

## DOCKETED

<b>Docket Number:</b>	13-AFC-01
<b>Project Title:</b>	Alamitos Energy Center
<b>TN #:</b>	202239
<b>Document Title:</b>	Data Request Set 1
<b>Description:</b>	Data Requests 1-63
<b>Filer:</b>	Alicia Campos
<b>Organization:</b>	CEC/Keith Winstead
<b>Submitter Role:</b>	Commission Staff
<b>Submission Date:</b>	4/25/2014 11:27:52 AM
<b>Docketed Date:</b>	4/25/2014

**CALIFORNIA ENERGY COMMISSION**

1516 NINTH STREET  
SACRAMENTO, CA 95814-5512  
www.energy.ca.gov



April 25, 2014

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

Regarding: **ALAMITOS ENERGY CENTER (13-AFC-01)**  
**DATA REQUEST SET 1 (Nos. 1-63)**

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, 2) assess whether the facility will be constructed and operated in compliance with applicable regulations, 3) assess whether the project will result in significant environmental impacts, 4) assess whether the facilities will be constructed and operated in a safe, efficient and reliable manner, and 5) assess potential mitigation measures.

This set of Data Requests (Nos. 1-63) is being made in the technical areas of: Air Quality (Nos. 1-27), Biological Resources (Nos. 28-37), Cultural Resources (Nos. 38-47), Hazardous Materials Management (Nos. 48-51), Public Health (Nos. 52-58), Socioeconomics (Nos. 59-60), and Traffic and Transportation (Nos. 61-63). Written responses to the enclosed data requests are due to the Energy Commission staff on or before May 26, 2014.

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) 654-4063.

Sincerely,

A handwritten signature in black ink, appearing to read "Keith Winstead", written over a white background.

Keith Winstead, 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 1 (Nos. 1-63)**

**April 25, 2014**

**ALAMITOS ENERGY CENTER (13-AFC-01)  
DATA REQUESTS – SET 1**

**Technical Area:** Air Quality  
**Author:** Nancy Fletcher

**BACKGROUND: PROJECT PERMITS**

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 Staff Assessments.

**DATA REQUEST**

1. 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.

**BACKGROUND: EMISSION ESTIMATES**

Appendix 5.1A (Construction Emission Estimates) and Section 5.1B (Operational and Commissioning Emission Calculations) in the Application for Certification (AFC) are used to document emission calculations. Staff needs the original spreadsheet files of these estimates with live embedded calculations to complete its review.

Staff understands changes have been made to the project that may impact worst-case project construction emissions. 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. Therefore, AES is removing the sewer line upgrade from the project description. Please include any updated emission calculations in the spreadsheets.

**DATA REQUESTS**

2. Please provide the spreadsheet version of Appendix 5.1A and Appendix 5.1B work sheets with live, embedded calculations, and any applicable updates.

**BACKGROUND: CONSTRUCTION, COMMISSIONING AND OPERATION OVERLAP IMPACTS**

As stated in Section 5.1.1 of the AFC, the proposed construction period for the project is approximately 139 months starting in the first quarter of 2016 and lasting until the third quarter in 2027. The existing facility, Alamitos Generating Station (AGS), includes Units 1-6 currently in operation and retired Unit 7. The AFC details the proposed time periods for demolition of the existing units and construction of the new units but does not provide details on the planned operation of existing Units 1-6 during the construction period. Staff needs to evaluate potential worst case impacts associated with all phases of the project. The construction and demolition emission estimates in AFC Appendix

**ALAMITOS ENERGY CENTER (13-AFC-01)  
DATA REQUESTS – SET 1**

5.1A do not appear to include the simultaneous operation of existing Units 1-6 during the construction and operation of the proposed units.

Section 5.1.6.1.1 (Construction and Demolition Emissions) in the AFC for AEC stated that construction would require the use of onsite laydown areas and an approximately 10-acre offsite laydown area adjacent to the existing site. The AFC did not include emissions associated with the preparation of the offsite laydown area or offsite truck travel associated with the use of the adjacent offsite laydown area because these emissions were included in a separate AFC for the Huntington Beach Energy Project (HBEP). The AFC for AEC stated the emissions from equipment used to move AEC items to and from the adjacent offsite laydown area for construction of AEC Block 3 are included in the Block 3 construction and demolition estimates. A final decision for certification has not been made yet for HBEP so the timing of construction of HBEP is unclear and there is uncertainty whether or not there is a potential for emission overlap for the preparation of the adjacent offsite laydown area with the start of the construction at AEC.

Section 5.1.6.3.2 (Modeling Scenarios and Source Data Used to Evaluate Impacts on Ambient Air Quality) in the AFC states the maximum monthly construction period emissions of oxides of nitrogen (NO<sub>x</sub>), particulate matter less than 10 microns (PM<sub>10</sub>), and particulate matter less than 2.5 microns (PM<sub>2.5</sub>) occur during the overlap of construction of the new and upgraded sanitary sewer pipeline with construction of AES Blocks 1 and 2. Since the offsite sewer line will no longer be upgraded, it is unclear whether the determined maximum hourly, daily, monthly or annual emissions timeframe will change.

Section 5.1.6.3.3 (Modeling Results Compared to the Ambient Air Quality Standards) in the Construction and Demolition Impacts Analysis subsection of the AFC, discusses the results of the construction period modeling combined with background concentrations. Table 5.1-27 indicates the total predicted concentration, namely the combined maximum modeled concentration and background concentration, for nitrogen dioxide (NO<sub>2</sub>) exceeds the federal 1-hour National Ambient Air Quality Standard (NAAQS). In addition, the total predicted concentration for PM<sub>10</sub> exceeds 24-hour and annual California Ambient Air Quality Standards (CAAQS), and the 24-hour NAAQS and the total predicted concentration for PM<sub>2.5</sub> exceeds the annual CAAQS and NAAQS. The 24-hour and annual background concentrations for PM<sub>10</sub> used in the analysis exceed the CAAQS without the addition of the maximum modeled concentrations.

In addition, Section 5.1.6.3.3 discusses the modeled concentrations with respect to distance from the project. The section states the modeled concentrations of PM<sub>10</sub> and PM<sub>2.5</sub> decrease rapidly with distance from the project and maximum impacts occur in areas that would not be accessible to the public. However, the proposed site has a charter school located on the property which is accessible to and used by the public. It is unclear if the onsite charter school within the project property boundary will be impacted by the proposed project.

## **ALAMITOS ENERGY CENTER (13-AFC-01) DATA REQUESTS – SET 1**

Section 5.1.6.3.3 the Commissioning Impacts Analysis subsection also discusses potential impacts associated with AEC commissioning activities. The section states that maximum short term impacts would occur if the nine turbines in proposed Blocks 1-3 were in simultaneous cold-start mode while the three turbines in Block 4 were simultaneously undergoing commissioning activities. The section also states that maximum annual impacts would occur when assuming normal operation of all four power blocks plus Block 4 commissioning during a rolling 12 month period. Furthermore, Section 2.2 Project Construction, Table 2.2-1 indicates that demolition of Units 1-2 may occur during the same time. Additionally, Table 2.2-1 indicates a potential simultaneous commissioning of AEC Blocks 1 and 2, with the potential operation of existing Units 1-4 and the demolition of Units 5-6. It is unclear whether the maximum worst cast scenario impacts associated with commissioning appropriately considers potential overlap of commissioning, operation and demolition.

AFC Appendix 5.1F (Dispersion Modeling Protocol), Section 5.6 (Building Wake Downwash and Good Engineering Practice), discusses accounting for building downwash and cavity zone effects in the air quality impact assessment modeling. The protocol indicated that if it was determined the existing structures would influence downwash then the existing structures would be included in the commissioning and operational air quality impact assessments. Section 2.2 Project Construction, Table 2.2-1 indicates the overlap of construction and demolition would result in a changing site landscape throughout the construction period. The assumptions regarding the inclusion of existing and proposed building structures to assess impacts during construction and commissioning phases are not clear.

