

DOCKETED

Docket Number:	13-AFC-01
Project Title:	Alamitos Energy Center
TN #:	206786
Document Title:	Data Request Set 6 (Nos. 83-168)
Description:	Energy Commission Staff's Data Request Set 6 for the Alamitos Energy Center.
Filer:	Christopher Meyer
Organization:	California Energy Commission
Submitter Role:	Commission Staff
Submission Date:	11/30/2015 11:51:15 AM
Docketed Date:	11/30/2015

CALIFORNIA ENERGY COMMISSION

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November 30, 2015

Stephen O'Kane
AES Southland, LLC
690 Studebaker Road
Long Beach, CA 90803

Regarding: **ALAMITOS ENERGY CENTER (13-AFC-01)**
DATA REQUESTS SET 6 (Nos. 83-168)

Dear Mr. O'Kane,

Pursuant to Title 20, California Code of Regulations, section 1716, the California Energy Commission staff requests the information specified in the enclosed data requests. The information requested is necessary to: 1) more fully understand the project, and 2) assess whether the facility will be constructed and operated in compliance with applicable regulations. This first set of Data Requests on the Supplemental Application for Certification (SAFC) filed on October 26, 2015 (Nos. 83-168) is being made in the technical area of Project Description (Nos. 83-104), Air Quality (Nos. 105-136), Cultural Resources (Nos. 137-145), Hazardous Materials Management (Nos. 146-149), Noise and Vibration (Nos. 150-153), Traffic and Transportation (Nos. 154-159), Transmission System Engineering (Nos. 160-166) and Worker Safety/Fire Protection (Nos. 167-168). Written responses to the enclosed data requests are due to the Energy Commission staff on or before December 31, 2015.

If you are unable to provide the information requested, need additional time, or object to providing the requested information, please send a written notice to the Committee and me within 20 days of receipt of this request. The notification must contain the reasons for the inability to provide the information or the grounds for any objections (see Title 20, California Code of Regulations, section 1716 (f)).

If you have any questions regarding the enclosed data requests, please call me at (916) 654-4640.

Sincerely,

Original signed by:
Christopher Meyer, Siting Project Manager
Siting, Transmission and Environmental
Protection Division

Enclosure (Data Request Packet)
cc: Docket (13-AFC-01)

ALAMITOS ENERGY CENTER
(13-AFC-01)

Energy Commission Staff's Data Requests Set 6 (Nos. 83-168)

November 30, 2015

Technical Area: Project Description

BACKGROUND

Staff has identified aspects of the project description that are unclear and raise questions about potential impacts across technical areas. Clarification would ensure staff's ability to assess the analysis contained in the Supplemental Application for Certification (SAFC) and conduct its own independent analysis.

DATA REQUESTS

83. The SAFC references the same new 1,000-foot process/sanitary wastewater pipeline and the upgrading of approximately 4,000 feet of the existing offsite LBWD sewer line (AES 2015:1-3) as was in the Application for Certification (AFC) for the Alamitos Energy Center (AEC) file in December of 2013. The upgrading of the 4,000-foot section was eliminated from the 2013 AFC during the data adequacy review. Please clarify if the upgrading of approximately 4,000 feet of the existing offsite LBWD sewer line is still part of the proposed project.
84. The SAFC states that the AEC would eliminate the discharge of process/sanitary wastewater to the San Gabriel River (AES 2015:1-3). Please explain if this would require the removal or alteration of existing infrastructure, such as discharge gates?
85. The SAFC states that AES would demolish "certain" buildings, foundations, and balance of equipment at Alamitos Generating Station (AGS) Unit 7 (AES 2015:1-3). Use of the term "certain" implies that some Unit 7 components would not be demolished. Which buildings, foundations, and balance of equipment would be demolished?
86. Also concerning the demolition of Unit 7 components, what are "other lines" and "ancillary equipment" (AES 2015:1-3, 5.3-3)?
87. AES proposes to demolish tank berms (AES 2015:5.3-3). Please identify which berms will be demolished on a site plan.
88. Section 1 of the SAFC states that one small maintenance shop would be demolished, whereas Section 2 states that two small maintenance shops would be demolished (AES 2015:1-3, 2-2). Please provide the number and location on a site plan of the maintenance shops that would be demolished.
89. The size of the AGS project site is given as both 71.1 acres and 71.3 acres (AES 2015:1-1, 2-4). Please confirm the AGS parcel size.
90. Please explain whether the natural gas compressor buildings and the gas pressure control station(s) mentioned in the SAFC are the same project components (AES 2015:1-3, 2-3, 2-4, Figure 2.1-2).
91. Please explain whether the gas scrubber/filtering equipment and fuel gas filter/separator equipment mentioned in the SAFC are the same project components (AES 2015:2-4, Figure 2.1-2).
92. AES proposes to build a 600,000-gallon onsite fire/service water storage tank (AES 2015:2-5). How far below existing grade would the contractor need to

