

Southern California Edison
RTRP A.15-04-013

DATA REQUEST SET A1504013 ED-SCE-05

To: ENERGY DIVISION

Prepared by: Dana Cunningham

Title: Project Manager, Transmission Project Delivery

Dated: 06/08/2017

Question PD-1:

Provide an updated project schedule breakdown, similar to the schedule sent in response to Deficiency Report #4, Item 9, reflecting the 38-month construction timeline identified by SCE in response to Data Request #3.

The schedule should include the key construction activity categories (below) for each component of the proposed project included in SCE's CPCN Application (i.e., telecommunications, distribution relocations, Wildlife substation, overhead 230-kV, underground 230-kV). Please also identify those construction activities that have the potential to occur concurrently and those activities that cannot occur concurrently due to logistics.

- Marshalling Yard Preparation and Mobilization
- Construction
- LST Foundation Installation
- LST Steel Haul
- LST Steel Assembly
- LST Erection
- TSP Foundation Installation
- TSP Haul
- TSP Assembly
- TSP Erection
- Riser Pole Preparation
- Underground Vault Installation
- Underground Duct Bank Installation
- Underground Cable Installation
- Trench Restoration/Paving
- Cable Splicing
- Cable Terminating

Response to Question PD-1:

Please see the attached construction schedule detailing work tasks related to the transmission and IT/telecom components. In general, activities shown with overlapping dates can be performed concurrently although their start or finish times may be dependent on other tasks. For example,

road grading for mobilization will be required to gain access to a specific site at which point structure haul, footings install, etc. can occur. But road grading doesn't need to be completed on the entire project before any structure activities can occur - it can simply be completed at a few areas enough first to allow structure activities to begin before moving onto the next area. It is possible for overhead stringing to occur concurrently with structure construction but at least an entire ruling span of structures (dead-end structure to dead-end structure) must be built first, before stringing can occur.

A detailed timeline for the substation construction component (which is not a critical path item for this project) is being investigated, so SCE will supplement this response to include substation-related information as soon as possible. Please note that there is currently no detailed schedule for the distribution relocation component because that scope of work has not yet been detailed at this time.

Please note that these estimates are based on planning level assumptions, analyses performed to date, and known conditions. Variables which are unknown, unconfirmed, and/or which have not been studied to date, including certain environmental impacts, field conditions, land use and real property issues (including need for appropriate access and rights-of-way), need for specialized electrical facilities and infrastructure, and the confirmed presence of existing utilities (including existence and depth of underground utilities), could materially affect the estimates provided. These estimates are subject to change following completion of final engineering, identification and/or verification of field conditions, completion of underground surveys, availability of labor, material, and equipment, compliance with applicable environmental and permitting requirements, and other factors.

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To: ENERGY DIVISION
Prepared by: Roman Vazquez
Title: Project Engineer
Dated: 06/08/2017

Question PD-2:

Provide a cross section diagram of the underground duct bank that will be installed at Location 7 and Location 8, similar to the diagram provided for the 230-kV double circuit duct bank in response to Deficiency Report #4 (Item 12).

Response to Question PD-2:

Please see the attached PDF. Of the designs shown on the PDF, either full or semi-encasement would be utilized.

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To: ENERGY DIVISION
Prepared by: Gary Busteed
Title: Environmental Project Manager
Dated: 06/08/2017

Question AS-1:

Provide a revised simulation of the riser poles for Viewpoint 5 in the AECOM Visual Resources Technical Report (November 2016) that includes the cable shrouds, which were described in SCE response to Data Request #2, Question PD-13 and depicted in Figure 7 (page 28) of the RTRP Underground Alternatives Desktop Study (T&D Engineering July 2015). The cable shrouds are not currently depicted and would be a visible component of the riser poles to an approximate height of 30 feet (based on the Desktop Study).