### **DATA REQUESTS**

3. In order to evaluate cumulative project emissions, please provide operating permits and emission limits for existing emission units.
4. Please provide an estimation of the emissions from the planned operation of existing emission Units 1-6, during the entire construction period. Please include any background information or assumptions used to make these estimates.
5. Please discuss if the adjacent offsite laydown area would be needed for AEC construction if the HBEP does not go forward or begin construction before AEC.
6. Please provide the estimated potential emissions from the preparation of the adjacent offsite laydown area.
7. 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.
8. Please make any relevant adjustments to the construction emission estimates from the updated plan for the sanitary sewer line construction.

**ALAMITOS ENERGY CENTER (13-AFC-01)  
DATA REQUESTS – SET 1**

9. Please provide emission estimates and air quality modeling impacts for all pollutants and averaging periods associated with the worst-case potential conditions from the construction and commissioning period, including all potential simultaneous activities associated with construction and demolition, commissioning, and the operation of the existing and new units as applicable. Please include all assumptions made for the worst-case potential determinations, including potential overlap of existing equipment operation, potential overlap of laydown emissions, potential overlap of commissioning activities for the individual turbines and turbine block, potential overlap of turbine maintenance and commissioning, and changes to the construction emissions due to project updates.
10. Please confirm there is a charter school onsite that may be open during the construction phase of AEC, and during operations of AEC. Please describe the grade levels, approximate enrollment, classroom hourly schedule and school year calendar.
11. Please provide the modeling plot files detailing the onsite and offsite property air quality impacts. Please include the impacts at, and in the vicinity of, the charter school site (including school buildings and property within the project boundary).
12. Please describe the approaches to keep the public out of industrial areas where maximum construction impacts are predicted to occur.
13. Please provide an explanation of the assumptions used to take into account the changing downwash effects of the existing and proposed structures during the various phases of construction.
14. The applicant's preliminary assessment indicates that health-based ambient air quality standards would be exceeded either because of high background values or due to the combined effect of background plus project construction impacts. Please include all feasible mitigation measures in updated modeling as necessary to reduce construction period impacts.
15. Please refine your analysis method to assess the total predicted concentration of NO<sub>2</sub> to compare to the federal 1-hour standard and the total predicted concentration of PM<sub>2.5</sub> to compare to the annual CAAQS and NAAQs. Please make sure the PM<sub>10</sub> analysis is consistent with the refined analysis for NO<sub>2</sub> and PM<sub>2.5</sub>.
16. Please provide an explanation of how AES plans to maintain the proposed construction and demolition time frame outlined in the AFC. Please include a discussion of the construction timeframe including potential changes that may impact the timeframes used to estimate the periods of maximum emissions and any uncertainties that may affect the timing of various emissions.

**ALAMITOS ENERGY CENTER (13-AFC-01)  
DATA REQUESTS – SET 1**

**BACKGROUND: CUMULATIVE**

Section 5.1.7 and Appendix 5.1F, Section 8, of the AFC describe the methodology for the cumulative effects analysis, but the AFC does not include the analysis because a project list had not been provided by the District at the time the AFC 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**

17. 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.
18. 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
19. 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.

**BACKGROUND: PROJECT PERMITS**

The AFC requests the project be evaluated by the SCAQMD and Energy Commission under Rule 1304 Exemptions. 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 technologies. The purpose of the rule is to facilitate the removal of older, less efficient boiler/steam turbine technology with newer, cleaner gas turbine technology. The offset exemption only covers the maximum electrical power rating in megawatts that does not allow an increase of the basin-wide electricity generating capacity. If there is an increase in the basin-wide capacity, then only the increased capacity must be offset. The AFC states that AES plans to enable 1,995 MW of new generation under this rule by permanently retiring 1,950 MWs from existing Alamitos Generating Station Units 1-6 and using 45 MWs from the retirement of Huntington Beach Generating Station Units 1 and 2. In a letter dated February 7, 2014 to the SCAQMD, Table 4 lists the gross and net MWs for the AES project to demonstrate there will not be a change in capacity. These MWs are based on ambient temperatures of 32, 33 and 28 degrees Fahrenheit. The AFC states the new units would have a gross capacity of 1,995 and net capacity of 1,936 MWs and a site ambient annual temperature (SAAT) of 65.3 degrees Fahrenheit. It is unclear whether SCAQMD has approved the demonstration. In addition, Rule 1304.1 requires fees for up to the full amount of offsets provided by the SCAQMD for facilities which use the offset exemption in Rule 1304(a) (2). The AFC states SCAQMD Rule 1304.1 is applicable to the project.

**ALAMITOS ENERGY CENTER (13-AFC-01)  
DATA REQUESTS – SET 1**

**DATA REQUESTS**

20. Please provide the current net and gross capacities of existing Units 1-6 at the Alamitos Generating Station referenced to site ambient average temperature conditions.
21. Please document any derates or operational limits that are part of the current net and gross capacities.
22. Please provide any correspondence from the SCAQMD indicating sufficient surplus MWs are available from the existing Huntington Beach Generating Station Units 1 and 2 to enable the proposed offset exemption approach to be used for the AEC.
23. Please provide full details and documentation on the compliance plan for Rules 1304 and 1304.1.

**BACKGROUND: PROJECT PERMITS**

The Air Resources Board (ARB) has identified diesel particulate matter (PM) as a toxic air contaminant (TAC) and has implemented control measures designed to reduce diesel PM, including an air toxic control measure (ATCM) for stationary diesel engines. The ATCM for stationary diesel engines limits the operation of diesel engines when operating in close proximity to sensitive receptors such as schools. California also has a voluntary Portable Equipment Registration Program (PERP) which can allow the use of registered portable equipment such as air compressors and generators to operate without needing to get an individual permit to operate from a local district. This equipment is only considered portable if it does not reside at the same location longer than 12 consecutive months. Section 2452 (cc) of the Regulation to Establish a Statewide Portable Equipment Registration Program, includes the definition of portable equipment and discusses residency time and how to aggregate multiple engines performing the same function. Many local air districts have policies establishing the valid use of PERP registered equipment. The ARB recommends consultation with the local air district regarding the use of equipment that may have a longer residency time on a project site to determine if stationary permits are needed. Considering the length of the proposed construction schedule, and the proximity of neighboring schools including one located onsite, it is important to establish permitting requirements upfront.

**DATA REQUESTS**

24. Please provide any information regarding the use of diesel fired equipment onsite which may require a stationary source permit.
25. If the SCAQMD determines stationary permits are needed for the operation of any diesel engine during the construction period, the engine may be subject to the ATCM for stationary diesel engines. Considering the ATCM limits the allowable hours of operation of these engines if they are located close to schools, would the construction schedule be impacted if stationary permits were required?

**ALAMITOS ENERGY CENTER (13-AFC-01)  
DATA REQUESTS – SET 1**

**BACKGROUND: GREENHOUSE GAS EMISSIONS**

The U.S. Environmental Protection Agency (EPA) has initiated a process to update and add new rules setting minimum carbon performance standards for new, modified and existing power plants. The proposed rule applying to new plants (Standards of Performance for Greenhouse Gas Emissions from New Stationary Sources: Electric Utility Generating Units) was published in the Federal Register on January 8, 2014. As currently proposed, the rule would require all new natural gas electric generating units (EGUs) to meet a 1,000 lbs CO<sub>2</sub>/MWh standard for units rated at greater than 850 MMBtu/hr, regardless of whether they are simple or combined cycle or if they are operated as base load, and 1,100 lbs CO<sub>2</sub>/MWh for all units rated at less than 850 MMBtu/hr. The proposal includes an exemption for low use units, defined as a unit with less than 33 percent annual capacity factor averaged retroactively over three years.

