Southern California Edison
WODUP A.13-10-020

DATA REQUEST SET A.13-10-020 WODUP ED-SCE-05

To: ENERGY DIVISION
Prepared by: Scott Lacy, P.E.
Title: Project Engineer
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Question ALT-1:

Alternatives
Background for ALT-1 through ALT-4. The analysis of potential alternatives to the Proposed Project may need to consider increasing the length of tower spans. This could be necessary for alternatives that aim to avoid or reduce environmental impacts at specific tower sites or reduce the overall number of new structures. One way to accomplish greater distances between tower spans, without increasing tower heights, could involve switching from the proposed double-bundle 1590 kcmil Aluminum Conductor Steel-Reinforced (ACSR) to an alternative conductor. Please note that these requests follow-up our Data Request PD-6 (addressing blow-out distance limitations that force the project to have reduced span lengths in Segment 1) we now request this information for all segments of the project.

ALT-1 Please summarize the considerations taken in the selection of the proposed conductor type and the specifications that must be achieved by any alternative conductor. In this response, please identify whether the Proposed Project would rely upon a "standard" or "conventional" structure type that SCE expects to efficiently install and maintain, and identify whether SCE would need to develop a "new" structure design to be sufficiently strong for higher conductor tensions.

Response to Question ALT-1:

The proposed conductor type (1590kcmil ACSR, "Lapwing") is the larger of two SCE standard conductors used at the 220kV voltage level. (The other being 1033 kcmil ACSR, "Curlew".) A "project-specific" conductor selection process was not performed, as it is not standard practice to do so for every project.

Any alternative conductor that might be evaluated must address both basic requirements and optimization issues in order to be determined to be more beneficial to the installed electrical system than a standard conductor. These include ampacity, noise mitigation (i.e. corona), voltage drop, physical strength, energy and power losses, initial purchasing costs, line construction costs, maintenance and replacement costs, and applicability to standard practices.

The WOD Project incorporates the use of SCE's standard "family" of lattice steel tower designs, which have been used successfully for multiple projects over many years. There is one specific design that is being created to accommodate the particularly long span (approximately 4,000 feet) across the Whitewater Creek area, but that tower design would not be used for other locations on this Project.