PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE

SAN FRANCISCO, CA 94102-3298

June 9, 2022

Tom Diaz
SCE Regulatory Affairs - Infrastructure Licensing
Southern California Edison

Via email to thomas.diaz@sce.com

RE: CPUC Supplemental Data Request 11 for the Southern California Edison Alberhill System Project, A.09-09-022

Dear Mr. Diaz,

Upon further review of Southern California Edison's supplemental data response to the additional analyses requested in Decision 18-08-026, the Energy Division requests the information contained in Attachment 1 to this letter. Responses should be submitted to the Energy Division and WSP in electronic format. We request that SCE respond to this data request by June 23, 2022. Inform us as soon as possible if you cannot provide specific responses by this date. Delays in responding to this data request may cause delays in the supplemental analysis review process.

Direct questions to Joyce Steingass at (415) 703-1810 or by e-mail (address below). Please copy the CPUC's consultant, Amy DiCarlantonio, WSP, on all communications (amy.dicarlantonio@wsp.com). Energy Division reserves the right to request additional information at any point during the proceeding and subsequently during project construction and restoration should Application (09-09-022) be approved.

Sincerely,

Joyce Steingass, P.E.
CPUC Project Manager
California Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102-3298
Joyce.Steingass@cpuc.ca.gov

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SAN FRANCISCO, CA 94102-3298

CC: Amy DiCarlantonio, Project Manager, WSP

Attachment 1: 2022-0609_Data Request No. 11_Table

DG_MISC_80 Attachment 1 Matrix of Project Alternatives_EXAMPLE.xlsx

Attachment 1: 2022-0609_Data Request No. 11_Table

DG #	Resource Areas/ Topic	SCE Data Submittal Item/Page	Data Gap Question	Response
DG-MISC-77	SCE Subtransmission Planning Criteria and Guidelines (September 24, 2015), sections 2.3.1.2 and 2.2.1.5	N/A	For reference: SCE Subtransmission Planning Criteria and Guidelines (September 24, 2015), section 2.3.1.2 "Spare Transformers" states: "One three-phase 500/115 kV spare transformer will be provided on site at each 500/115 kV substation. The spare transformer should be so located as to permit practical utilization as a replacement unit within a reasonable period of time." Additionally, SCE Planning Criteria, section **2.2.1.5 states, "**Tie lines, at attended or supervisory controlled substations, will be planned **so that the entire load of transmission substations** with single 220/66 kV, 220/115 kV, or 500/115 kV transformer banks, carrying **Major Subtransmission Load**, can be transferred to adjoining Subtransmission Systems." Question: When Edison is planning a new substation similar to the situation involving the proposed SCE Alberhill System Project, does its SCE Subtransmission Planning Criteria and Guidelines permit design of a substation utilizing a single 500/115kV transformer bank? If a 500/115kV substation is designed with a single transformer bank, can it be planned such that a three-phase 500/115kV spare transformer is unnecessary, so long as SCE can transfer the entire load of the substation to adjoining subtransmission system(s)?	
DG-MISC-78	SCE Subtransmission Planning Criteria and Guidelines (September 24, 2015), section 2.2.1.2	N/A	For reference: SCE Subtransmission Criteria and Guidelines section 2.2 addresses Load Rolling. Specifically, section **2.2.1.2 "**Tie lines, with normally open circuit breakers that can be operated within one hour, will be planned to reduce the transformer load from the short-term Likely Contingency Rating to the long-term Likely Contingency Rating." SCE Subtransmission Criteria and Guidelines specify that sufficient 500/115kV transformer capacity will be provided OR adequate subtransmission line capacity with circuit breaker switching capability will be planned to limit or reduce transformer loading in the event of a transformer bank outage. Based on load rolling governed by section 2.2.1.2 – 2.2.1.6, what is the allowable load at risk that can be accumulated assuming that a 1120-MVA transmission substation experiences an N-1 loss of transformer and performs load rolling described by section 2.2.1.2 to an adjacent subtransmission system?	
DG-MISC-79	N-1 Loss of Transformer	N/A	Provide table of credible contingencies (N-1 loss of transformer and N-2) for Valley system listing the description of the triggering event, probability of occurrence, event duration, contingency rating limits. Cite the reference source used as the basis or justification for estimating the probability of occurrence such as SCE historical data, utility industry source (cite to exact source), or application of engineering judgment. When different sources are used for two different events please compare the relative probabilities results for reasonableness. For example, in Exhibit G-2, Table 3-2 excerpted below, compare the last two items listed in Table 3-2 for reasonableness. (see pdf page 228 of 350)	

