Southern California Edison

A.23-03-005 – SCE's Application For A Permit To Construct Electrical Facilities With Voltages Between 50 kV and 200 kV: Cal City Project

DATA REQUEST SET E D - S C E - 0 0 1

To: Energy Division
Prepared by: Sheridan Mascarenhas
Job Title: Senior Advisor, Strategy and Project Development
Received Date: 4/14/2023

Response Date: 5/18/2023

Question 10:
Chapter 4: Provide the 10-year planning period demand growth projections based on estimated growth rates for the substation service areas; and power flow studies for the subtransmission system and Electrical Needs Area (ENE), including model files, that were used to support SCE's forecasts of electrical demand. This information may be used for the screening of alternatives relative to meeting the objectives identified for the Project.

Response to Question 10:
Please see Table 2-2 from page 2-7 of SCE's Proponent's Environmental Assessment for Cal City Substation 115 kV Upgrade Project, which provides the 10-year forecast for Cal City Substation representing the expected peak loading values by year within the Electrical Needs Area. The annual growth year over year is not developed using an "estimated growth rate" (i.e., X% per year). Instead, projected growth is developed by evaluating customer requests for new service and the phasing of associated facility buildout. The annual projected growth for any given year is the sum of the customer load requests for that year and can be determined in Table 2-2 by taking the difference between any two consecutive forecast values. For example, to determine the expected growth to occur in 2025, subtract the projected peak demand value for 2024 from 2025. The result is 27 MVA for the year 2025 (165.8 MVA minus 138.8 MVA = 27 MVA).

Table 2-2 Projected Electrical Needs Area Substation Capacity and Peak Demand

	Future Years				
Projected: Capacity versus Peak Demand	**2021[1]**	**2022**	**2023**	**2024**	**2025**
Maximum Operating Limit (MVA)*	24.3	36.4	36.4	36.4	36.4
Projected Peak Demand 1-in-10 Year Heat Storm (MVA)	37.4	72.4	117.4	138.8	165.8
Surplus/Deficit *before* Temporary Mitigation (MVA)	-13.3	-40.8	-85.8	-107.2	-134.2
Additional Peak Demand Served by Temporary Mitigation (MVA)*	0	26.0	54.0	54.0	54.0
Surplus/Deficit *after* Temporary Mitigations (MVA)	-13.1	-10.0	-27.0	-48.4	-75.4
	Future Years				
Projected: Capacity versus Peak Demand	**2026**	**2027**	**2028**	**2029**	**2030**
Maximum Operating Limit (MVA)	36.4	36.4	36.4	36.4	36.4
Projected Peak Demand 1-in-10 Year Heat Storm (MVA)	171.9	173.0	172.9	173.2	173.4
Surplus/Deficit *before* Temporary Mitigation (MVA)	-140.3	-141.4	-141.3	-141.6	-141.8
Additional Peak Demand Served by Temporary Mitigation (MVA)	54.0	54.0	54.0	54.0	54.0
Surplus/Deficit *after* Temporary Mitigations (MVA)	-81.5	-82.6	-82.5	-82.8	-83.0

1. The 2021 data is based on forecast data and, therefore, included in future year projections. SCE continues to track substation capacity and peak demand, and information will be updated as historical data and updated forecasts become available.
*As described in greater detail in Section 2.1.2.3, SCE is implementing several mitigation projects that would provide additional temporary capacity to minimize the amount of load that would otherwise go unserved until the Proposed Project was constructed. The "Maximum Operating Limit" includes mitigation projects that would increase the capacity of the existing Cal City Substation while the term "Temporary Mitigation" refers to the installation of temporary distribution pad mount substations along the 33 kV source lines which, in addition to the substation capacity improvements, increases the total capacity in the ENA.

SCE annually develops load forecasts for substations covering a 10-year planning horizon. These substation load values are then input into power flow modeling software along with the characteristics of the power system (including the 115 kV subtransmission lines) that determine power flow values. The power flow models do not "support SCE's forecasts of electrical demand." Instead, they serve only to represent how the power flows to the substations to determine the adequacy of the 115 kV subtransmission source lines' capacity to provide sufficient power to serve the loads of the substations.

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To: Energy Division
Prepared by: Jonathan Samson
Job Title: Project Engineer
Received Date: 4/14/2023

Response Date: 5/18/2023

Question 11:
Regarding the Sequoia Boulevard Alternative, would it be feasible for the northern portion of the route north of Sequoia Boulevard be co-located as a double circuit configuration that would include the Cal City-Edwards-Holgate line? Would it be feasible for the alternative alignment in Cal City to be moved a sufficient distance north of aesthetics resources Viewpoint 3 to reduce the visual prominence of the Project in that area?