EPA has confirmed that any new facility that commences construction after the date of the proposed rule being published in the Federal Register is subject to the provisions as proposed, unless modified by a future re-publishing process. The standards are currently expected to be finalized within a year of the January 8<sup>th</sup> publication date. The facility would likely be subject to the finalized standards including any changes that are incorporated.

**DATA REQUESTS**

26. Please provide a detailed description of how the AEC plans to comply with the proposed requirements, including any loss of operating flexibility required to meet these requirements if they are deemed applicable.
27. Please confirm whether the applicant would be willing to accept operating limits to ensure the facility meets the proposed requirements and include a discussion of how the new requirements would affect operations.

**ALAMITOS ENERGY CENTER (13-AFC-01)  
DATA REQUESTS – SET 1**

**Technical Area:** Biological Resources  
**Authors:** Heather Blair, Jennifer Lancaster and Scott White

**BACKGROUND: NITROGEN DEPOSITION**

The AFC (Section 5.2.3.3.1) states that the critical load for atmospheric nitrogen deposition into coastal wetlands is difficult to establish because wetlands subject to tidal exchange have open nutrient cycles. It further states that nitrogen loading in wetlands is often affected by sources other than atmospheric deposition. In addition, it states that air pollution controls limit emissions of oxides of nitrogen and that RECLAIM puts a cap on region wide NO<sub>x</sub> emissions. The section concludes that the AEC nitrogen deposition impacts are not expected to contribute significantly to nitrogen loading on coastal salt marshes. Staff agrees with AEC's conclusion regarding tidal salt marsh habitat. However, there is no discussion of the relative location of the proposed project to other sensitive habitats that could be affected by nitrogen emissions from AEC, nor is there a quantitative analysis of nitrogen deposition impacts.

Background data that could be used in conjunction with nitrogen deposition modeling for the AEC could be established using available resources such as the California Energy Commission publication Assessment of Nitrogen Deposition: Modeling and Habitat Assessment (CEC-500-2006-032, March 2007). However, because no nitrogen deposition modeling was performed for the AEC, this step is still needed and the general information provided in the AFC does not support the applicant's conclusion that nitrogen deposition from AEC emissions would have no impacts on native habitat and vegetation. Energy Commission staff believes that nitrogen deposition resulting from emissions from the proposed AEC, namely nitrogen oxides (NO<sub>x</sub>) and ammonia (NH<sub>3</sub>) could have negative impacts on biological resources and that a quantitative analysis of such impacts is needed.

Impacts of excessive nitrogen deposition to plant communities include direct toxicity, changes in species composition among native species, and enhancement of non-native invasive species. The increased dominance and growth of invasive annual grasses is especially prevalent in low-biomass vegetation communities that are naturally nitrogen-limited. Invasive non-native vegetation, enhanced by atmospheric nitrogen deposition, affects these species by outcompeting them for space, sunlight, moisture, and nutrients. In addition to coastal salt marshes, riparian scrub, alkali meadow, southern foredunes, southern dune scrub, and other sensitive vegetation located in the vicinity of the project site could be impacted by nitrogen deposition contributed by the AEC.

The anticipated nitrogen emissions from AEC may contribute to the ongoing (cumulative) degradation of sensitive species habitat located near the project site.

In order to assess impacts to nitrogen-sensitive biological resources, staff requires additional information on nitrogen deposition as established by proper modeling of nitrogen emissions resulting from the AEC.

**ALAMITOS ENERGY CENTER (13-AFC-01)  
DATA REQUESTS – SET 1**

**DATA REQUESTS**

28. Please quantify the existing baseline total nitrogen deposition rate in the vicinity of the AEC in kilograms per hectare per year (kg/ha/yr). The geographical extent of the nitrogen deposition mapping should include a six-mile radius from the project stacks.
29. Please use AERMOD to provide an analysis of impacts due to total nitrogen deposition (from NO<sub>x</sub> and NH<sub>3</sub> emissions) from future operation of the proposed AEC. The analysis should include the amount of total nitrogen deposition in kg/ha/yr at the Los Cerritos Wetland Complex and associated privately owned lands, the Jack Dunster Marine Biological Reserve, the Golden Shore Marine Biological Reserve Park, the Bolsa Chica Ecological Reserve, the Seal Beach National Wildlife Refuge, western snowy plover critical habitat, and any other special-status species habitats, vegetation types, and critical habitat in the six-mile radius for wet and dry deposition. Please provide the complete citation for references used in determining these impacts. Please use meteorological data consistent with that used for annual air quality impact analyses.
30. Please provide an equivalent analysis to that requested in Data Request #30 to identify the current nitrogen deposition from operation of the existing Alamitos Generating Station, in order to assess the net change in nitrogen deposition that would occur from implementation of the AEC at each location evaluated in Data Request #30. This analysis should be conducted using emissions data typical of the past 2 to 3 years of operating the existing facility.
31. Please provide an isopleth graphic over USGS 7.5-minute maps (or equally detailed map) of the net change in direct nitrogen deposition rates caused by the project. This will be a graphical depiction of the project's net nitrogen deposition (relative to the nitrogen deposition from the existing Alamitos Generating Station).
32. Please provide a comprehensive cumulative impact analysis, consistent with the methods used for the cumulative analysis conducted for the Air Quality section, for the direct nitrogen deposition in kg/ha/yr caused by AEC. Provide an isopleths graphic over USGS 7.5-minute maps of the direct nitrogen deposition values in the cumulative analysis and specify the cumulative nitrogen deposition rate in kg/ha/yr at any affected special-status species habitat, vegetation type, or critical habitat. The geographical extent of the cumulative nitrogen deposition mapping should be a six-mile radius from the project's stacks.

**BACKGROUND: CONSTRUCTION AND DEMOLITION NOISE**

The Los Cerritos Wetlands are immediately east of the project area. Section 5.2.2.2 of the AFC (pages 5.2-4 and 5.2-5) states that these wetlands support the federally and state-listed endangered California least tern and the state-listed endangered Belding's savannah sparrow. Approximately 2 acres of the Los Cerritos Wetlands have been established as a California least tern nesting site. The wetlands also provide nesting habitat for birds protected under the federal Migratory Bird Treaty Act.

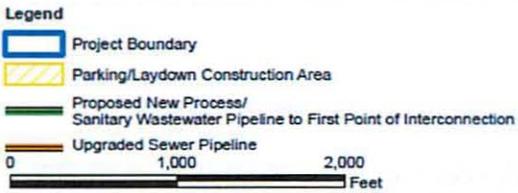
**ALAMITOS ENERGY CENTER (13-AFC-01)  
DATA REQUESTS – SET 1**

Section 5.2.3.2.5 of the AFC (page 5.2-29) acknowledges that noise from construction and demolition could disturb nesting birds close to the project area, causing them to relocate or potentially abandon their nests. However, the AFC does not provide any quantitative information regarding existing (baseline) or anticipated construction and demolition noise levels in the Los Cerritos Wetlands. This information is necessary to analyze potential impacts to special-status birds in the Los Cerritos Wetlands. Therefore, staff requires information on ambient noise levels and anticipated future project-related noise levels in the wetlands.

