

Docket Number 06-SPPE-2  
First Round Data Requests  
El Centro Unit 3 Repower Project  
July 2006

**DATA REQUEST #16**  
**TRANSMISSION SYSTEM ENGINEERING**

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**BACKGROUND**

The California Environmental Quality Act (CEQA) requires the identification and description of the “Direct and indirect significant effects of the project on the environment.” For the identification of indirect or downstream transmission impacts, staff relies on the System Impact and Facilities Studies as well as review of these studies by the agency responsible for insuring that the interconnecting grid meets reliability standards, in this case, the Imperial Irrigation District (IID). The studies analyze the effect of the proposed project on the ability of the transmission network to meet reliability standards. When the studies determine that the project will cause the transmission to violate reliability requirements, the potential mitigation or upgrades required to bring the system into compliance are identified. The mitigation measures often include the construction of downstream transmission facilities. CEQA requires the analysis of any downstream facilities for potential indirect impacts of the proposed project. Without a complete System Impact Study, staff is not able to fulfill the CEQA requirement to identify the indirect effects of the proposed project.

According to the System Impact Study,” The interconnection of the proposed generating facility to the existing 92 kV transmission system was found to have no significant impact on the IID system as shown by the lack of overload and voltage violations.” The study also found that the proposed project would have minimal affects on the transmission networks of neighboring utilities. However, staff is concerned that the study is not complete and does not provide mitigation measures for identified overloads.

The System Impact Study identified overloads in some transmission elements (Page 5 of the system impact study report), but did not address the mitigation measures required to eliminate the overloads. The study also did not analyze the effect of the potential outage of the El Centro switching station 92 kV bus where about twelve 92 kV transmission lines, two step-up transformers (230/92 kV & 161/92 kV), and four El Centro generators are now connected. Because this outage was not studied, no mitigation for a possible overload was identified, and impacts of the proposed project may have been missed. Staff has included a list of other contingencies or outages that were not included in the System Impact Study (located after Data Requests 16 and 17).

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16. The SIS did not analyze several critical contingencies in the Power Flow analysis (see contingency list below). Please explain how the study concluded that the proposed project would have no significant impact on the IID system when these contingencies were not studied.

**Contingency List for Data Request 16**

- El Centro switching station 92 kV bus fault.
- El Centro switching station 161 kV bus fault.
- El Centro switching station 230 kV bus fault.
- El Centro – Avenue 58 and El Centro – Niland 161 kV lines.

**DATA RESPONSE**

The SIS examined credible contingency analysis that takes into account the physical attributes of the El Centro Switching Station and incoming 92 kV, 161 kV, and 230 kV transmission lines. The 92 kV El Centro Switching Station modeled in this analysis had 20 terminations:

- one 161/92 kV transformer
- one 92/230 kV transformer (proposed)
- one 34.5/92 kV transformer
- five generator transformers (including the Repower of Unit 3)
- twelve 92-kV lines

The El Centro 92 kV Switching Station has a double breaker configuration, meaning the loss of the 92-kV bus will not result in loss of any elements connected to the 92-kV bus. For this reason, an outage of the 92-kV bus would not result in the loss of any elements. Furthermore, taking an outage of all of the terminations interconnected to the El Centro 92 kV station is not realistic and was not conducted for the purpose of the SIS. With the exception of the El Centro 92-kV bus outage, the additional contingencies requested by Staff have been conducted (as shown in Attachment F, Supplemental Outages, and Attachment G, Supplemental Outages Results).

Staff also noted a particular double contingency that was not run as part of the SIS; specifically the loss of both the El Centro-Avenue 58 and El Centro-Niland 161-kV lines. Due to the separation between the lines out of the 161 kV

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substation, we do not believe that this is a credible outage. However, in response to Staff's request, this outage has also been completed.

The additional outages were tested and were found to cause no voltage or thermal violations.

In conclusion, the additional power flow outages requested by Staff continue to support the SIS conclusions that the interconnection of the El Centro Unit 3 Repower Project meets the reliability requirements for interconnection to the El Centro 92 kV Switching Station.

**ATTACHMENT F  
TRANSMISSION SYSTEM ENGINEERING  
SUPPLEMENTAL OUTAGES**

**ATTACHMENT G**  
**TRANSMISSION SYSTEM ENGINEERING**  
**SUPPLEMENTAL OUTAGES RESULTS**