- excavate to install the tank and any associated foundation?
93. AES proposes to provide backup power for the proposed Alamos Energy Center (AEC) by including a station battery system in the project design (AES 2015:2-9). Where would AES install the station battery system? Would excavation be required to install the station battery system? How deep and wide would such excavation be?
 94. The SAFC states that during construction and commissioning, AES would establish an electrical connection to the existing, onsite 66-kV power source (AES 2015:2-10). Would AES establish this connection by underground conduit, surface-laid cable, or overhead line?
 95. Does AES propose to construct the generator step-up (GSU) transformers on concrete pads (≤ 10 feet below existing grade) supported by deep piles (~ 50 feet below existing grade)? Would AES conduct excavations to obtain material for the berms that would surround the GSU transformers? If so, where and to what depth and width would excavations be conducted?
 96. AES proposes to construct a 340,000-gallon deionized water tank for operational service water storage (AES 2015:2-12). Would this water tank be supported on a concrete foundation with piles, or without? What would be the horizontal and vertical extent of excavation required to build the water tank?
 97. Is the proposed demineralized water storage tank (AES 2015:2-14) the same project component as the 340,000-gallon deionized water tank mentioned in the data request immediately above? If not, please identify its location on a site plan and explain if this water tank would be supported on a concrete foundation with piles, or without? What would be the horizontal and vertical extent of excavation required to build the water tank?
 98. AES proposes to construct a condensate receiver, condensate storage tank, condensate pumps, and condensate transfer pumps (AES 2015:2-14, Figure 2.1-2). Where would the condensate receiver be located? What would be the horizontal and vertical extent of excavation necessary to build these four project components?
 99. How does AES propose to construct the ammonia storage tanks and injection grids? What would be the horizontal and vertical extent of excavation involved to construct each?
 100. Section 2.1.13.2 and 2.1.13.3 mention a new sewer line (AES 2015:2-16). Is this new sewer line the same project component as the proposed process/sanitary wastewater pipeline mentioned previously (AES 2015:1-3) in the SAFC?
 101. The SAFC states that wastewaters would be collected in holding tanks or sumps (AES 2015:2-16). Please identify on a site plan where these proposed holding tanks or sumps would be located. Would excavation be required to construct these features? If so, what would the horizontal and vertical extent of excavation be?
 102. AES proposes to install an underground station grounding grid (AES 2015:2-18).

Please describe the manner of its installation and the depth of ground disturbance involved.

103. Please clarify if the construction of the AEC will last 56 or 57 months (see AES 2015:1-1, 2-19).
104. AES proposes to build two overhead transmission lines to tie the proposed AEC into the existing Southern California Edison substation north of the proposed project (AES 2015:3-1). Please identify on a site plan the location of the proposed transmission poles or towers that would be installed and identify the diameter of the pier foundations. How deep would the pier foundations be drilled below the existing grade?

REFERENCES

AES 2015—AES, with CH2M Hill. *Report: Supplemental Application for Certification Alamos Energy Center.* October. Prepared for California Energy Commission, Sacramento. TN 206428-1.

Technical Area: Air Quality

Author: Nancy Fletcher

PROJECT PERMITS: BACKGROUND

The proposed project would require a Preliminary Determination of Compliance (PDOC) and a Final Determination of Compliance (FDOC) from the South Coast Air Quality Management District (SCAQMD or District). Once available, these documents will be integrated into the staff analysis. Therefore, staff will need copies of all relevant correspondence between the applicant and the District in a timely manner in order to stay up to date on any permit issues that may arise during preparation of the Preliminary and Final DOCs.

DATA REQUEST

105. Please provide copies of all substantive District correspondence regarding the Alamitos Energy Center (AEC) within one week of submittal, receipt or reporting event. This includes PDOC and FDOC preparation documents including emails and reports of conversation. This request is to remain in effect until the final Energy Commission Decision has been adopted.
106. Please provide any subsequent updates to the schedule discussion in Section 5.1.11 (Permits and Permit Schedule) of the Supplemental Application for Certification (SAFC).

EMISSION ESTIMATES: BACKGROUND

Appendix 5.1A (Construction Emission Estimates) and Section 5.1B (Operational and Commission Emission Calculations) of the SAFC are used to document emission calculations. Staff needs the original spreadsheet files of these estimates with live embedded calculations to complete their review.

The tables included in Appendix 5.1A are labeled Huntington Beach Energy Project (HBEP). Staff needs to be certain the information included in the tables is for the Alamitos Energy Center.

AES Southland Development (AES-SD) submitted a Data Adequacy Supplement dated February 17, 2014 which noted that upgrading of the 4,000 feet of offsite sewer line was not required. Sections 2 (Project Description) and 5.1 (Air Quality) of the SAFC discuss the potential upgrade of 4,000 feet of existing wastewater pipeline and a new 1,000 foot process/sanitary wastewater pipeline. It is not clear if the pipeline upgrade is currently being proposed or if emissions from the pipeline activities are accounted for in the project emission estimates,

Section 5.1.6.1 (Criteria Pollutant and Greenhouse Gas Emission Estimates) states construction and site preparation activities are anticipated to last 56 months beginning in the first quarter of 2017 until the third quarter of 2021. The text further states the project will begin construction with the removal of former Unit 7 components to make room for construction and laydown area for the AEC combined cycle gas turbine (CCGT).

The tables included in Appendix 5.1A do not clearly account for emissions from site preparation including the laydown area preparation if needed, addition of the 1,000 foot process/sanitary wastewater pipeline, potential 4,000 foot wastewater pipeline upgrade, or removal of former Unit 7. The tables included in Appendix 5.1A identify emissions from the combined-cycle block construction and the simple-cycle block construction. A clearer accounting of the project construction emissions is needed to determine the estimated worst case emissions from different phases of the site preparation and construction of the power blocks.