**DATA REQUESTS**

33. Please conduct continuous ambient noise monitoring to determine the level of existing noise at important wildlife habitat areas along the San Gabriel River and in the Los Cerritos Wetlands (locations described below and illustrated in the attached map), using the same methods and reporting that were used for the ambient noise survey presented in AFC Section 5.7.3.2. Please provide these data for: (1) the fenceline at the southwest corner of Studebaker Road and Loynes Drive; (2) the fenceline south of East 2nd Street (Westminster Blvd.) and just west of the San Gabriel River crossing, and (3) either bank of the San Gabriel River directly east of existing Unit 4. There is an accessible bicycle path on the east banks of the river. Please contact staff to discuss alternate monitoring locations if for any reason these locations cannot be safely accessed.
34. Please provide the anticipated sound level during construction and demolition at the locations where ambient noise monitoring was conducted. Data should be provided in a unit of measure that will allow for a reasonable comparison against the ambient noise data requested under Data Request #34.
35. Please provide the anticipated sound level during future operation of the proposed AEC at the locations where ambient noise monitoring was conducted. Data should be provided in a unit of measure that will allow for a reasonable comparison against the ambient noise data requested under Data Request #34.
36. Please provide a model (isopleths map) of the anticipated noise level throughout the Los Cerritos Wetlands during construction and demolition. Data should be provided in a unit of measure that will allow for a reasonable comparison against the ambient noise data requested under Data Request #34.
37. Please provide a model (isopleths map) of the anticipated noise level throughout the Los Cerritos Wetlands during future operation of the proposed AEC. Data should be provided in a unit of measure that will allow for a reasonable comparison against the ambient noise data requested under Data Request #34.

ALAMITOS ENERGY CENTER (13-AFC-01)  
DATA REQUESTS – SET 1



**FIGURE 2.1-1**  
**Site Location Map**  
Alamitos Energy Center  
Long Beach, California

CH2MHILL

\\ZION\SACGIS\PROJ\ALAMITOS\MAPFILES\PROJECT\FIG2\_1-1\_AEC\_SITELOCATION.MXD KMINO 12/4/2013 4:48:30 PM

Data Request # 34 Map

**ALAMITOS ENERGY CENTER (13-AFC-01)  
DATA REQUESTS – SET 1**

**Technical Area:** Cultural Resources  
**Authors:** Gabriel Roark, M.A. and Victoria Smith, M.A.

**BACKGROUND**

The cultural resources section of the application for certification (AFC) and the cultural resources inventory report contain information backed by in-text citations that lack corresponding bibliographic entries in the References Cited or Consulted section of both documents; other references cited conflict with the corresponding bibliographic entries (AES 2013:5.3-37–41; Cardenas et al. 2013:6-1–4). Without this bibliographic information, staff, parties, and the public have no way to verify the accuracy of certain statements made in the AFC and cultural resources inventory report. In turn, this hinders efforts to assess the potential impacts of the proposed project on cultural resources. The table immediately below identifies the citations in question, which document contains the suspect citations, and on which page(s) the citations occur in the respective documents.

<b>Citation</b>	<b>Document and Page Number</b>	<b>Notes/Comments</b>
City of Huntington Beach 1996	AES 2013:5.3-13	Not in references. Staff consulted the Huntington Beach General Plan's Cultural Resources element <sup>1</sup> and did not find the cited information there.
Dixon 1972	AES 2013:5.3-26; Cardenas et al. 2013:4-6	In both documents' description of resource P-19-306 (Puvunga Indian Village), they refer to excavation work conducted by Dixon in 1974, but cite Dixon (1972) as supporting documentation.
Herbert and Brookshear 2006	AES 2013:5.3-16; Cardenas et al. 2013:2-11	One of the in-text citations provides partial substantiation of quoted material. The citation does not give the page number(s) containing the quoted material, contrary to standard practice. Furthermore, the bibliographic information in References Cited incorrectly identifies the source as the Building, Structure, and Object (BSO) form for Highgrove Generating Station; the BSO form does not contain the quoted statement.
Williams 1997	AES 2013:5.3-16; Cardenas et al. 2013:2-11, 2-12	The Williams quote on these pages of the documents does not have the page number indicated.
Redwine 1958	AES 2013:Table 5.3-1; Cardenas et al. 2013:Table 1	Report not provided.

**DATA REQUESTS**

38. Please provide bibliographic information for City of Huntington Beach (1996).
39. Please indicate whether the archaeological work conducted by Keith Dixon at CA-LAN-306 was done in 1972 or 1974. If it was done in 1974, please provide a citation and bibliographic information that does not precede the date of fieldwork.

<sup>1</sup> [http://www.huntingtonbeachca.gov/files/users/planning/historic\\_cultural\\_resources\\_element.pdf](http://www.huntingtonbeachca.gov/files/users/planning/historic_cultural_resources_element.pdf)

**ALAMITOS ENERGY CENTER (13-AFC-01)  
DATA REQUESTS – SET 1**

40. Please provide a citation and bibliographic information for the entire resource record form set for Highgrove Generating Station or the specific form that contains the quoted information. Please provide the page number(s) on which the information appears.
41. Please provide a page number for the quoted material that is attributed to Williams (1997).
42. Please provide a copy of Redwine (1958). In accordance with the Energy Commission's siting regulations (20 Cal. Code Regs., §1704 ([b](2)), Appendix (B[g][2][b])), the applicant must provide staff with copies of all reports on archaeological excavations within the records search area. During the course of reviewing records search data provided by the applicant, staff discovered that Redwine (1958) is an excavation report; this was not discernible to staff during data adequacy review, as the bibliographic entry in the records search gave the report title simply as *Landing Hill*.

**BACKGROUND**

In assessing the potential impacts of the proposed project on archaeological resources, staff routinely examines a variety of literature that describes subsurface conditions in the project area. Geotechnical, soil characterization and environmental site assessments are among the most valuable sources of site-specific, subsurface conditions. Primary or first-hand data regarding subsurface conditions at the project site are contained in a geotechnical report and phase I environmental site assessment (EMS 2013; Ninyo & Moore 2011). Ninyo & Moore (2011: Appendix A) presents four soil boring logs for the project site. The Phase I Environmental Site Assessment appended to the AFC indicates that the applicant possesses about as many as five other documents with additional boring logs for the project site (EMS 2013:17–19, 35–36). These data would be invaluable to staff's impact assessment.

**DATA REQUEST**

43. Please provide a copy each of the following reports, cited in EMS (2013:35–36).
  - CH2M Hill (1997a, 1997b)
  - Dames & Moore (1986)
  - Hamilton (n.d., 1997)

**BACKGROUND**

The California Environmental Quality Act (CEQA) Statute and Guidelines direct lead agencies to identify historical resources and unique archaeological resources that may be affected by proposed projects, and assess project impacts on those resources (Pub. Resources Code §21083.2[a]; 14 Cal. Code Regs., §15064.5[b] and [c]). Lead agencies (in this case, the Energy Commission) "shall determine whether a project may have a significant effect on the environment based on substantial evidence in light of the whole record" (Pub. Resources Code, §21082.2), as defined at Title 14, California Code of

**ALAMITOS ENERGY CENTER (13-AFC-01)  
DATA REQUESTS – SET 1**

Regulations, section 15384.<sup>2</sup> Two cultural resources, the Haynes Generating Station and the San Gabriel River Channel, were not sufficiently evaluated in the Data Adequacy Supplement (AES 2014).