Response to Question AS-1:

Attached is the revised riser pole simulations for Viewpoint 5 (Intersection of Limonite and Pat's Ranch Road). The visual simulation photo was taken using a 50mm focal length photograph and the cable shrouds were adjusted to the appropriate height. Also attached in this pdf is the adjusted riser pole simulation using a 50mm focal length photo for Viewpoint 4 (Goose Creek Golf Course), however due to tree cover the cable shrouds are not visible.

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To: ENERGY DIVISION
Prepared by: Gary Busteed
Title: Sr. Environmental Project Manager
Dated: 06/08/2017

Question AS-2:

Provide digital base files for each of the simulations listed below in jpg, tiff, or raw format, including all layers for graphic information presented in the simulation. Base photos should be adjusted to mimic a 50-mm focal length.

The simulations listed below were included in the Aesthetics and Visual Resources Technical Report prepared by AECOM (November 2016) and base photos utilized a 35-mm focal length. If simulation data consists of multiple layers, it is acceptable to condense transmission facilities into one layer.

- Viewpoint 4: Goose Creek Golf Club from driving range shelter looking southeast by south. RTRP Overhead Option (Image #17)
- Viewpoint 4: Goose Creek Golf Club from driving range shelter looking southeast by south. RTRP Underground Option (Image #19)
- Viewpoint 5: Intersection of Limonite Avenue and Pats Ranch Road looking west by north. RTRP Overhead Option (Image #21)
- Viewpoint 5: Intersection of Limonite Avenue and Pats Ranch Road looking west by north. RTRP Underground Option (Image #23)

Response to Question AS-2:

Attached are the jpg photos taken using the 50-mm focal length at Viewpoints 4 (Goose Creek Golf Club) and Viewpoint 5 (Intersection of Limonite and Pats Ranch Road) as well as the graphic information used for the visual simulations. PDFs of the visual simulations for the riser pole structures and associated overhead facilities are provided in AS-1 of this data request. Note SCE will be supplementing this response to include visual simulations of the previous overhead alignment.

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To: ENERGY DIVISION
Prepared by: Paul McCabe
Title: Project Manager - Electric System Planning
Dated: 06/08/2017

Question NO-1:

Provide several location options for the collection of additional corona noise measurements. The CPUC will conduct additional corona noise measurements to verify levels of potential corona noise.

Please identify locations of an existing double circuit 220/230-kV transmission line and indicate if corona noise complaints have been received along the transmission line. It is preferred that locations are somewhat isolated from noise-generating land uses, such as schools, freeways, and residences to better isolate the corona noise contribution to measurements.

Response to Question NO-1:

Attached is a KMZ of four areas that are somewhat isolated, which can be used for additional corona noise measurements.

Latitude	Longitude	Address	City	Region	Postal	Country
33.82762	-117.821	E Featherhill Dr	Orange	California	92867	USA
33.96849	-117.671	6185 Kimball Ave	Chino	California	91710	USA
34.04301	-117.239	25912 Hinckley St	Loma Linda	California	92354	USA
34.48395	-116.911	12743 Locust Ave	Lucerne Valley	California	92356	USA

SCE is aware that some customers, living close to transmission lines in coastal areas, have mentioned noise on foggy nights; however, we have not located any formal complaints received regarding 220 or 230 kV corona noise, particularly at these locations. We are continuing to research that issue and will supplement this response to provide any information about complaints if discovered. The most recently installed 220 kV double-circuit lines that SCE has installed are near Primm, Nevada and close to the Interstate 15 and the state line between California and Nevada.

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To: ENERGY DIVISION
Prepared by: Dana Cunningham
Title: Project Manager, Transmission Project Delivery
Dated: 06/08/2017

Question NO-2:

Confirm or modify the list of construction equipment provided below.

Data Request #2 included a request for a list of construction equipment and estimated noise levels that SCE anticipates utilizing during underground construction. SCE's response directed CPUC to Table 2.5-1, as amended in their response to Deficiency Report #4, Item #10, for the list of equipment. SCE further responded that noise levels for equipment provided in Table 2.5-1 were included in the 2016 Noise Technical Report prepared by AECOM.

