

Southern California Edison
RTRP A.15-04-013

DATA REQUEST SET A.15-04-013 RTRP-CPUC Deficiency Report-SCE-002

To: CPUC
Prepared by: Kenneth Spear
Title: Project Manager
Dated: 12/02/2015

Question 04:

Provide GIS data for utility lines in the roads that are shown as underground alternative routes. Define the size of each utility line and the spacing of existing utilities. Define utility separation requirements for the underground 230-kV transmission line.

The Deficiency Response #1, Part 6 *Riverside Transmission Reliability Project (RTRP) 230 kV Underground Alternatives Desktop Study July 2015* , identifies three potential underground alternatives and possible challenges to implementation of the alternatives. The document states, “no survey of underground utilities has been completed to date. The presence of existing underground utilities would likely impact the technical and environmental challenges associated with each undergrounding alternative.” Information is required on the type and location of existing utilities to assess the feasibility of constructing an underground transmission line in any of the three alternative alignments.

Provide this data for the entire transmission line alignment as it traverses Jurupa Valley, including within the Riverbend development through the existing commercial/industrial developments of the Vernola Marketplace and the business park at Landon Drive and Wineville Avenue.

Response to Question 04:

SCE does not have GIS information for existing utilities in the roads shown in the alternatives presented within SCE’s *Riverside Transmission Reliability Project (RTRP) 230 kV Underground Alternatives Desktop Study July 2015* . Information submitted to the CPUC by SCE to date regarding existing underground utilities was provided to SCE by Lennar’s utility consultant. In support of its desktop analysis of the underground alternatives, SCE did not confirm or verify the accuracy of that existing underground utility information.

SCE believes that such GIS utility line information may be available from the City of Jurupa Valley.

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To: CPUC
Prepared by: Kenneth Sprear
Title: Project Manager
Dated: 12/02/2015

Question 07:

Provide copies of cultural resource survey reports for the 230 kV RTRP alignment. Provide the results of a current record search through the California Historical Resources Information System (CHRIS).

The Final EIR and Administrative Record do not include the full cultural resource survey reports for the RTRP. This information is needed to verify that eligibility determinations have been made for all cultural resources consistent with the decision in *Madera Oversight Coalition v. County of Madera*. A current historical resources record search is required because additional resources may have been encountered and documented in the RTRP alignment during recent earthwork and mass grading for the projects within the RTRP alignment

Response to Question 07:

Please see the attached updated non-confidential December 3, 2015 *Riverside Transmission Reliability Project Letter Report* by AECOM, Inc. Note, an electronic copy of confidential data referenced as Appendix A to the Letter Report has been sent directly to the Panorama archaeologist via file transfer.

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Question 08:

Provide a current EDR Report for the 230 kV RTRP alignment and substations.

The previous Phase I Environmental Site Assessment (ESA) is over 1 year old and is no longer valid for the Subsequent EIR. Provide an updated Phase I ESA that documents the current status of hazardous material sites within the RTRP alignment and substations.

Response to Question 08:

Please see the attached SCE *Memo of December 2, 2015 regarding Riverside Transmission Reliability Project (RTRP) Hazardous Materials Database Records Search Update and Review* , including the August 5, 2008 Environmental FirstSearch Report (Attachment 1 thereto) and the October 22, 2015 EDR DataMap Corridor Study (Attachment 2 thereto).

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Question 11:

Clarify how rights for access and temporary construction areas outside of the ROW will be secured.

SCE states the following regarding hazards during construction, “SCE anticipates that it will be able to construct the foundations for the tubular steel pole (TSP) and lattice steel towers (LSTs) within a 100-foot ROW”. This statement appears to conflict with the work space requirements defined on page 13, where SCE indicates “Typical laydown areas for construction and assembly of TSPs are approximately 200 feet by 100 feet.”

Response to Question 11:

SCE will seek to secure rights for temporary construction areas and access via lease, license, temporary entry permit (TEP) or temporary construction easement (TCE) depending on the desired terms of the underlying land owners. Fair compensation would be offered to each respective owner. If access roads need to be permanent, SCE will secure them via easement. In either case, if the rights for the required temporary construction areas and/or access cannot be negotiated with the owner(s), SCE may seek to acquire certain rights through condemnation.

Note, the area typically needed for *foundation installation* on TSPs/LSTs is smaller than the overall work area needed for TSP/LST *erection*. The 200 ft. x 100 ft. work area mentioned is the overall area needed for TSP/LST *erection* (including the installation of foundations).

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Question 14:

Provide a current aerial image (georeferenced TIFF file) for the 230-kV transmission line and substations that reflects site conditions as they exist today.

Response to Question 14:

Due to its size (approximately 250 MB), SCE has made the requested geo-referenced aerial image, taken on or around October 22, 2015, for the 230 kV transmission line and substations available online. Please note, the image was taken by the Spot-6 satellite (Airbus Defense & Space) at 1.5 meters (5 foot), 8-bit Primary 1A data. As such, the image is appropriate for visual reference, but should not be used for engineering purposes.

