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Docket Number:	13-AFC-01
Project Title:	Alamitos Energy Center
TN #:	212242
Document Title:	Alamitos Energy Center Supplement to Data Responses Set 8
Description:	N/A
Filer:	Deric Wittenborn
Organization:	Ellison, Schneider & Harris LLP
Submitter Role:	Applicant Representative
Submission Date:	7/12/2016 11:20:02 AM
Docketed Date:	7/12/2016

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July 12, 2016

Keith Winstead
Project Manager
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814-5512

RE: Alamitos Energy Center (13-AFC-01)
Supplement to Data Responses, Set 8 (Response to Data Request 170-175)

Dear Mr. Winstead:

AES Alamitos, LLC's (the "Applicant") provides the following supplement to its *Data Responses, Set 8 (Response to Data Request 170-175)* filed on March 17, 2016.

171. In Power Block 1, please provide:
   a. The high side bus size, type and Ampere ratings,
   b. The length, size and type of the short overhead conductor between the high side of the generator step-up (GSU) transformer and the 230 kV switchyard bus.

172. In Power Blocks 2a and 2b, please provide:
   a. The high side bus size and type, Ampere ratings,
   b. The length, size and type of the short overhead conductor between the high side of the GSU transformer and the 230 kV switchyard bus.

RESPONSE:

In Power Block 1, the Applicant expects that the STG unit would be connected through a 10,000-ampere, 18 kV circuit breaker (CB), a disconnect switch and an approximately 100-foot long 10,000-ampere segregated bus duct to the low voltage terminal of a dedicated 171/228/285 MVA, ONAN/ONAF, 18/230 kV GSU transformer. Each of the two CTG units in Power Block 1 are expected to be connected through a 10,000-ampere, 18 kV breaker, a disconnect switch and an approximately 100-foot long 10,000-ampere segregated bus duct to the low side voltage terminal of a dedicated 169/225/282 MVA ONAN/ONAF, 18/230 kV GSU. Each GSU transformer's percent impedance at its lowest MVA rating would be provided post-Certification during detailed design, consistent with Commission precedent and practice. The high side of each the above three GSU transformers are expected to be connected by a short overhead span of 1113 ACSR "Bluejay" conductor and a 230 kV 1,200-ampere Circuit Breaker (CB) with a 1,200 amp disconnect switch to the switchyard 4 inch schedule 80, 6063 aluminum, 230 kV bus.

In Power Block 2, the Applicant expects that each of the four simple-cycle CTG units would be connected through a 7,000-ampere, 13.8 kV breaker, a disconnect switch and an approximately 100-foot long 7,000-ampere segregated bus duct to the low side voltage terminal of a dedicated 72/96/120 MVA ONAN/ONAF,13.8/230 kV GSU transformer. The specified impedance of each GSU transformer at its lowest MVA rating would be provided post-Certification during detailed design, consistent with Commission precedent and practice. The high side of the GSU transformers for each of the two CTG units are expected to be connected to a 230 kV, 2,000-ampere CB with a 2,000-ampere disconnect switch and then to a 230 kV overhead bus of 4 inch schedule 80, 6063 aluminum bus thru an approximately 50-foot long overhead span of 1113 ACSR "Bluejay" conductor. Similarly the high side of the GSU transformers for the other two simple-cycle CTG units are expected to be connected to a 230 kV CB with a 2,000-ampere disconnect switch and then subsequently to another 230 kV overhead bus thru an approximately 50-foot long overhead conductor. Each of the two 230 kV overhead bus are expected to terminate to a 230 kV common overhead bus through a 2,000-amp disconnect switch.

As the Applicant noted in its Data Responses, detailed design engineering will be performed by Southern California Edison (SCE) consistent with the Large Generator Interconnection Agreement (LGIA) in the usual course, post-Certification. SCE has the responsibility to properly size and install this SCE equipment to facilitate AEC's interconnection. These electrical facilities will be designed and constructed in conformance with the then-applicable standards and codes including the National Electrical Code, National Electrical Safety code, American National Standards Institute, IEEE, and others to assure that they are properly sized for the application.

Please let me know if you have any questions.

Sincerely,

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