Table 2.5-1 provides a list of heavy equipment but does not include large mechanical tools, such as a concrete saw, jackhammer, or pile driver, which would presumably be necessary for underground construction. These types of equipment generate significant construction noise and will be considered by the CPUC in the noise analysis. The equipment list below includes the equipment CPUC anticipates will be required for overhead pole and tower construction, and for underground construction, pending any final inputs from SCE.

- | | |
|------------------------|-----------------------|
| • 4x4 Pickup truck | • Excavator |
| • Backhoe | • Front end loader |
| • Compaction roller | • Generator (>25 KVA) |
| • Concrete mixer truck | • Hoe ram |
| • Concrete pump | • Impact pile driver |
| • Concrete saw | • Jackhammer |
| • Crane | • Paver |
| • Drill rig | • Puller |
| • Dump truck* | • Pump |
| | • Vacuum Excavator |

* Note that water trucks, flatbed trucks, lowboy trucks, cable/dolly trucks, and splicing truck are anticipated to be used during construction and would generate similar noise level to a dump truck.

Response to Question NO-2:

This list is acceptable to supplement the equipment and workforce table of construction

equipment that may be used during overhead and underground transmission line construction.

The 2016 Noise Technical Report prepared by AECOM contains associated noise levels for this equipment with the exception of the following :

4x4 Pickup truck - **55dBA***

Compaction roller - **80dBA***

Drill rig - **84dBA***

Hoe ram - **90dBA*** Note that a hoe ram would only be used if conventional grading/digging processes are not feasible (i.e. digging into hard rock)

Puller – similar to a dump truck identified on the noise technical report

*Per FHWA website:

https://www.fhwa.dot.gov/ENVIRonment/noise/construction_noise/handbook/handbook09.cfm

SCE will ask AECOM to amend the Noise Technical Report to include these values.

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To: ENERGY DIVISION

Prepared by: Dana Cunningham

Title: Project Manager, Transmission Project Delivery

Dated: 06/08/2017

Question ALT-1:

Indicate how increasing the underground alignment by the following distances affects the 38-month construction schedule previously provided:

- **0.25 mile**
- **1.0 mile**
- **2.0 miles**

Response to Question ALT-1:

.25 miles of increase to UG route would add **approximately 50 calendar days** to construction schedule

1.0 mile of increase to UG route would add **approximately 197 calendar days** to construction schedule

2.0 miles of increase to UG route would add **approximately 393 calendar days** to construction schedule

Please note that these estimates are based on planning level assumptions, analyses performed to date, and known conditions. Variables which are unknown, unconfirmed, and/or which have not been studied to date, including certain environmental impacts, field conditions, land use and real property issues (including need for appropriate access and rights-of-way), need for specialized electrical facilities and infrastructure, and the confirmed presence of existing utilities (including existence and depth of underground utilities), could materially affect the estimates provided. These estimates are subject to change following completion of final engineering, identification and/or verification of field conditions, completion of underground surveys, availability of labor, material, and equipment, compliance with applicable environmental and permitting requirements, and other factors.

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To: ENERGY DIVISION

Prepared by: Ken Spear

Title: Sr. Project Manager, Major Projects Organization

Dated: 06/08/2017

Question ALT-2:

Would additional crews operate concurrently to construct the longer underground segments identified above in ALT-1 (1.0 and 2.0 miles) and maintain the same schedule as the proposed project? If so, how many additional crews would be utilized?

Response to Question ALT-2:

Additional resources could be deployed to perform additional underground scope in support of reaching established scheduling milestones and completion date. However, that cannot be determined until a contractor has been selected. Crew availability and size cannot be determined at this stage of the project. Additionally, impacts to cost and other project aspects associated with schedule acceleration to accommodate additional scope cannot be determined presently.