DG #	Resource Areas/ Topic	SCE Data Submittal Item/Page	Data Gap Question	Response
			are typically probability-weighted and represented as EENS. Unless otherwise specified, the no monetized benefits are not probability weighted. The benefits in combination with PVRR costs have bee used at different capacities to develop a comprehensive view of project performance. This evaluatio framework includes a traditional benefit-cost comparison of alternatives to characterize the ris associated with load sensitivities. **Table 3-2. Financial and Operating Costs** Parameters / Value / Source Discount rate (weighted aggregate cost of capital [WACC]) / 10% / SCE Customer price (locational marginal price [LMP]) / 40 $/MWh / CAISO[7] Inflation rate (price escalation) / 2.5% / Quanta Load distribution: residential / 33% / SCE Load distribution: small & medium business / 36% / SCE Load distribution: commercial and industrial / 31% / SCE Annual outage rate for Flexibility-2-2 events / 0.0015 / CIGRE[8] Annual outage rate for HILP event (Flexibility-2-1 events) / 0.01 / NERC[9] The non-monetized benefits have been presented in two different formats. From the perspective reliability analysis (Sections 4 and 5), they are described as the sum (or the cumulative effect) of th benefits of the project over the project study horizon. In the cost-benefit framework (Section 6), the no monetized benefits are calculated as the present worth of benefits discounted at the weighted aggrega cost of capital (WACC) throughout the study horizon. An example of the latter, LAR (MWh) benefits of th ASP under normal system condition (N-0) and their present worth using the discount rate of WACC a presented in Figure 3-11. Description of triggering event / Probability of occurrence / Event Duration / Contingency Rating Limits / Cite to Reference Source for Probability (historical data, industry source, engineering judgment)	
DG-MISC-80	N-0 and N-1 Conditions	N/A	Provide a Table (see Attachment 1 for example) organizing information regarding the SCE Alberhill System Project and the project alternatives under consideration. a) State the assumptions (evaluation criteria or acceptance criteria) from the SCE Subtransmission Planning Criteria and Guidelines which govern the responses to the basic planning criteria applied in the Table. b) Provide the accumulation of load at risk for N-0 and N-1 conditions for each project alternative and the SCE Alberhill System Project.	

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DG #	Resource Areas/ Topic	SCE Data Submittal Item/Page	Data Gap Question	Response
			c) Identify which project alternatives satisfy the basic planning criteria. d) List the certified Final Environmental Impact Report project objectives. e) Identify Edison's opinion of which project alternatives satisfy the project objectives. f) In the event a project alternative does not meet the project objectives, explain Edison's opinion why it does not.	
DG-MISC-81	Flex 2-2 MWh Discrepancy between A0909022-SCE ASP Amended Motion to Supplement - Exhibit C-2 Table 6-2 and A0909022-SCE ASP Amended Motion to Supplement - Exhibit G-2 Table 5-36 (And those related)	N/A	Reference: For the VS-VN Alternative, A0909022-SCE ASP Amended Motion to Supplement - Exhibit C-2 Table 6-2 reports a Flex 2-2 MWh value of 61,787 along with a Flex-1 MWh value of 163,090. In the companion comparison, A0909022-SCE ASP Amended Motion to Supplement - Exhibit G-2 Table 5-36, the Flex 2-1 MWh of 163,090 matches, however, the Flex 2-2 MWh lists a value of 2,384. Question: What is the source of this discrepancy?	
DG-MISC-82	Load at Risk	Page A-38 of the appendix to SCE Written Comments to the CPUC dated 01/27/2022	Page A-38 of the appendix to SCE Written Comments dated 01/27/2022 include the following statement: "Common industry practices utilize a meshed configuration with a minimum of two or more parallel supply sources (serving as a backbone) feeding the sub-transmission network. Alternatively, tie-lines are leveraged to transfer loads under emergency or maintenance conditions. Valley South substation is unique in this context as it is one of the few radial load-serving systems without any system ties. Due to these topological limitations, **larger magnitudes of customer load are at risk compared to other SCE and industry systems**." Justify the claim that "larger magnitudes of customer load are at risk compared to other industry systems". Provide comparison of the magnitude of customer load at risk in SCE Valley System as compared to other industry systems.	

		Capacity N-0		Meets N-0 Planning	Reliability N-1		Meets N-1 Planning	Resiliency		Period of Flex Deficit		Meets certified FEIR Project	Which Project Objectives are met?	Comments:
Item No.	Project Alternatives	LAR	EENS	Yes/No	LAR	EENS	Yes/No	LAR	EENS	Hours	Mwh	Yes/No	List each (1, 2, 3)	
1	SCE Alberhill System Project													
2	SCE Orange County													
3	SDG&E													
4	Valley South to Valley North Transfer plus Centralized BESS													
n	continue list													