DATA REQUESTS

107. Please provide the spreadsheet version of Appendix 5.1A and Appendix 5.1B work sheets with live, embedded formulas for the Alamitos Energy Center project.
108. Please verify the information submitted in Appendix 5.1A is for the Alamitos Energy Center and correct the heading if applicable.
109. Please provide a hard copy of Appendix 5.1A. Please use 11 x 17 inch paper where applicable for larger tables.
110. Please clarify if the 4,000 foot sewer line will be upgraded as part of the updated project.
111. Please clarify if the emissions from additional pipeline and pipeline upgrade project activities are included in the construction emission calculations.
112. Please clarify if the site preparations emissions including the laydown area preparation and removal of Unit 7 components are included in the construction emission estimates.
113. Please include details of the specific construction activities differentiating the separate activities included in Appendix 5.1A tables similar to the original AFC in order to ensure completeness in the emission counting.
114. Please indicate if there is the potential for the preparation of the adjacent offsite laydown area to overlap with the construction phase for the AEC.
115. Please include any project updates in the emission calculations and worksheets provided and discuss if there any changes impacting worst-case project construction estimates.

COMMISSIONING EMISSION ESTIMATES: BACKGROUND

The SAFC included emission estimates from the combined-cycle turbines during commissioning. During commissioning short term emission rates are expected to be higher than operating emissions because operation occurs for a period without the emission control systems. The expected commissioning emissions for the GE 7FA.05s combined-cycle turbines were presented in Table 5.1B.1 of Appendix 5.1B. The same

turbines are being proposed for the HBEP amendment. The NOx emission rates for combustion turbine generator (CTG) testing presented in Table 5.1B.1 is inconsistent with the information presented in the HBEP application to amend. Staff understands variations can occur depending on the specific site conditions. However the inconsistency with the nitrogen oxide (NOx) emission rates appears outside normal site condition variations.

The SAFC did not include a detailed discussion of the commissioning activities for the auxiliary boiler. Generally, during commissioning, boilers are tuned and the emission control systems tested. The expected emission from this period was not discussed in SAFC.

DATA REQUESTS

116. Please provide the basis for the NOx commissioning emission rate for CTG testing provided in Table 5.1B.1 of the SAFC. Please include supporting documentation.
117. Please provide a detailed description of the commissioning and startup activities for the auxiliary boiler including duration and estimated emissions from each activity.

SCHEDULE DETAILS: BACKGROUND

The tables in Appendix 5.1A include construction emissions according to month. The tables detail the construction of the combined-cycle power block during months 1-34 and the construction of the simple-cycle power block during months 36-51. It is not clear if the tables line up with the timeline discussions in the SAFC, including Sections 5.1.1 (Setting) and 5.1.6.1 (Criteria Pollutant and Greenhouse Gas Emissions Estimates). The sections discuss construction and site preparation activities lasting for 56 months (please note Section 2.2 (Project Construction) states construction through commercial operation is expected to last 57 months). The text discusses the removal of Unit 7 starting in the first quarter of 2017 and construction of the AEC CCGT starting in the second quarter of 2017. The text stated the AEC CCGT will be completed by the second quarter of 2020 and commencing operation in May of 2020. From this discussion the site preparation and construction of the combined-cycle block could be approximately 39 months. In addition it is not clear the timing of the commissioning with respect to these tables. A clearer accounting of the project schedule is needed to determine the estimated worst case emissions from different phases of the project and potential overlap.

Section 5.1.6.1 states maximum daily and annual emissions are based on the construction activities occurring 10 hours per day and 23 days per month. The emission estimate tables included in Appendix 5.1A reflect this assumption. Section 2.2.1 (Construction Schedule and Workforce) states the construction plan is based on a 10-hour workday Monday through Friday, and an 8-hour workday on Saturdays.

DATA REQUESTS

118. Please clarify the schedule for the project with all phases including expected start and end times. Please make sure this schedule lists the preparation of the laydown area if applicable, removal of Unit 7, operation of the existing AGS units 1-6 and the proposed auxiliary boiler commissioning. Please reconcile any scheduling discrepancies if applicable, including changes relative to the elimination of the 4,000-foot section of replaced/upgraded sanitary sewer pipeline.
119. Please review the schedule to determine if the proper time periods correlating to maximum emissions were used for the impact assessment.
120. Please verify the assumptions made to estimate the worst-case emissions for the different project phases. Please update the emission estimates using both the reviewed project schedule and construction activity timeframe if applicable and update the modeling as necessary

CONSTRUCTION, COMMISSIONING AND OPERATION OVERLAP IMPACTS: BACKGROUND

The SAFC discusses potential overlap scenarios of the project phases. Section 5.1 (Air Quality) states existing Alamitos Generating Station (AGS) Units 1-6 will remain in operation through much of the AEC development and construction. Section 5.1.6.4 (Air Quality Impact Analysis Results) details the specifics of each scenario as follows:

- Overlap Scenario 1: Combined-cycle Power Block construction with simultaneous operation of existing AGS units 1-6; and,
- Overlap Scenario 2: Simple-Cycle Power Block construction with simultaneous operation of the AEC CCGT and existing Units 3, 4 and 6.

Both of the overlap scenarios mentioned above were modeled. The following additional overlap scenario was discussed but not modeled:

- Overlap Scenario 3: Operation of the AEC CCGT is expected to overlap with the commissioning of the AEC SCGT.

The first 2 scenarios modeled included the operation of existing AGS units 1-6. The text states the maximum rolling 24-month emissions from 2008-2012 were used from each AGS unit. Staff needs to understand why the most current emission data from units 1-6 was not used.