The Data Adequacy Supplement (AES 2014) and the Department of Parks and Recreation (DPR) forms provided in Attachment DA5.3–4 of that document present a California Register of Historical Resources (CRHR) evaluation of the Haynes Generating Station. The evaluation is incomplete, however, because it does not include an evaluation of the resource under CRHR Eligibility Criterion 3, one of the four criteria of eligibility for the CRHR.<sup>3</sup>

The Data Adequacy Supplement (AES 2014) and the DPR forms regarding the San Gabriel River segment and levees provided in Attachment DA5.3–4 of that document present a CRHR-eligibility evaluation of the segment of the San Gabriel River Channel—a portion of Reach 7—and its levees that fall within the survey area and are part of the AES property. The eligibility evaluation provided for the San Gabriel River segment and levees are unsupported by readily available evidence and are incomplete. Indeed, an explicit CRHR evaluation of the resource is not provided at all; instead, the evaluation considers only the channel levees in a manner that isolates the resource from its historic context. Energy Commission staff reviewed historic maps of the San Gabriel River, comparing them to the modern alignment and found that the portion of the river located within the Architectural Survey Area was channelized during the historic period; its current alignment is the result of engineering and is not natural. Historic maps and aerial photographs contained in the AFC indicate that Reach 7 of the San Gabriel River was channelized and straightened by 1928 (EMS 2013:Appendices F and G). The Data Adequacy Supplement (AES 2014:5.3-3) and corresponding DPR forms (Attachment DA5.3-4) state:

The overall linear resource of the San Gabriel River watershed system has not been evaluated for the NRHP [National Register of Historic Places] or CRHR. However, this segment would not seem to contribute to the potential eligibility of the greater resource because it had few modifications as part of the flood control project. It remains a natural, soft-bottomed channel and the only flood control modification appears to have been the earthen levees along its banks.

---

<sup>2</sup> The CEQA Statute and Guidelines define historical resources to include all resources listed in or formally determined eligible for the National Register of Historic Places, the California Register of Historic Resources, or local registers.

<sup>3</sup> An historical resource must be significant at the local, state, or national level under one or more of the following criteria defined in Title 14, California Code of Regulations, section 4850:

1. It is associated with events or patterns of events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States; or
2. It is associated with the lives of persons important to local, California, or national history; or
3. It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master, or possesses high artistic values; or
4. It has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

## **ALAMITOS ENERGY CENTER (13-AFC-01) DATA REQUESTS – SET 1**

The Data Adequacy Supplement (AES 2014:5.3-3) further states in reference to the segment of the San Gabriel River Channel within the Architectural Survey Area, “It is located south of Coyote Creek and although it serves as part of the watershed system, it has not been channelized. It is a natural tributary and retains a soft bottom (LACDPW 2006).” However, Page 3-35, section 3.6.7 of the reference cited by the applicant (LACDPW 2006) discusses Reach 7 (the subject segment) and indicates it has a soft bottom, but does not state that it is a natural watercourse; it refers to this segment as “the channel.” While this portion of the river may remain soft-bottomed, it is still considered a historic-period engineered structure. Research performed by staff indicates the San Gabriel River Channel—including Reach 7—is an historic-era, engineered flood-control structure and needs to be evaluated as such.

The applicant does not provide a CRHR eligibility evaluation of the larger resource, the San Gabriel River Channel, of which this segment and the levees are an integral part. To determine if the segment within the Architectural Survey Area is eligible for the CRHR and, thus, a historical resource under CEQA, an eligibility evaluation of the San Gabriel River Channel is needed.

### **DATA REQUESTS**

Additional information is needed for evaluating the CRHR eligibility of the San Gabriel River Channel and Haynes Generating Station and to assess potential impacts that would result from the proposed project. Provide a reevaluation of the San Gabriel River and Haynes Generating Station and associated DPR 523 records to incorporate the information detailed below. The reevaluation may be submitted as either a stand-alone addendum report or incorporated as revisions to the Cultural Resources Inventory Report. Please note that the reevaluation, supporting information, and DPR 523 records do not need to be submitted under confidential cover with the archaeological responses.

44. Provide an eligibility evaluation of the Haynes Generating Station under CRHR Eligibility Criterion 3 and amend sections 4.5 and 5 of the Cultural Resources Inventory Report and section P3a of the Haynes Generating Station DPR Primary Record Continuation Sheet to include that information;
45. Provide the following information regarding the San Gabriel River Channel:
  - a. Provide a focused record search to identify any previous significance evaluations or eligibility determinations for the San Gabriel River Channel or its associated segments or features. This should include a focused records search through the South Central Coastal Information Center to determine whether or not other segments of the Channel (e.g., the Channel downstream of Whittier Narrows to the Pacific Ocean) have been recorded and evaluated for historical significance. Records at other agencies should also be searched, including the U.S. Army Corps of Engineers, the Los Angeles County Flood Control District (LACFCD) and other agencies that may have related environmental documents. Incorporate the results of the focused San Gabriel River records search into Section 4.1 of the Cultural Resources Inventory Report. Also incorporate information gathered from the focused record search regarding any prior significance

**ALAMITOS ENERGY CENTER (13-AFC-01)  
DATA REQUESTS – SET 1**

recommendations or eligibility determinations for the San Gabriel River Channel, its segments, and/or features into discussions of the resource.

- b. Provide accurate historical information regarding the San Gabriel River Channel as a historic-period engineered structure and its development with referenced, verifiable construction dates for the associated flood control features and the river's channelization, including Reach 7;
- c. If there is no previous historical significance evaluation or eligibility determination for the San Gabriel River or its associated segments or features identified through the focused record search, provide an evaluation of the San Gabriel River Channel under all four CRHR eligibility criteria. No additional fieldwork is requested for that evaluation; it is anticipated that the historical significance assessment can be adequately performed using readily available literature and online sources regarding the developmental history and importance of the San Gabriel River Channel at the local, state, and national levels;
- d. If the San Gabriel River Channel is found to be eligible for the CRHR, provide a revised assessment of potential impacts to the historical resource that would result from the project and revise Section 5 of the Cultural Resources Inventory Report;
- e. Provide a DPR Primary Record and a Building, Structure, and Object (BSO) Record for the San Gabriel River Channel that details the construction history of the historic engineered structure and incorporates the project description information clarifications requested by the project manager on April 1, 2014 for items 2–6. .

**BACKGROUND**

The Alamitos Generating Station (AGS) includes other built environment features that were not inventoried or included in the CRHR eligibility evaluation of the property as presented in the Cultural Resources Inventory Report and associated DPR records (AES 2014:Appendix 5.3B). Those built environment resources noted by staff as missing are two intake channels entering the AGS property on the west side and at least three retention basins located in the eastern portion of the AGS facility. The inclusion of those structures in the inventory, CRHR eligibility evaluation, and assessment of impacts is needed to provide completeness and accuracy of the CEQA record.

In addition, the CRHR evaluation of the AGS under Eligibility Criterion 3 is not provided in the Cultural Resources Inventory Report (Appendix 5.3B) or associated DPR forms. A summary significance statement provided on Page 2 of the AGS DPR District Record indicates that the property is not eligible under Criterion 3. However, the evaluation of AGS eligibility provided on Page 5 of the District Record does not include an evaluation of the property under Eligibility Criterion 3 or justification as to why Page 2 of the DPR indicates AGS is ineligible under Criterion 3.

**ALAMITOS ENERGY CENTER (13-AFC-01)  
DATA REQUESTS – SET 1**

**DATA REQUESTS**

The information requested below is critical for staff to assess potential impacts to cultural resources. The requested information below should be incorporated into either a stand-alone addendum report with the other requested cultural resource information or as revisions to the Cultural Resources Inventory Report and associated DPR records. Please note that the revised report and DPR records do not need to be submitted under confidential cover with the archaeological responses. The following is needed.

