.1 Visual Resources

Construction and operation of the Project modification would not significantly affect the Project's impacts to scenic vistas, existing visual character, and/or the quality of the visual and aesthetic environment.

The following Mitigation Measure was included in the Final EIR:

- V-1a Use Tubular Steel Poles.** In locations designated by the CPUC, SCE and its Contractors shall take measures to eliminate lattice steel towers from the proposed Project and substitute tubular steel poles to reduce significant visual impacts as seen from designated sensitive receptor locations. SCE and its Contractors shall submit design calculations to demonstrate any locations where use of tubular steel poles is not feasible. SCE and its Contractors shall submit site plans, topographic screening studies, and visibility studies demonstrating where tubular steel poles are feasible and would lessen visual impacts, and conversely, where lattice steel towers would blend in with a landform backdrop. SCE shall consult with the visual specialist designated by the CPUC to ensure that the objectives of this measure are achieved. SCE and its Contractors shall submit these plans and studies to the CPUC for review and approval at least 60 days prior to the start of construction.

During the design process, it was discovered that three tubular steel poles at Const 3B-78 would not accommodate the future Suncreek Generation Tie Line because of the separation of the poles required and due to the large 90 degree line angle. An LST needs to be used for Const 3B-78 to avoid the technical and safety issues described above in Section B.1. LSTs have minimal deflection during construction activities and the footprint of the tower would not conflict with the future Suncreek Generation Tie. Const 3B-79 needs to be a double-circuit LST as it would be used for a future Suncreek Generation tie to the line exiting Windhub Substation, in addition to the 220-kV line from Windhub Substation to Highwind Substation.

The construction of LSTs in place of TSPs at Const 3B-78 and 79 would introduce industrial character structures to the desert landscape; however, such changes would not be substantial in comparison with the TSPs, or other transmission towers and substation facilities described in the Final EIR.

Furthermore, as discussed in Section C.11 (Visual Resources) of the Final EIR, Key Observation Point (KOP)-3 was established on Oak Creek Road looking west at the site of Substation One (Windhub Substation). Substation One would be located approximately 200 feet south of Oak Creek Road on a relatively flat desert plain of the Mojave Desert, and approximately one mile east of the Cal Cement Substation access road. At this location, the desert appears flat, but is actually gently sloping, northwest to southeast. For viewers on Oak Creek Road in general, and from KOP-3 specifically, the low visual quality, low viewer concern, and moderate-to-high viewer exposure lead to a low-to-moderate overall visual sensitivity of the visual setting and viewing characteristics.

Therefore, no new or substantially different impacts have been identified and no new mitigation is necessary.



## **D. Other CEQA Considerations**

### **D.1 Significant Unavoidable Impacts**

The environmental impacts of the approved Project are described in detail in Section C (Environmental Analysis) of the Final EIR, and for the proposed modifications in Supplemental Evaluations 1 (March 2009), 2 (April 2009), 3 (April 2009) and Section C (Evaluation of Modification) of this supplemental evaluation. All the significant and unavoidable (Class I) impacts identified for the approved Project, as discussed in Section E.1 (Significant and Unavoidable Impacts) of the Final EIR, would be the same as for the approved Project with implementation of the proposed modification.

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

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 E.2 of the Final EIR for a complete discussion of irreversible and irretrievable commitment of resources for the approved Project.

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

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 E.3.1 and E.3.2 of the Final EIR for a complete discussion of growth-inducing effects for the approved Project.

### **D.4 Cumulative Impact Analysis**

Section E.5 (Cumulative Impact Analysis by Issue Area) of the Final EIR discusses 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. Below is a discussion of the cumulative impacts of the approved Project with implementation of the proposed modification.

#### **Visual Resources**

Construction of the proposed modification would not significantly affect the approved Project’s impacts to scenic vistas, existing visual character, and/or the quality of the visual and aesthetic environment. Visual resources impacts resulting from the activities associated with the proposed modification would not substantially change the magnitude of the Project’s impacts or change the cumulative conclusion of the Final EIR. As such, cumulative impacts related to visual resources would be the same as described in Section E.5.11 (Visual Resources) of the Final EIR.

### **D.5 Effects Found Not to be Significant**

As discussed in Section E.6 (Effects Found Not to be Significant) of the Final EIR, impacts related to Hazards and Hazardous Materials, Mineral Resources, Public Services, and Utilities and Service Systems for the approved Project would not be significant.

The proposed modification identified by SCE would not result in any different or new impacts to these issue areas and as such would not change the impact significance as identified in the Final EIR.

## **E. References**

Aspen Environmental Group. 2006. Final Environmental Impact Report (EIR), Antelope Transmission Project, Segments 2 and 3. Report prepared for the California Public Utilities Commission. December.

**PUBLIC UTILITIES COMMISSION**

505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3298

May 22, 2009

Donald Johnson  
Project Manager  
Southern California Edison  
2131 Walnut Grove Ave.  
Rosemead, C 911770

RE: SCE Antelope Transmission Project, Segments 2 & 3 – Towers 3B-78 and 3B-79

Dear Mr. Johnson,

On April 24, 2009, Southern Californian Edison (SCE) submitted a request to modify the Antelope Transmission Project, Segments 2 and 3, as follows:

Construction Site (Const) 3B-78, located just outside of the Windhub Substation, was originally proposed as a 3-pole structure. In the design process, it was discovered that three tubular steel poles at this location would not accommodate the future Suncreek Generation Tie Line because of the separation of the poles required and due to the large 90 degree line angle. SCE is proposing that a lattice steel tower (LST) be used for Const 3B-78 to avoid the technical and safety issues identified. In addition, SCE is proposing that Const 3B-79 be a double-circuit LST as it would be used for a future Suncreek Generation tie to the line exiting Windhub Substation, in addition to the 220-kV line from Windhub Substation to Highwind Substation. New Const 3B-79 is located inside the Windhub Substation.

A Final EIR was prepared and published for the SCE Antelope Transmission Project, Segments 2 & 3, on December 26, 2006. The Final EIR was certified and a CPCN was granted by the CPUC (Docket #A.04-12-008, SCH #2006041160) on March 15, 2007. Since that time, SCE has completed final engineering on the approved Project and has begun building portions of the Project. Based on final engineering, additional details of various components of the Project have been further defined, as presented in a letter to the CPUC from SCE dated April 24, 2009 specifying the need to use LST for Const 3B-79 and 3B-79, in accordance with Mitigation Measure V-1a which states that "SCE and its Contractors shall submit design calculations to demonstrate any locations where use of tubular steel poles is not feasible." A Supplemental Evaluation was prepared to assess the environmental impacts associated with the subject modification. No new impacts or increase in impact severity were identified.

**This request is approved by CPUC for the proposed modification subject to the conditions noted below which shall be met by SCE and its contractors:**

- All project mitigation measures, compliance plans, and permit conditions shall be implemented during construction activities.
- Copies of all relevant permits, compliance plans, and this approval shall be available on site for the duration of construction activities.

Sincerely,



John Boccio  
CPUC Environmental Project Manager

cc: V. Strong, Aspen