Section 5.1.6.4 states the third overlap scenario (staff is labeling overlap scenario 3) was not modeled because the impacts were addressed through the commissioning impacts analysis. The commissioning impact analysis for the simple cycle turbines also discussed in Section 5.1.6.4 assumed the maximum impact would occur while the four simple-cycle turbines were simultaneously undergoing commissioning activities while the two combined-cycle turbines were operating in steady state conditions. The scenario did not discuss the potential of one of the two combined-cycle turbines to start

up or shutdown during the commissioning activities, or the potential of any of the existing AGS units to operate during the commissioning of the AEC SCGT.

Section 1.1 (Project Overview) and Section 2 (Project Description) specifies that Units 1, 2 and 5 will be retired once the AEC CCGT commences operation and Units 3, 4, and 6 will likely operate through at least December 31, 2020. Section 5.1.6.4 includes the operation of existing units 3, 4 and 6 during SCGT construction. Section 5.1.6.1 (Criteria Pollutant and Greenhouse Gas Emission Estimates) states the SCGT construction is scheduled between the second quarter of 2020 and the third quarter of 2021. As a result of the California State Water Resources Control Board's (SWRCB) Water Quality Control Policy on the Use of Coastal and Estuarine Waters for Power Plant Cooling (OTC Policy), AES has an implementation plan (IP) including a timeframe of the retirement of existing units. Per correspondence between the SWRCB and AES-Southland published on the SWRCB's website at http://www.swrcb.ca.gov/water_issues/programs/ocean/cwa316/powerplants/alamitos/, the timing of the IP plan is subject to change. The documents reference a request that was made to extend the retirement date for some of the existing AES boilers. Staff needs to understand the potential for the existing AES boilers to continue operation past 2020 in order to determine potential for overlap scenarios.

DATA REQUESTS

121. Please provide an estimate of the emissions from the planned operation of existing AGS Units 1-6, during the entire construction, commissioning and operational phases of the proposed AEC. Please include any background information or assumptions used to make these estimates.
122. Please provide the most recent (2013 and 2014) emission data for the AGS Units 1-6.
123. Please provide explanation for why the most current emission data for the AGS Units 1-6 was not used in the overlap modeling.
124. Please discuss if there are any pending or reasonably foreseeable requests to extend the expected OTC compliance date past 12/31/2020 for AGS Units 1-6.
125. Please discuss the assumption to use steady state emissions from the combined-cycle turbines for short term emission impacts in the AEC CCGT commissioning modeling analysis.

AUXILIARY BOILER EMISSIONS AND IMPACTS: BACKGROUND

Section 5.1.6 (Environmental Analysis) discusses the proposed operational scenario for the auxiliary boiler. Table 5.1-19 (Maximum Pollutant Emission Rates for Steady State Operation of One Auxiliary Boiler) includes the hourly emission rate for the proposed auxiliary boiler. The text states the auxiliary boiler emission rates for steady state operation were estimated based on the maximum heat input rating and the assumption the boiler would operate at 100 percent load. Table 5.33, Tables 5.1B.11 (the second table labeled 5.1B.11), and 5.1B.13, include hourly, monthly (Tables 5.1B.11 and 13 only) and annual emission rates for the auxiliary boiler. The monthly and annual

emission rates in these tables are less than the maximum hourly rate. Table footnotes state the monthly emission rates assume 31 days of operation at the maximum hourly firing rate with two cold starts, 4 warm starts and 4 hot starts, and the annual emission rate assumes 8,760 hours of operation at the maximum hourly rate, with 24 cold starts, 48 warm starts, and 48 hot starts. However, the monthly and annual emission rates appear to be less than the stated operation at the maximum hourly emission rate.

Appendix 5.1C (Dispersion Modeling and Climate Information) includes tables containing the parameters used for the emission modeling. The auxiliary boiler information presented in the tables corresponds to the information presented in Table 5.1-33. The emission modeling for several scenarios includes the operation of the auxiliary boiler based on the annual hourly emission limits. In addition, commissioning emission rates for the auxiliary boiler were not included in Table 5.1C.2. It is not clear if the modeling scenarios took into account the maximum emission rates for the boiler for all scenarios.

DATA REQUESTS

126. Please provide a detailed calculation of the daily, monthly and annual emission rates for the auxiliary boiler. Please include all assumptions used for this calculation, including hours of operation and firing rates.
127. Please provide an explanation of why the annual, monthly, and daily emission rates for the auxiliary boiler appear to be based on an hourly firing rate that is less than the maximum hourly firing rate.
128. Please provide a detailed explanation of activities and estimated emissions associated with the commissioning/initial startup of the auxiliary boiler.
129. Please provide a detailed description of the auxiliary boiler operation for the different modeling operating scenarios including the emission rates.
130. Please explain the auxiliary boiler operating assumptions used for modeling emission impacts. Please include a justification of how these operating assumptions represent worst case impacts from the auxiliary boiler operation.

CUMULATIVE: BACKGROUND

Section 5.1.7 (Cumulative Effects) and Appendix 5.1F (Dispersion Modeling Protocol), of the SAFC describe the methodology for the cumulative effects analysis, but the SAFC does not include the analysis because a project list had not been provided by the District at the time the SAFC was prepared. The cumulative analysis should include all reasonably foreseeable projects within a six mile radius, i.e. projects that have received construction permits but are not yet operational, and those that are in the permitting process or can be reasonably expected to be in the permitting process in the near future. A complete impacts analysis should identify all existing and planned stationary sources that affect the baseline conditions and consider them in the modeling effort.