The following instructions may be used to access the aerial image in response to this request:

- Go to www.sce.com/applications;
- Under “CPUC Open Proceedings,” type "A.15-04-013" into the search box;
- Click “Go”; and
- From the Search Results screen, click the icon in the “Attachment” column that corresponds to the file entitled “SCE Resp to CPUC Def Ltr 2, Req 14 – 230 kV Aerial Image, 102215.tiff”

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Question 16:

Please provide a layout of the cable vault with dimensions explaining the 48-foot length. In addition, please explain why two splice vaults are needed per circuit.

The cable vault longitudinal dimension appears excessive in view of the practices of other utilities (e.g., PG&E utilizes 25-foot long vaults for 230 kV). It appears that SCE is indicated that a separate vault would be used for each set of three cables. The reasoning for this separation is not explained and the additional vaults result in a very large amount of excavation. The additional vaults are understandable where the cables are different circuits; however, it is not clear why this is needed for the RTRP where each circuit is made up of six cables. From a worker safety perspective, when the circuit is de-energized all six cables would be out of service so it would seem there is no safety issue with locating all six cables in the same vault.

Response to Question 16:

A drawing of a vault with cable, splices, grounding, and racking components layout is not available at this time. For underground systems of 230 kV and above, racking and restraint systems are custom designed taking into account cable size, loading on the line, seismic requirements, thermal mechanical movement, terrain, distances between splicing vaults, *etc.* This information will be available after the supplier(s) of the underground components are selected, and further engineering is performed.

After the design phase, the exact length of the cable vault would be determined. SCE's underground design of 66 kV and 115 kV utilizes a 20 ft. length vault, and the cable is allowed to freely expand and contract as it heats up and cools down on a daily basis due to current flow. SCE's 500 kV underground design in support of a portion of the Tehachapi Renewable Transmission Project (TRTP) utilizes a 63 ft. length vault. For planning purposes of a hypothetical 230 kV underground design, the length of 48 ft. is currently proposed for RTRP. If the length of the cable vault is too short then the cable might not have enough room to expand.

During a failure event to the underground transmission line, the process to locate, perform root cause, mobilize skilled splicers, and replace cable could be lengthy. During this event, the dual splice vault system allows SCE to energize half of the circuit (*i.e.* three of the cables) while the other half is de-energized for repair and replacement. This allows the line to remain operational with the ability to carry partial load, while work is performed in the other vault. Without the dual splice vaults the entire line would have to be de-energized while repair work is ongoing.

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Question 17:

Provide an explanation of the 557 MW capacity limit from Vista to serve Riverside Public Utility (RPU) demand. How many transformers at Vista are for Riverside load?

The system Information that we have for Vista shows that there are four (4) 220/66 kV transformers with a combined capacity of 1,120 MVA (4 banks at 280 MVA each). The combined capacity is increased to 1,204 (3 banks at 308 MVA + 1 bank at 280 MVA) in planning models for 2019 and beyond. What is the limiting factor or contingency? It is not clear from the 2006 Transmission Plan.

Response to Question 17:

Riverside Public Utility is normally served from the SCE by two dedicated 280 MVA rated 220/66 kV transformers operating in parallel at Vista Substation. The other two 280 MVA transformers are used by SCE to serve other customers. In 2006, the two transformers dedicated to Riverside Public Utility had impedances of 6.93% and 6.87% resulting in a combined rating of 557 MVA when operating in parallel. The replacement transformers serving the Riverside Public Utility load today have a combined rating of 560 MVA for base case or normal conditions.

The limiting factor is an N-1 contingency of one of the transformers at Vista Substation. Under this condition, the Short Term Emergency Loading Limit (STELL) rating is 448 MVA for up to 1 hour and the Long Term Emergency Loading Limit (LTELL) is 336 MVA for the next 30 days for the remaining transformer. An operating procedure is currently in place for mitigation until the Riverside Transmission Reliability Project is in service. The 308 MVA rating mentioned above is the Planned Loading Limit of a single 280 MVA transformer operating by itself (not paralleled with another transformer).

The available short circuit duty at the Vista Substation 66 kV bus does not allow three 280 MVA, 220/66 kV transformers to operate in parallel with Riverside Public Utility's generation on-line.

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Question 18:

Please provide a specific memo or report documenting that the CAISO directed SCE to build the RTRP in June 2006.

The CPUC has not seen any reports or documents stating that the project was approved by CAISO or that SCE was directed to build it.

Response to Question 18:

Please see the attached Administrative Record document no. 167 (AR 11264 – 11273) in support of the City of Riverside’s February 5, 2013 approval of the Riverside Transmission Reliability Project (RTRP) containing the June 14, 2006 *California ISO General Session Minutes, Operations Committee Meeting* and June 14, 2006, *California ISO General Session Minutes, Board of Governor’s Meeting*. The California ISO Board of Governor’s meeting minutes assert, in relevant part “Moved that the Board of Governors grant its approval of: [1] the City of Riverside Transmission Project...as a necessary and cost effective addition to the ISO Controlled Grid and Directs Southern California Edison (SCE) to complete construction of the City of Riverside Transmission Project as soon as possible ...; and [2] support of SCE recovery of reasonably incurred costs associated with the permitting and construction of the City of Riverside Transmission Project ... in relevant FERC and CPUC rate cases ... Motion seconded...and approved,5-0-0” (*see* AR 11271). A compact disc containing a searchable copy of the entire Administrative Record, as well as an index thereto, was included in SCE’s transmission of its April 2015 application for a Certificate of Public Convenience and Necessity.