DOCKETED

Docket Number:	13-AFC-01
Project Title:	Alamitos Energy Center
TN #:	210528
Document Title:	Record of Conversation on Transmission System Engineering 02/16/16
Description:	ROC between CEC Staff and Applicant's Consultant on Transmission System Engineering
Filer:	Christopher Meyer
Organization:	California Energy Commission
Submitter Role:	Commission Staff
Submission Date:	2/24/2016 2:30:21 PM
Docketed Date:	2/24/2016

CALIFORNIA ENERGY COMMISSION

REPORT OF CONVERSATION

Energy Facilities Siting Division

FILE: Document1

PROJECT TITLE: Alamitos Energy Center (13-AFC-01)

☒ **Telephone**	916-654-5012	☐ **Meeting Location:**		
NAME:	Ajoy Guha	**Date:**	Jan 26 & 29, 2016	**TIME:** 3:20 PM & 11:00 AM
WITH:	Mr. Robert Sims of AES Corporation, Tel #858-573-2054			
SUBJECT:	Data Responses to CEC DR #6, TSE DR. #160, 161 & 163			

COMMENTS: The written responses with the revised one-line diagram of the proposed project switchyards received from the applicant to the California Energy Commission (CEC) Transmission System Engineering (TSE) Data Requests no.160-163 (Data Response set #6, Docket no. 13-AF-01) were not found satisfactory.

Following the CEC workshop with the AES group on Jan 26, 2016, I called Mr. Robert Sims, Project Director, Engineering & System Planning, AES Corporation on the same day and he responded by sending Four- second set of revised drawings by email to me. After reviewing the drawings, I discussed with him about some discrepancies found in the revised one-line Diagram, Figure 3.1-1R of the proposed AEC switchyard equipment and the ACSS Conductor (Aluminum Conductor, Steel Supported) specified for the proposed two Gen tie lines to the SCE 230 kV Alamitos Switching Station. I told him: The design Power Factors (PF) of the proposed Generators are shown in the drawing as 0.85, but in Power Diagram Block 1, a Low side 18 kV breaker for the proposed STG (Steam Turbine Generator) is shown underrated as 9,000 Amps, and two GSU (generator Step-Up) transformers rated for the two CTGs are also found underrated at CTGs operating at 0.85 PF. Similar discrepancies are also found in the Power Blocks 1a-1d, all the GSU transformers ratings are shown as underrated for 0.85 PF operation of the CTGs. In both Power Blocks, the high side 230 kV bus ratings with short connecting overhead lines from the high side of the GSU transformers are also missing.

I pointed out also about the ACSS Conductors which are rated at 200 degree Celsius. The ACSR (Aluminum Conductor, steel reinforced) conductor which is used for the transmission lines and Gen tie lines and all other equipment including GSU transformers are rated at 75 degree Celsius. There would be heat conduction from the ACSS conductor to other equipment and it would affect reliable operation of the switchyard equipment etc. The ACSS Conductor is never used for the Gen Tie lines; it is rarely used in transmission lines, used only for reconductoring of short overhead lines.

Mr. Sims told me that minimum PF requirement for Generator operation is 0.9 lag to 0.95 lead per California ISO Tariff. He said he will get back to me on Jan 29 with relevant details. On Jan 29 he emailed me with the full extract of the Voltage Support ISO tariff 8.2.3.3 and a relevant extract from the LGIA (Large Generator Interconnection Agreement) signed by the AES with CAISO and SCE for the Huntington Beach Project . I told Mr. Sims that according to the ISO tariff, during actual operation the PF of the participating Generator could change from 0.9 lag to 0.85 lag for the network load and reactive power requirements in order to maintain reliable operation according to NERC and WECC Reliability Standards and in a high load Long Beach area of Southern California, it would be appropriate and consistent with safe practices to design all the switchyard equipment and the Gen Tie Lines on the basis of the current outputs and MVA ratings of the proposed generators at 0.85

PF, according to the LGIA signed for the Huntington Beach Project.

Mr. Sims asked me to send an email to him about our concerns and requirements. But since the CEC's licensing process is a Public process, under direction instead of sending out an email, we have decided to send out a formal Data Requests as usual to the applicant, AES.

cc: Mark Hesters Christopher Meyer	**Signed:** / Original Signed by: /
	Name: Ajoy Guha