DATA REQUESTS

131. Please provide a copy of the applicant's correspondence to and from the District regarding existing and planned cumulative sources located within six miles of the project site.
132. Please provide a list of all sources to be considered in the cumulative air quality impact analysis for staff review and approval. Include a recommendation whether or not to include each source and the basis of this recommendation
133. Upon approval of the list of sources to be included in the cumulative air quality impact analysis, please provide the cumulative modeling and impact analysis.

OPERATIONAL MITIGATION: BACKGROUND

AEC would be located in Long Beach, in Los Angeles County within the South Coast air basin. Los Angeles is in non-attainment with the state and federal ambient air quality standards for ozone and particulate matter less than 2.5 microns (PM_{2.5}), and the state ambient air quality standard for particulate matter less than 10 microns (PM₁₀). The California Energy Commission requires mitigation of impacts of emissions, including of pollutants and their precursors that are in non-attainment with state and federal air quality standards or may cause an exceedance of any ambient air quality standard. Therefore the California Energy Commission would likely require mitigation for PM₁₀, PM_{2.5}, sulfur oxide (SO_x), nitrogen oxide (NO_x), and volatile organic compound (VOC) emissions.

Under SCAQMD Rule 1304 Exemptions, AEC would not provide most of the SCAQMD Rule 1303 offsets directly for emissions from the combined-cycle gas turbines or the simple-cycle gas turbines. SCAQMD Rule 1304(a)(2) provides a source offset exemption for the replacement of utility steam boilers with combined-cycle gas turbine(s) or other qualifying cleaner generation turbine technologies. Under this offset exemption, the SCAQMD will be responsible for providing the bulk of the appropriate offsets for the proposed turbines.

Section 5.1.8.2 (Operational Mitigation) discusses the emission offset requirements for AEC. The sections states AES is enabling 1094.7 megawatts (MW) of new generation by permanently retiring AGS Units 1 and 2 (175 MW each), Unit 3 (320 MWs) and Unit 5 (480 MW) for a total of 1,150 MWs of retirement.

As stated in Section 5.1.8.2, the auxiliary boiler is not eligible for the offset exemption under SCAQMD Rule 1304(a)(2). The section explains the SCAQMD offset requirements for the auxiliary boiler, but does not include the potential California Energy Commission mitigation requirements under CEQA.

DATA REQUESTS

134. Please explain the difference between the stated total MWs of retirement from AGS Units 1, 2, 3, and 5, and the stated total MWs enabled discussed in Section 5.1.8.2.

135. Please provide the retirement plan for existing AGS Units 1-6, including an approximated date of retirement for each unit.
136. Please discuss the proposed mitigation for the boiler and any other permitted emission source, emissions and potential impacts.

Technical Area: Cultural Resources

Authors: Gabriel Roark, M.A., and Melissa Mourkas, M.A.

BACKGROUND

Staff has reviewed the Cultural Resources Section of the Supplemental Application for Certification (SAFC). Staff identified a number of points where clarification would aid staff in identifying sources of information for its analysis, and in accurately understanding the proposed project and potential resulting impacts.

DATA REQUESTS

137. Provide a legend item for Figure 5.3-1 that identifies the limits of archaeological survey.
138. The Cultural Resources Section of the SAFC says that “most” proposed AEC improvements would be built at or near existing grade “with little excavation” (AES 2015:5.3-2). Please clarify which improvements would require excavation.
139. The citation California State Military Museum (n.d., cited in AES 2015:5.3-12) lacks a bibliographic entry in the Cultural Resources Section’s References Cited and the cultural resources report (Cardenas et al. 2013). Please provide the bibliographic data.
140. The URLs for the following sources are no longer valid. Please provide an alternate means for checking these sources.
 - a. Johnson (2008, cited in AES 2015:5.3-6, 5.3-36)
 - b. NRHP (2012, cited in AES 2015:5.3-9, 5.3-37)
 - c. NPS (2004, cited in AES 2015:5.3-13)
 - d. Cambridge University Engineering Department (2000, cited in AES 2015:5.3-13)
 - e. Encyclopaedia Britannica (1995, cited in AES 2015:5.3-13)
 - f. Lundsten and Flick (2012, cited in AES 2015:5.3-15)
141. The SAFC states that Section 2.4.2 contains a detailed description of the Gabrielino village, Puvunga (AES 2015:5.3-23). Section 2.4.2 of which document?
142. Why was the former tank farm area subjected to archaeological survey twice in 2015 (see AES 2015:5.3-24)?
143. Section 5.3.3.6 of the SAFC gives the acreage surveyed as 125 acres, whereas elsewhere the SAFC says that 158 acres were surveyed (AES 2015:5.3-2, 5.3-24). Which acreage figure is correct?
144. Work plans dated July 2012 and January 2013 proposed more than 130 borings along fuel oil pipelines and monitoring wells combined (EMS 2015:21). The accompanying data logs would probably have information useful for staff’s estimate of the depth of fill and Holocene-age sediments underneath the project site. Have these borings and monitoring wells been made? If so, please provide staff with copies of the ensuing reports and data logs.

145. In November 2014, a soil characterization report was completed based on the results of 119 hand augers around the Alamitos Generating Station (AGS) retention basins, 18 background borings, and 122 borings along pipelines (EMS 2015:21). Please provide a copy of this report to staff for characterization of project site stratigraphy.