46. Provide the following information for the AGS:

- a. Provide completed DPR Primary Record forms for each of the retention basins and each intake channel to complete the AGS DPR District Record packet.
- b. Does inclusion of the intake channels and retention basins in the CRHR eligibility evaluation alter the eligibility recommendations provided in the AFC? If so, provide an amended statement of CRHR eligibility for the AGS property. Revise Section D.6 of the AGS DPR District Record to incorporate any changes to the eligibility evaluation.
- c. Provide an eligibility evaluation of the AGS under CRHR Eligibility Criterion 3 and amend section P3a of the Haynes Generating Station DPR Primary Record Continuation Sheet to include that information;
- d. If the AGS is found to be eligible for the CRHR, revise the impacts assessment for the AGS property currently presented in Section 5 of the Cultural Resources Inventory Report and consider these structures in the assessment. Does inclusion of the intake channels and retention basins in the impacts assessment alter the previous study results?

**BACKGROUND**

The following five historic-era built environment resources that fall within the Architectural Survey Area were not inventoried or assessed for potential impacts in the Cultural Resources Inventory Report (AES 2013:Appendix 5.3B, Figures 1 and 2).

- Bridge 1563 over North Intake Channel (Caltrans' Bridge 53C0801L and R),
- Bridge 3460 over South Intake Channel (Caltrans' Bridge 53C0802L and R),
- Bridge 2750 over Los Cerritos Channel on Loynes Drive (Caltrans' Bridge 53C0730),
- Studebaker Road, and
- Los Cerritos Channel.

**ALAMITOS ENERGY CENTER (13-AFC-01)  
DATA REQUESTS – SET 1**

According to Caltrans' (2010) bridge inventory, the two bridges over the intake channels are historic in age (built in 1966) and have been determined ineligible for the NRHP, but have not been evaluated for the CRHR. Likewise, Studebaker Road is more than 45 years of age and was not inventoried or evaluated, and potential impacts to the road that would result from the project were not assessed. Both of the bridges and Studebaker Road fall within the one parcel extent for architectural survey and consideration.

The AFC indicates that 1,000 feet of new sewer line will be installed and a portion attached to Bridge 2750 over Los Cerritos Channel on Loynes Drive (Caltrans' Bridge 53C0730). The Cultural Resource Report does not include an inventory or evaluation of the bridge or an assessment of impacts to the bridge that would result from the project. The bridge is more than 45 years in age (built in 1966). As with the two bridges discussed above, the Caltrans' (2010) bridge inventory indicates that Bridge 2750 (Caltrans' Bridge 53C0730) has been determined ineligible for the NRHP, but has not been evaluated for the CRHR

Los Cerritos Channel is a built feature that pre-dates construction of the Alamitos Plant in 1955. Historic maps and aerial photographs contained in the AFC indicate that the Los Cerritos Channel was constructed by 1947 (EMS 2013:Appendix F and G). Both it and the San Gabriel River Channel are working parts of the Alamitos Power Plant's historic-era cooling water system. There is no inventory or evaluation of this historic-era engineered structure or assessment of project impacts to the channel in the Cultural Resources Inventory Report (ACF Appendix 5.3B). Los Cerritos Channel falls within the one parcel extent for architectural survey and consideration.

**DATA REQUESTS**

Staff requires the information requested below to assess potential impacts to cultural resources that would result from the proposed project. The requested information below should be incorporated into either a stand-alone addendum report with the other requested cultural resource information detailed above or as revisions to the Cultural Resources Inventory Report and associated DPR records. Please note that the report and DPR records do not need to be submitted under confidential cover with the archaeological responses.

47. Information detailed below is requested for the following resources:

- a. Perform an architectural survey of the following resources:
  - Bridge 1563 over North Intake Channel (Caltrans' Bridge 53C0801L and R),
  - Bridge 3460 over South Intake Channel (Caltrans' Bridge 53C0802L and R),
  - Bridge 2750 over Los Cerritos Channel on Loynes Drive (Caltrans' Bridge 53C0730),
  - Studebaker Road, and
  - Los Cerritos Channel.

**ALAMITOS ENERGY CENTER (13-AFC-01)  
DATA REQUESTS – SET 1**

The resources are to be recorded following the *California Office of Historic Preservation's (OHP) Instructions for Recording Historical Resources (1995)*, including completion of a DPR Primary and BSO record for each resource. The architectural survey is to be performed by a cultural resource professional who meets the Secretary of the Interior's Professional Qualification Standards for Architectural Historian;

- b. Evaluate CRHR eligibility (under all four eligibility criteria) of each of the resources indicated above; and
- c. For each resource listed above that is found to be eligible for the CRHR, provide a revised project impacts assessment to include an analysis of potential impacts to each of the five indicated structures that would result from the project.

**ALAMITOS ENERGY CENTER (13-AFC-01)  
DATA REQUESTS – SET 1**

**REFERENCES**

---

- AES 2013—AES Southland Development, with CH2M Hill.** *Application for Certification: Alamos Energy Center*. Vol. 1. December. Long Beach, CA, and Sacramento, CA. Submitted to California Energy Commission, Sacramento. On file, Dockets Unit, California Energy Commission, Sacramento. 13-AFC-01. TN #201620.
- AES 2014—AES Southland Development, with CH2M Hill.** Alamos Energy Center (TN 201751) Data Adequacy Supplement dated February 17, 2014. Submitted to CEC/Docket Unit on February 17, 2014.
- Caltrans 2010—California Department of Transportation.** *Historic Bridge Inventory, Local Agency Bridges*. Electronic document, <http://www.dot.ca.gov/hq/structur/strmaint/historic.htm>, accessed March 27, 2014.
- Cardenas et al. 2013—Gloriella Cardenas, Lori Durio Price, Natalie Lawson, and Clint Helton.** *Confidential Cultural Resources Inventory Report for the Alamos Energy Center, Los Angeles County, California*. December. CH2M Hill, Santa Ana, CA. Prepared for AES-Southland Development, Long Beach, CA. Submitted to California Energy Commission, Sacramento. 12-AFC-03. On file, Dockets Unit, California Energy Commission, Sacramento. TN # 201620-55.
- CH2M Hill 1997a—CH2M Hill.** *Phase 1 Environmental Site Assessment, Alamos Generating Station*. January.
- CH2M Hill 1997b—CH2M Hill.** *Alamos Generating Station, Phase II Environmental Site Assessment*. June.
- Dames & Moore 1986—Dames & Moore.** *Hydrogeologic Assessment Report, Alamos Generating Station*. January 27. Prepared for Southern California Edison.
- Dixon 1972—Keith Dixon.** Reviving Puvunga: An Archaeological Project at Rancho Los Alamos. *The Masterkey* 46(3):1–4.
- EMS 2013—Environmental Management Strategies.** *Technical Report: Phase I Environmental Site Assessment, Alamos Electrical Power Plant, 690 North Studebaker Road, Long Beach, CA*. March. Irvine, CA. Prepared for AES North America Development, Long Beach, CA. Appendix 5.14A to *Application for Certification: Alamos Energy Center*, by AES Southland Development, with CH2M Hill. December. Long Beach, CA, and Sacramento, CA. Submitted to California Energy Commission, Sacramento. On file, Dockets Unit, California Energy Commission, Sacramento. 13-AFC-01. TN #201620-70.
- Hamilton n.d.—P. Hamilton.** Soil Characterization Report, Alamos Generating Station, Retention Basin Site. Draft. Prepared for Southern California Edison.
- Hamilton 1997—P. Hamilton.** *Well Construction Report, Alamos Generating Station, Report*. April 18. Prepared for Southern California Edison.

**ALAMITOS ENERGY CENTER (13-AFC-01)  
DATA REQUESTS – SET 1**

**Herbert and Brookshear 1996**—**Rand Herbert and Cheryl Brookshear.** Building, Structure, and Object Record for Highgrove Generating Station. November. JRP Historical Consulting, Davis, CA. On file, Cultural Resources Unit, California Energy Commission, Sacramento. 06-AFC-2.

**LACDPW 2006**—**Los Angeles County Department of Public Works.**— *A Common Thread Rediscovered: San Gabriel River Corridor Master Plan.* Berkeley, CA: Moore Iacofano Goltsman.

