

Southern California Edison
MESA PTC A.15-03-003

DATA REQUEST SET A1503003 ED-SCE-02

To: ENERGY DIVISION
Prepared by: Daniel Donaldson
Title: Power System Planner
Dated: 07/22/2015

Question 07 A & B:

The CPUC is requesting data related to a potential alternative that would involve implementation of a reduced project:

- A. Has SCE considered, as an alternative to the proposed project, upgrading the existing 220-kV substation to 500 kV through implementing all of the following:
- Installing one set of 500-kV transformer banks initially
 - Planning several locations for more transformer banks
 - Retaining the existing 220-kV substation facility
 - Adding, if necessary, a fault reduction scheme
- B. If this set of actions has been considered and rejected, please provide the rationale for eliminating this alternative.

Response to Question 07 A & B:

The Proposed Project was ultimately selected because it would address reliability concerns resulting from the recent retirement of SONGS and the Once Through Cooling (OTC) shutdowns expected by the end of 2020. Additionally, it is technically feasible, would not require condemnation of any existing properties, and would result in the fewest potential environmental impacts while still meeting the project objectives, including the timeline when the Project is needed.

Establishing the Project at the existing Mesa Substations meets the following fundamental objectives: (1) Provide safe and reliable electrical service; (2) Address reliability concerns resulting from the recent retirement of the San Onofre Nuclear Generation Station (SONGS) and from the OTC shutdowns expected by December 31, 2020; (3) Allow greater flexibility in the siting of future generation projects to meet local reliability needs in the Western Los Angeles Basin, while reducing the total amount of new generation required by providing additional transmission import capability; (4) Maintain or improve system reliability within the Electrical Needs Area; (5) Comply with all applicable reliability planning criteria required by North American Electric Reliability Corporation (NERC), Western Electricity Coordinating Council (WECC), and CAISO; (6) Meet Proposed Project needs while minimizing environmental impacts; and (7) Design and construct the Proposed Project in conformance with SCE's approved engineering, design, and construction standards for substation, transmission,

subtransmission, distribution, and telecommunications system projects. With that said, SCE has answered the questions above, but reiterates that retaining the existing substation and associated equipment as is or in a reduced project configuration would not allow SCE to meet the goals for the Project.

A. Yes, SCE has considered these options.

B.

- One bank would not be sufficient to meet NERC, WECC, and CAISO reliability standards as analysis showed that a single transformer bank would overload under normal operating conditions. This overload would be further exacerbated by contingencies on the system. At a minimum, three banks are necessary to maintain compliance with reliability standards.
- Several site alternatives were assessed as part of the PEA and ultimately rejected. *“Any alternative site would necessitate substantial acquisition of new and/or expanded ROWs and a substation site large enough to accommodate the Proposed Project, and would consequently produce increased environmental impacts compared to the current location.”* This discussion can be found on pages 5-15 and 5-16 of the PEA
- Retaining the existing 220-kV substation would not leave sufficient space to construct the new 500 kV switchrack and associated transformers and was therefore rejected.
- A fault reduction scheme would not be a necessary component as short circuit duty was not the limiting constraint on the ability to retain the existing 220 kV facilities. The limiting constraint was the space required to construct the new 500 kV switchrack and associated transformers.