REFERENCES

AES 2015—AES, with CH2M Hill. *Report: Supplemental Application for Certification, Alamitos Energy Center.* October. Prepared for California Energy Commission, Sacramento. TN 206428-1.

Cambridge University Engineering Department 2000—Cambridge University Engineering Department. 125 Years of Engineering Excellence. Electronic document, wwwg.eng.cam.ac.uk/125/noflash/1875-1900/parsons.html, accessed January 30, 2012. Energy Commission staff found this URL to be invalid in October 2015.

Cardenas et al. 2013—Gloriella Cardenas, Lori D. Price, Natalie Lawson, and Clint Helton. *Cultural Resources Inventory Report for the Alamitos Energy Center, Los Angeles County, California.* December. CH2M Hill, Santa Ana, CA. Prepared for AES-Southland Development, Long Beach, CA. Application for Certification: Redondo Beach Energy Project, Vol. 2, by AES Southland with CH2M Hill. December. Long Beach, CA. Submitted to California Energy Commission, Sacramento. TN 201620.

EMS 2015—Environmental Management Strategies. *Technical Report: Phase I Environmental Site Assessment, AES Alamitos Plant, 690 North Studebaker Road, Long Beach, CA.* July. Irvine, CA. Project No. EMS514. Appendix 5.14A to *Report: Supplemental Application for Certification, Alamitos Energy Center*, by AES Southland Development, with CH2M Hill. October. Submitted to California Energy Commission, Sacramento. On file, Dockets Unit, California Energy Commission, Sacramento. TN 206433.

Encyclopaedia Britannica 1995—Encyclopaedia Britannica. Energy Conversion. Electronic document, http://www.uv.es/EBRIT/macro/macro_5002_13_113.html, accessed January 30, 2012. Energy Commission staff found this URL to be invalid in October 2015.

Johnson 2008—John R. Johnson. Arlington Man. National Park Service, electronic manuscript. Electronic document, <http://www.nps.gov/chis/historyculture/arlington.htm>, accessed June 1, 2012. Energy Commission staff found this URL to be invalid in October 2015.

Lundsten and Flick 2012—Apyrl Lundsten and Eileen Flick. Plugged In: The History of Power in Los Angeles. Electronic document, <http://www.usc.edu/libraries/archives/la/historic/power/>, accessed February 1, 2012. Energy Commission staff found this URL to be invalid in October 2015.

NPS 2004—National Park Service. A History of Japanese Americans in California: Historic Sites. Electronic document, http://www.nps.gov/history/history/online_books/5views/5views4h87.htm, accessed May 31, 2012. Energy Commission staff found this URL to be invalid in October 2015.

NRHP 2012—National Register of Historic Places. State Listings: California - Los Angeles County. Electronic document, <http://www.nationalregisterofhistoricplaces.com/ca/los+angeles/state8.html>, accessed May 30, 2012. Energy Commission staff found this URL to be invalid in October 2015.

Technical Area: Hazardous Materials Management
Author: Brett Fooks

BACKGROUND

Section 2.1.12.2 of the SAFC states that a new 40,000 gallon aqueous ammonia tank and appurtenances would be installed for the AEC CCGT. Section 2.1.13.3 of the SAFC states that the AEC SCGT would make use of a single 40,000 gallon aqueous ammonia tank. However, section 5.5.3.2 of the SAFC states that the site would have one 40,000 gallon and one 30,000 gallon aqueous ammonia tank. The SAFC does not state whether the 30,000 gallon tank is pre-existing or proposed. If this second tank is pre-existing, staff needs to know the condition of the tank, its age, and the size and type of secondary containment to ascertain whether it meets current code.

DATA REQUEST

146. Please clarify the discrepancy between Section 2.0 and Section 5.5 about the capacity of the ammonia tank(s) for the AEC SCGT and confirm whether this aqueous ammonia tank is an existing one currently on site.
147. Please provide the current age of any existing tank that would serve AEC SCGT along with a narrative describing to which tank standard it was built.
148. Please provide a narrative analysis for the existing tank's anchorage that would show that it is compliant with the current seismic code.
149. Please describe what form of passive mitigation the existing tank's secondary containment uses and its size. Please confirm that the existing secondary containment meets current standards for a 24-hour, 25-year storm event plus 100 percent of the capacity of the largest tank within its boundary.

Technical Area: Noise and Vibration

Authors: Joseph Hughes and Shahab Khoshmashrab

AMBIENT NOISE MONITORING DATA

BACKGROUND

Continuous ambient noise monitoring was conducted between August 23, 2011 and August 31, 2011 to determine the existing noise levels in the project area. Long-term (25 hours or more) measurements were collected at three representative residential locations near the project where permission for long-term monitoring was obtained (M1 - 6333 Eliot Street, Long Beach; M2 - 6810 East Septimo Street, Long Beach; and M3 - Leisure World, Seal Beach).

Since the monitoring data was collected over four years ago, staff needs to determine whether the data is representative of current site conditions.

DATA REQUEST

150. Please provide justification for using ambient noise monitoring data collected in August 2011 as representative for current conditions at each of the three monitoring locations. Additionally, please explain whether there have been any changes to the surrounding area since 2011 that could potentially affect current ambient noise.
151. If in response to Data Request #150 any changes to the ambient environment are identified that could potentially affect current ambient noise conditions in the project area as compared to the monitoring data collected in August 2011, please conduct new continuous ambient noise monitoring data to more accurately represent those conditions.