**Ninyo & Moore 2011**—**Ninyo & Moore.** *Preliminary Geotechnical Evaluation, Alamos Generating Station, 690 North Studebaker Road, Long Beach, California.* October 19. Irvine, CA. Project No. 208356001. Prepared for Power Engineers Collaborative, Brookfield, WI. Appendix 5.4A to *Application for Certification: Alamos Energy Center*, by AES Southland Development, with CH2M Hill. December. Long Beach, CA, and Sacramento, CA. Submitted to California Energy Commission, Sacramento. On file, Dockets Unit, California Energy Commission, Sacramento. 13-AFC-01. TN #201620-59.

**Office of Historic Preservation (OHP) 1995**—*Instructions for Recording Historical Resources.* Sacramento, Office of Historic Preservation, California Department of Parks and Recreation.

**Redwine 1958**—**Peter Redwine.** *Landing Hill.* On file, South Central Coastal Information Center, California Historical Resources Information System, Fullerton. Study OR-1049.

**Williams 1997**—**James Williams.** *Energy and the Making of Modern California.* Akron, Ohio: University of Akron.

**ALAMITOS ENERGY CENTER (13-AFC-01)  
DATA REQUESTS – SET 1**

**Technical Area:** Hazardous Materials Management  
**Author:** Dr. Alvin Greenberg

**BACKGROUND**

The project would store and use various hazardous materials as described in the AFC in Tables 5.5-1, -2, and -3. The AFC also contains a protocol for conducting an Off-site Consequence Analysis (OCA) in Appendix 5.5A. Staff needs additional information and formatting in order to be able to complete its assessment of the potential for on-site and off-site consequences.

**DATA REQUESTS**

48. Please conduct the OCA described in Appendix 5.5A and provide the input variables, the model used, and the results to staff.
49. Please provide the most current Hazardous Materials Business Plan for the existing AGS.
50. Please provide the most current Spill Prevention Control and Countermeasures Plan for the existing AGS.
51. Please provide a description of all ammonia leak detectors and their proposed locations for the proposed project.

**ALAMITOS ENERGY CENTER (13-AFC-01)  
DATA REQUESTS – SET 1**

**Technical Area:** Public Health  
**Author:** Huei-An Chu (Ann), Ph.D.

**SENSITIVE RECEPTORS: BACKGROUND**

The Application for Certification (AFC) and appendices to the AFC provided some information on how the applicant conducted their health risk assessment. The potential impacts associated with toxic air emissions from the proposed power plant were addressed in a health risk assessment (Section 5.9 Public Health, Appendix 5.9, and Appendix 5.9A Environmental Data Resources (EDR) Offsite Receptor Report). This health risk assessment was prepared using guidelines developed by Office of Environmental Health Hazard Assessment (OEHHA) and California Air Resources Board (ARB), as implemented in the latest version of the HARP (Hotspots Analysis and Reporting Program) model. Appendix 5.9A Sensitive Receptor Report and Appendix 5.9B Supplemental Sensitive Receptors within 6 miles listed all the sensitive receptors including day care centers, nursing homes, schools, hospitals and colleges within 6 miles of the proposed power plant. However, staff was unable to identify these sensitive receptors from discrete grid receptors when using either American Meteorological Society/Environmental Protection Agency Regulatory Model (AERMOD) or HARP. Staff needs the AERMOD and HARP files, which contain the information on grid identification numbers (or receptor numbers) and locations of both sensitive receptors and residential receptors to review and verify the applicant's health risk assessment.

**DATA REQUEST**

52. Please provide the input files of data (i.e. the "\*.ROU" files) for AERMOD and HARP which contain the information of sensitive receptors and residential receptors, including grid identification numbers (i.e. HARP receptor numbers), type (ex: day care centers, nursing homes, schools) and corresponding locations (UTMs), so that staff can differentiate them from all other grid receptors.
53. Please provide all other related files to enable staff to replicate the health risk assessment.
54. Please specify the HARP receptor number and UTM's of the following sensitive receptors:
  - a. The Rosie the Riveter Charter High School
  - b. The closest sensitive receptor outside the AEC property - Kettering Elementary School
  - c. The nearest residence
  - d. The nearest business

**ALAMITOS ENERGY CENTER (13-AFC-01)  
DATA REQUESTS – SET 1**

**CONSTRUCTION HEALTH RISK ASSESSMENT (HRA): BACKGROUND**

In the AFC, a screening construction health risk assessment for diesel particulate matter (DPM) was conducted to assess the potential impacts associated with diesel emissions during the construction and demolition activities at Alamitos Energy Center (AEP). The results of the analysis are contained in Section 5.9.3.3 and Appendix 5.9C. This screening health risk assessment was conducted based on the annual average emissions of DPM. The incremental increases in cancer risk were estimated by multiplying the predicted annual DPM concentration by the Office of Environmental Health Hazard Assessment (OEHHA) inhalation unit risk factor of  $3.0E-04 (\mu\text{g}/\text{m}^3)^{-1}$  and adjusting the predicted results to a 9-year exposure duration to more closely reflect the exposure duration associated with construction activities (OEHHA, 2003, p. 8-3).

Even though the construction and demolition activities at the project site are anticipated to last 139 months, the construction HRA was performed for a shorter exposure duration. This is because the HARP model limits short-term, continuous residential exposure to 9 years. Therefore, the average annual emissions, calculated as previously described, were assumed to occur each year for 9 years of continuous exposure.

An adjusted 9-year, 5-days-per-week, 10-hours-per-day exposure duration was used for commercial/industrial receptors, resulting in a 3.36 ground level concentration factor.

Based on the analysis, the incremental increases in cancer risk at the Point of Maximum Impact (PMI), Maximally Exposed Individual Resident (MEIR), Maximally Exposed Individual Worker (MEIW), and maximum exposed sensitive receptor, associated with construction and demolition activities are predicted to be 14.7, 3.3, 8.9, and 5.7 in 1 million, respectively. The chronic health indices at the PMI, MEIR, MEIW, and maximum exposed sensitive receptor are predicted to be 0.037, 0.0084, 0.13, and 0.014, respectively. The applicant stated that "... Although the PMI excess cancer risk is greater than 10 in 1 million, the elevated risk only occurs in areas where public access is controlled [i.e., within the AES Southland Development, LLC (AES-SLD)-controlled fence line] or in areas that are not considered residential, commercial, or habitable. Additionally, potential exposure would be sporadic and limited in length. The predicted incremental increase in cancer risk at the MEIR, MEIW, and maximum exposed sensitive receptor, and chronic health index at the PMI, MEIR, MEIW, and maximum exposed sensitive receptor, are less than the Proposition 65 and CEQA significance thresholds of 10 in 1 million and 1.0, respectively. Therefore, impacts associated with the finite construction and demolition activities are less than significant."

**DATA REQUEST**

55. For residential exposures, please provide a map containing health risk isopleths, including an isopleth showing the risk value of 10 in a million.

**ALAMITOS ENERGY CENTER (13-AFC-01)  
DATA REQUESTS – SET 1**

56. For worker exposures, please provide a reevaluation of the risks at the MEIW, the Rosie the Riveter Charter High School and other commercial/industrial receptors with an exposure duration of 12 years instead of 9 years to more closely reflect the exposure duration associated with construction activities of 139 months (11.5 years). Please also provide a map containing health risk isopleths, especially the isopleth with the risk value of 10 in a million.