Response to Question 11:

Co-locating the northern portion of the Sequoia Boulevard Alternative as a double-circuit configuration ("Co-located Sequoia Alternative") that would include the Kramer-Cal City and Cal City-Edwards-Holgate 115 kV Subtransmission Lines would not be feasible because it would fail to accomplish the Project Objective "to improve system reliability within the ENA by providing diverse routes of power supply to the region."

For substations with only two source lines, route diversity is critical to providing reliable electric service. When routes are diverse, they are much less susceptible to contingency events (e.g., car hit pole) that result in simultaneous outages of both source lines. Without diversity, an outage to both source lines would result in a complete outage to the substation and to all of its customers. A complete outage to a substation in an area such as California City (without significant connections to adjacent electrical facilities to provide assistance in restoration) would result in an entire area being without electrical service. Durations of such outages could vary from momentary to hours or days depending on the cause (e.g., a temporary fault versus damage to facilities caused by a fire or a car hit pole). Short duration outages may be considered an inconvenience where longer outages could impact the safety and welfare of the community (e.g., emergency care facilities, water delivery or treatment, traffic signals, etc.). As explained in the PEA on page 4-5, though SCE's Sequoia Boulevard Alternative was carried forward for review, it would not provide diverse routes of power within the ENA to the same degree as the Proposed Project. Co-locating the source lines, as suggested in the variation of the Sequoia Alternative considered in this data request, would result in both source lines being installed on approximately 105 additional common structures (totaling approximately 6.7 miles). Co-location over a significant length (which in turn increases the exposure for a contingency event to occur), would subject these two source lines to concurrent

outages while increasing exposure to contingency events. Therefore, co-locating both lines on common structures fails to meet the Project Objective of improving system reliability.

While relocation of the subtransmission line north of aesthetics resources Viewpoint 3 would reduce the line's visual prominence from viewer groups in the area, potentially reducing aesthetic impacts, such relocation would necessarily increase impacts to air quality, biological resources, and greenhouse gas emissions as compared to either the Proposed Project or the Sequoia Boulevard Alternative. These additional impacts would be a reasonably foreseeable result of the increased length of the subtransmission line necessary to accommodate the relocation. Relocation could also increase impacts in other categories, including cultural resources, hydrology, and water quality. Because relocation north of Viewpoint 3 would increase impacts in a variety of categories, SCE did not incorporate relocation into the Proposed Project or study relocation as an alternative in the PEA.

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To: Energy Division
Prepared by: Rey Gonzales
Job Title: Sr. Environmental Project Manager
Received Date: 4/14/2023

Response Date: 5/18/2023

Question 38:
Given the "Moderate FHSZ" classification of the Project area, please prepare a Fire Behavior Modeling analysis for the Project.

Response to Question 38:
SCE does not believe that a Fire Behavior Modeling analysis is required to analyze the wildfire impacts of the Proposed Project. The Proposed Project area is not located in or near a state responsibility area or lands classified as very high fire hazard severity zones. Therefore, the Proposed Project does not meet the thresholds for conducting a wildfire impact analysis provided in Appendix G of the State CEQA Guidelines. The nearest state responsibility area is located approximately 5.8 miles to the west of the proposed Kramer-Cal City 115 kV Subtransmission Line, and the nearest very high fire hazard severity zone is located approximately 12 miles west of the proposed Kramer-Cal City 115 kV Subtransmission Line. As a conservative approach, the PEA included a complete analysis of the potential Wildfire impacts of the Proposed Project in Section 5.20.

As described in PEA Section 5.20, Wildfire, fuel bed structure in the Proposed Project area is composed of vegetation with a low fire risk. Plant communities and vegetation types in the Proposed Project area have fire intervals of 270-833 years and 316-800 years, meaning that the average time between fires in the Proposed Project area is approximately 551.5 years. These prolonged fire intervals indicate fuel bed structure in the Proposed Project area does not present a level of fire hazard that would warrant the preparation of a Fire Behavior Modeling analysis. In addition, as illustrated in PEA Figure 5.20-3, Scott and Burgan Fire Behavior Fuel Modeling, the Proposed Project and surrounding area is dominated by fuels classified as "low load, dry climate timber-grass-shrub" and "low load, dry climate grass-shrub" demonstrating the lack of fuel continuity necessary to exacerbate a wildfire advance from very high fire hazard severity zones located over 5 miles from the nearest Proposed Project alignment.

Moreover, as detailed in PEA Section 5.20.1.1, High Fire Risk Areas and State Responsibility Areas, the Proposed Project is not located within a CPUC-identified High Fire-Threat District Tier 2 (elevated risk), Tier 3 (extreme risk), or Zone 1 (areas in direct proximity to communities, roads, and utility lines where there is a direct threat to public safety).