NOISE IMPACT MODELING

BACKGROUND

Supplemental Application for Certification (SAFC) Section 5.4.7.3, Operational Impacts, describes that a noise model of the proposed project has been developed using the CadnaA noise model. It is explained that the model divides the proposed facility into a list of individual noise sources representing each piece of equipment that produces a significant amount of noise. Using these noise levels as a basis, the model calculates the noise level that would occur at each receptor from each source after losses from distance, air absorption, enclosures, and blockages are considered. The sum of all these individual levels is the total plant level at the modeling point. A-weighted sound power (noise) levels used to estimate project noise are summarized in SAFC Table 5.7-9. The estimated plant operational noise impacts at each receptor are presented in SAFC Table 5.7-10.

To complete its analysis, staff needs to better understand the modeling parameters and the assumptions made surrounding these parameters.

DATA REQUEST

152. Please provide a modeling protocol that explains how the modeling was conducted, including a discussion of any assumptions made to conduct the modeling, such as ground absorption factors, meteorological data, and specifics on atmospheric propagation, wind directions, and sound shielding, and any other information that would help staff understand how the noise modeling was completed.
153. Please provide a contour plot of the facility showing operational noise contour lines that extend to the project's noise-sensitive receptors.

Technical Area: Traffic and Transportation
Author: Jim Adams and Lisa Worrall

BACKGROUND: CONSTRUCTION ACCESS ROAD

Figure 1.1-3 (Site Location Map) in the Supplemental Application for Certification (SAFC) for the proposed Alamitos Energy Center (AEC) shows a proposed access road connecting to the project site's construction laydown area and worker parking from the Loynes Drive/North Studebaker Road intersection. The SAFC does not provide any further information about the construction access road.

DATA REQUEST

154. Please provide information for a private vehicular access easement (PVAE) plan for the construction access road across private property. The information shall include a diagram that shows: the power plant property, the location and dimensions of the proposed PVAE, its connection to the public right-of-way and the proposed vehicle access road (driveway) on the power plant property. Also, the PVAE plan shall include an executed maintenance/repair agreement with the affected property owner.

BACKGROUND: UPDATED EXISTING TRAFFIC COUNTS

Staff had requested the applicant to provide updated traffic counts with the filing of the SAFC for the proposed AEC (*Draft List of Information Staff Requests be Included in the Alamitos SAFC and List of Potential Issues Identified Regarding Previous Project Configuration*, dated January 2015). However, upon review of the Traffic and Transportation section of the SAFC, staff notes that these updated traffic counts have not been provided. Rather, the traffic analysis relies on the same sources the AFC used. These sources were somewhat outdated at the time of the filing of the AFC, but are now well outdated for use in this SAFC.

According to the text on page 5.12-6 of the SAFC, a.m. and p.m. peak hour turning movement counts were obtained from the 2010 Traffic Impact Analysis for the 2nd Street and PCH Development (by Linscott, Law & Greenspan, Engineers), and used to represent existing conditions. The traffic counts for the 2nd and PCH Development Traffic Impact Analysis were collected in August and September of 2009. These counts showed four of the eight AEC study intersections with unacceptable Levels of Service (LOS).

DATA REQUESTS

155. Please provide updated intersection a.m. and p.m. peak turning movement counts, including volume to capacity (V/C) and LOS data. Present this information in a table, as shown with Table 5.12-5 in the SAFC, and in a figure, as shown in Figure 5.12-4 in the SAFC.
156. Because the existing traffic data was used as a basis for estimating 2021 conditions and the previous request asks for updated existing traffic data, the

2021 traffic data will need to be updated and presented in a table, as shown in Tables 5.12-10 and 5.12-11 in the SAFC, and presented in a figure, as shown in Figure 5.12-6 and 5.12-7.

BACKGROUND: UPDATED TRAFFIC COUNTS

Table 5.10-4 (Existing Roadway Segment Level of Service) in the Traffic and Transportation section of the AEC SAFC reports a daily vehicle capacity for the roadway segment of State Route 22 (SR-22) from Studebaker Road to the Orange County line as 79,400. State Route 22 becomes a freeway east of Studebaker Road and a note in the table reports the freeway capacity is based on Florida Department of Transportation (FDOT) Level of Service/Quality Handbook.

DATA REQUESTS

157. Please provide the daily vehicle capacity for SR-22 for the roadway segment between Studebaker Road and the Orange County line, consistent with the Transportation Research Board's (TRB) Highway Capacity Manual (HCM), 2010.
158. Please ensure the updated existing traffic counts and 2021 traffic counts requested in the previous data requests (155 and 156) include the freeway capacity consistent with TRB's HCM, 2010.

BACKGROUND: FAA NOTIFICATION

The Federal Aviation Administration (FAA) Regulations Part 77.9 requires the filing of Form 7460-1 (Notice of Proposed Construction or Alteration) when proposed construction or alteration is over 200 feet in height above ground level (AGL) and also when proposed construction or alteration exceeds an imaginary surface extending outward and upward at a slope of 100 to 1 for a horizontal distance of 20,000 feet from the nearest point of the nearest runway of an airport with its longest runway more than 3,200 feet in actual length.