**AGE SENSITIVITY FACTORS (ASF) IN HRA: BACKGROUND**

Effective August 2012, all air toxics HRAs should use the new OEHHA's Air Toxics Hot Spots Program Risk Assessment Guideline (OEHHA 2012) which recommends breaking down exposure/risk by age group using age-dependent adjustment factors (i.e. Age Sensitivity Factors) to calculate the cancer risk (OEHHA, 2012, page 1-6)<sup>4</sup>. This new methodology is used to reflect the fact that exposure varies among different age groups and exposure occurring in early life has a higher weighting factor.

**DATA REQUEST**

57. To comply with the new age weighted OEHHA 2012 guidelines, please redo the HRA for cancer and provide the analysis and results to staff.

**CANCER BURDEN: BACKGROUND**

If a predicted Derived Adjusted cancer risk is greater than 1 in 1 million, the cancer burden is calculated for each census block receptor. Cancer burden is defined as the estimated increase in the occurrence of cancer cases in a population resulting from exposure to carcinogenic air contaminants. The population data for census block receptors within 6 miles of the AEC site are based on the population information within the HARP database.

Based on the SCAQMD Air Quality Significance Thresholds<sup>5</sup>, a cancer burden greater than 0.5 excess cancer cases in areas with an incremental increase greater than 1 in 1 million individuals is considered significant.

The incremental increase in cancer risk at the PMI associated with the AEC is predicted to be 3.4 in 1 million. The incremental increase in cancer risk at the MEIR is predicted to be 3.1 in 1 million. However, there is no calculation of cancer burden.

**DATA REQUEST**

58. Please calculate the cancer burden after re-conducting the cancer HRA by complying with the new OEHHA 2012 guideline as requested in data request #57, and provide the analysis and results to staff.

---

<sup>4</sup> [http://oehha.ca.gov/air/hot\\_spots/pdf/2012tsd/Chapter1\\_2012.pdf](http://oehha.ca.gov/air/hot_spots/pdf/2012tsd/Chapter1_2012.pdf)

<sup>5</sup> <http://www.aqmd.gov/ceqa/handbook/signthres.pdf>

**ALAMITOS ENERGY CENTER (13-AFC-01)  
DATA REQUESTS – SET 1**

**REFERENCES**

---

OEHHA (Office of Environmental Health Hazard Assessment). 2012, Air Toxics Hot Spots Program Risk Assessment Guidelines. Technical Support Document for Exposure Assessment and Stochastic Analysis, August 2012.

**ALAMITOS ENERGY CENTER (13-AFC-01)  
DATA REQUESTS – SET 1**

**Technical Area:** Socioeconomics  
**Author:** Lisa Worrall

**BACKGROUND: Construction Workforce**

Table 5.10-B from Appendix 5.10-B of the AFC presents the AEC craft construction workforce by month and by trade type (e.g. boilermakers, carpenters, plumbers). This information is helpful for staff to match up workforce needs with labor supply, as reported by the California Employment Development Department's Projections of Employment by Industry and Occupation. Table 5.10-B does not specify the supervisors by trade type or standard occupation classification code (SOC). So that staff can more accurately match project workforce with labor supply, please provide information on the supervisor workforce as described below.

**DATA REQUEST**

59. Please identify the types of occupations associated with the supervisor labor estimates provided in Table 5.10-B of the AFC. This should include a description of the work conducted by each type of supervisor and the identification of an associated SOC code, where applicable.

**BACKGROUND: California Education Code, Section 17620 and California Government Code, Sections 65995-65997**

California Education Code, Section 17620 authorizes the governing board of any school district to levy a fee, charge, dedication, or other requirement for the purpose of funding the construction or reconstruction of school facilities. Fees are calculated based on the square foot area of chargeable covered and enclosed space. Fees are imposed for industrial construction and construction is defined in Government Code Section 65995 (d) as new construction and reconstruction of existing building for industrial, residential, or commercial.

As stated in the Project Description section in the AFC (page 2-1), existing water treatment facilities and administration and maintenance buildings would be reused for the AEC while the Socioeconomics section in the AFC (page 5.10-15) states that approximately 25,551 square feet of occupied structures (control room/water treatment building) would be assessed \$12,009 in school impact fees.

Based on the definition of construction in Government Code Section 65995 (d) and the proposed project as described in the AFC, staff requests the following:

**DATA REQUESTS**

60. Please identify the buildings, including the amount of covered and enclosed square footage AEC proposes to construct or reconstruct.

**ALAMITOS ENERGY CENTER (13-AFC-01)  
DATA REQUESTS – SET 1**

**Technical Area:** Traffic and Transportation  
**Author:** Jonathan Fong

**BACKGROUND: CONSTRUCTION TRAFFIC DISTRIBUTION**

Section 5.12.2.2.2 “Construction Traffic Distribution” provides assumptions of the distribution of workforce-related traffic for construction and demolition associated with the Alamos Energy Center (AEC). The workforce distribution assumptions appear to be inconsistent with Traffic and Transportation Figure 5.12-5 Project Trip Distribution.

**DATA REQUEST**

61. Please provide a discussion that resolves the inconsistency in the trip distribution estimates in the AFC and revise Section 5.12.2.2 and Figure 5.12-5.

**BACKGROUND: CONSTRUCTION PARKING AND LAYDOWN AREAS**

Section 5.12.1 “Setting and Affected Environment” provides a discussion of the proposed on-site and off-site construction parking and laydown areas. The AFC states that construction of the AEC would require approximately 18-acres (8-acres of onsite and 10-acres of off-site) for parking and equipment laydown. The AFC also states that the Huntington Beach Energy Project (HBEP, 12-AFC-02) would be under construction at the same time and would be sharing the 10-acre offsite laydown area.

The AFC description of required parking and laydown areas appears to conflict with the description of the required acreage needed from the HBEP AFC. In the “Setting and Affected Environment” of the HBEP AFC it states that the construction of HBEP would require 16 acres of laydown area at the Alamos Generating Station site. Based on the description of the parking and laydown acreage requirements for the AEC and HBEP, staff is concerned that there may be inadequate areas on-site to accommodate the two projects and overlapping construction schedules.

**DATA REQUEST**

62. Please provide a discussion and corresponding figure that demonstrates adequate areas for construction parking and laydown for both the AEC and HBEP.

**ALAMITOS ENERGY CENTER (13-AFC-01)  
DATA REQUESTS – SET 1**

**Technical Area:** Traffic and Transportation (Appendix)  
**Author:** Nancy Fletcher

**BACKGROUND: AIR COOLED CONDENSER**

Staff plans to perform a plume vertical velocity analysis for the gas turbines and air cooled condensers (ACCs) for the Alamitos Energy Center (AEC). This analysis is necessary to evaluate any potential vertical velocity plume impacts on any aircraft flying in the immediate vicinity of the project. Staff is requesting the applicant to provide exhaust parameters for the ACCs planned for AEC.

**DATA REQUEST**

63. Please summarize the operating conditions for the ACCs, including heat rejection, exhaust temperature, and exhaust velocity. Please provide values to complete the table, and additional data as necessary for staff to determine how the heat rejection load varies with ambient conditions and operating scenarios. Also, please determine at what conditions ACC cells may be shut down. These data are needed to enable staff to model vertical velocities for the thermal plume. The ambient conditions included in this table correspond to those in AFC Table 5.1B.2 for gas turbines. In addition please provide the distance between cells and the distances between cells from all ACCs in order to determine if the individual plumes will merge.

Parameter	Air Cooled Condenser		
Number of Cells			
Cell Height			
Cell Diameter			
Ambient Temperature	28°F	65.3°F	107°F
Ambient Relative Humidity	76.33%	86.8%	10.73%
Duct Firing	No	No	No
Number of Cells in Operation			
Heat Rejection (MW/hr)			
Exhaust Temperature (F)			
Exhaust Velocity Per Cell (ft/s)			
Exhaust Flow Rate (lb/hr)			