The closest airport to AEC is the Los Alamitos Army Airfield, approximately 2.5 miles to the northeast. The two runways are longer than 3,200 feet, thus 100 to 1 is the applicable slope ratio for this airport. The printed results of the FAA Notice Criteria Tool included in Appendix 3B in the AEC SAFC show the tallest structures proposed, the 140 foot tall HRSG stacks, exceed the slope ratio for a runway longer than 3,200 feet, and thus require the applicant file Form 7460-1 (Notice of Proposed Construction or Alteration) with the FAA. The applicant stated on page 5.12-18 that they will file Form 7460-1 with the FAA.

DATA REQUEST

159. Please submit a copy of the submitted FAA Form 7460-1, as well as the FAA's Determination (when available).

Technical Area: Transmission System Engineering

Author: Ajoy Guha, P. E. and Mark Hesters

Staff needs to determine the transmission system impacts of the project and to identify the interconnection facilities, including downstream facilities, needed to support the reliable interconnection of the proposed Alamitos Energy Center (AEC) in the Southern California Edison Company (SCE) System. The proposed interconnection facilities must comply with the utility (SCE) rules for new interconnection, California Public Utilities Commission (CPUC) General Order (GO) 95 and the CPUC GO 128. The interconnection must also comply with the SCE Reliability and Planning Criteria, North American Electric Reliability Corporation (NERC) Reliability Standards, Western Electricity Coordinating Council (WECC) Regional System Performance Criteria, and the California Independent System Operator (California ISO) Planning Standards for impacts in the California ISO system. In addition, 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 compliance with planning and reliability standards and the identification of indirect or downstream transmission impacts, staff relies on the System Impact Study (SIS) and Facilities Study (FS) as well as review of these studies by the agencies responsible for insuring the interconnecting transmission grid meets reliability standards. 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 system to violate reliability requirements, the potential mitigation or upgrades required to bring the system into compliance are identified. The mitigation measures often include modification and construction of downstream transmission facilities. The CEQA requires environmental analysis of any downstream facilities for potential indirect impacts of the proposed project.

BACKGROUND

The description of the AEC switchyard and interconnection facilities between the generators and the SCE Alamitos 230 kV switchyard, including the generators, major equipment and their ratings in the October, 2015 Supplemental Application, is incomplete (Section 3.1, Pages 3-1 to 3-2, Figures 3.1-1 & 3.1-2).

DATA REQUEST

160. Resubmit the Electrical System One-Line Diagram, Figure 3.1-1, and provide a complete and labeled electrical one-line diagram of the proposed AEC switchyard showing the generators with their respective nominal MW ratings, and all equipment for each generator’s interconnection with the switchyard. The diagram should show:
 - a. Each Generator’s nominal MW rating and voltage.
 - b. Any bus duct connectors or cables with ampere ratings from the 13.8 kV/16 kV breaker/switchgear to each new generator and to low side of each generator step-up transformer.
 - c. The percentage impedance of each generator step-up transformer at its base MVA rating.

- d. The short overhead lines or conductors on the 230 kV side of each step-up transformer with their respective size, ampere rating, and configuration between each generator step-up transformer high side and each AEC switchyard 230 kV bus.
 - e. Provide ampere ratings of each AEC 230 kV switchyard bus with their configuration including generator tie lines and their respective ratings.
161. Provide a legible physical layout drawing (plan view) of the pre and post-project AEC switchyard along with the SCE Alamitos center 230 kV switchyard showing fence lines, all major equipment, gen tie lines and transmission line outlet(s) with proper labeling.
 162. Provide pre and post-project electrical one-line diagrams of the SCE Alamitos center 230 kV switchyard for interconnection of the two proposed 230 kV gen tie lines with their conductor size lengths and ampere ratings from the AEC switchyard. The diagrams should show all the breakers, buses, and disconnect switches with their configuration and their respective ratings.
 163. Refer to the Typical Transmission Tower Design Figure 3.1.2 and submit new, legible drawings of the transmission structures including dead- end and intermediate structures which will be used for construction of the two Gen Tie overhead lines.

BACKGROUND

Staff will not be able to complete Transmission System Reliability analysis and testimony without the California ISO System Impact study or in this case, the study related to California ISO tariff section 25.1.2 exemption.

DATA REQUEST

164. Provide a copy of the completed application for the California ISO 25.1.2 exemption.
165. Provide regular updates on the expected submittal date of the completed California ISO study. This can be included as part of the monthly Status Reports.
166. Submit the completed study and final California ISO determination on the 25.2.1 exemption.

Technical Area: Worker Safety and Fire Protection
Author: Brett Fooks

BACKGROUND

Section 2.1.1.1 of the AFC states that the existing Alamitos Generating Station (AGS) electric fire pumps will be reused to serve both the new facility and existing Units 1-6. Because the AGS pumps will be reconfigured and will now serve a larger fire protection water system that includes the AGS (through the interim of construction) and AEC CCGT and SCGT, staff needs to know the specifications and current condition of the existing AGS electric fire pumps to understand if adequate reliability should be expected of the proposed reconfigured and combined fire protection system.

DATA REQUEST

167. Please provide a written narrative with the current age and condition of the existing electric pumps with an emphasis on their expected reliability, adequacy to support an added new fire suppression infrastructure that conforms to NFPA 850.

BACKGROUND

Except for the construction access road shown in Figure 2.1-1, the AFC does not address whether there will be a permanent secondary emergency access road to the site for possible use by emergency response services.

DATA REQUEST

168. Please clarify if a permanent secondary access road will be provided to the AEC site.