

## DOCKETED

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<b>Project Title:</b>	Huntington Beach Energy Project - Compliance
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## CALIFORNIA ENERGY COMMISSION

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AES Southland, LLC  
Steven O’Kane  
690 Studebaker Road  
Long Beach, CA 90803

November 13, 2015

Regarding: **Huntington Beach Energy Project – Petition to Amend (12-AFC-02C),  
Staff’s Data Requests, A1 through A74**

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.

These data requests, numbered A1 through A74, are being made in the technical areas of Air Quality, Cultural Resources, Socioeconomics, Visual Resources, and Transmission System Engineering. Written responses to the enclosed data requests are due to the Energy Commission staff on or before December 14, 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 to me within 20 days of receipt of this notice. 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) 653-8236 or email me at [John.Heiser@energy.ca.gov](mailto:John.Heiser@energy.ca.gov) .

Sincerely,

John Heiser  
Siting Project Manager

Enclosure (Data Request Packet)  
cc: Docket (12-AFC-02C)  
POS List



HUNTINGTON BEACH ENERGY PROJECT PETITION TO  
AMEND  
(12-AFC-02C)

Energy Commission Staff's Data Requests A1-A74

November 13, 2015

**Technical Area:** Air Quality  
**Author:** Wenjun Qian

## **AIR QUALITY DISTRICT APPLICATION**

### **BACKGROUND**

The Amended Huntington Beach Energy Project (HBEP) will require a Preliminary Determination of Compliance and a Final Determination of Compliance from the South Coast Air Quality Management District (SCAQMD or “District”). These documents contain conditions and limits that will be integrated into the staff analysis. Therefore, staff will need copies of all correspondence between the applicant and the District in a timely manner in order to stay up to date on any issues that arise prior to completion of the Preliminary or Final Staff assessment.

### **DATA REQUEST**

- A1. Please provide copies of all substantive District correspondence regarding the application to the District, including e-mails, within one week of submittal or receipt. This request is in effect until the amended final Commission Decision has been docketed.

## **CONSTRUCTION AND OPERATION EMISSION CALCULATIONS**

### **BACKGROUND**

The Petition to Amend (PTA) Appendix 5.1A (Demolition and Construction Emission Estimates) and 5.1B (Commissioning and Operational Emission Estimates) are used to document emissions calculations. Staff needs the original spreadsheet files of these estimates with live, embedded formulas to complete their review. The hard copy of the PTA did not include Appendix 5.1A. Staff would like to have a hard copy of Appendix 5.1A on 11 by 17 inch paper so that staff and others can read the numbers.

### **DATA REQUESTS**

- A2. Please provide the spreadsheet versions of Appendix 5.1A and 5.1B worksheets with the embedded formulas live and intact.
- A3. Please provide a hard copy of Appendix 5.1A on 11 by 17 inch paper.

## **CUMULATIVE AIR QUALITY IMPACTS**

### **BACKGROUND**

The PTA (Section 5.1.6 and Appendix 5.1F) describes the methodology for the cumulative effects analysis but does not include the analysis because a project list had

not been provided by the District at the time the PTA was prepared. The cumulative analysis should include all reasonably foreseeable projects within a 6-mile radius, i.e. the projects that have received construction permits but are not yet operational, and those that are in the permitting process or can be expected to be in permitting in the near future. A complete cumulative impacts analysis should identify all existing and planned stationary sources that affect the baseline conditions and consider them in the modeling effort.

## **DATA REQUESTS**

- A4. Please provide a copy of the District's correspondence regarding existing and planned cumulative sources located within six miles of the project site.
- A5. Please provide the list of sources to be considered in the cumulative air quality impact analysis.
- A6. Please provide the cumulative modeling and impact analysis, including amended HBEP and other identified existing and planned projects within 6 miles of the amended HBEP site.

## **OPERATIONAL MITIGATION**

### **BACKGROUND**

District Rule 1304(a)(2) – Electric Utility Steam Boiler Replacement exempts certain replacement projects from emission offset requirements unless there is a basin-wide electricity generation capacity increase on a per-utility basis. The evaluation for offset exemption using the megawatt (MW) to MW calculation is based on the difference in gross MW of the new equipment and the stated permit values of MW of the equipment being removed from service.

Section 2.0 Project Description of the PTA states that the amended HBEP would consist of a 644-MW (net) two-on-one combined-cycle unit with GE 7FA.05 turbines and two GE LMS-100 PB simple-cycle gas turbine generators, each with a nominal capacity of 100-MWs. The PTA does not provide a summary of the capacity (on a gross basis) of each proposed unit and total capacity of the amended HBEP.

Page 5.1-28 of the PTA states that in order to qualify for the exemption, the project owner proposes to shut down 2 boilers in conjunction with the construction of the amended HBEP. The 2 boilers include boiler 1 (215-MW) at the Huntington Beach Generating Station (HBGS) and boiler 7 (480-MW) at AES' Redondo Beach Generating Station (RBGS). The total capacity of the boilers being shutdown is 695-MWs. Staff believes that the 695-MW might only be enough for the combined-cycle unit but not enough for the proposed amended HBEP project that also includes the two simple-cycle gas turbines at 100-MW each.

In addition, the above mentioned retirement plan conflicts with that mentioned in the Preliminary Staff Assessment (PSA) for the Redondo Beach Energy Project (RBEP).

The retirement of RBGS boiler 7 (480-MW) and boilers 6 and 8 (66.4-MW of 655-MW) would be needed to ensure RBEP qualifies for the Rule 1304(a)(2) exemption. The retirement of RBGS boiler 7 cannot be used for both projects. Staff needs to make sure that the retirement plans for HBGS, RBGS, and Alamitos Generating Station (AGS) do not conflict with each other.

## **DATA REQUESTS**

- A7. Please provide a summary of the capacity of each proposed unit and total capacity of the amended HBEP on a gross basis.
- A8. Please provide retirement plans for HBGS, RBGS, and AGS to demonstrate that each turbine phase of the HBEP replacement project would qualify for District Rule 1304(a)(2) exemption.

## **AMBIENT AIR QUALITY MONITORING STATIONS**

### **BACKGROUND**

The Costa Mesa (North Coastal Orange County) monitoring station is the nearest and most representative ambient air quality monitoring station (about 3.5 miles to the northeast) to the amended HBEP site. However, the Costa Mesa station only measures ozone, carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), and sulfur dioxide (SO<sub>2</sub>). The project owner proposes to use Mission Viejo (Saddleback Valley) monitoring station, which is approximately 17 miles southeast of the amended HBEP site, for respirable particulate matter (PM<sub>10</sub>) and fine particulate matter (PM<sub>2.5</sub>). Staff believes that the Mission Viejo monitoring station is more representative for inland Orange County, rather than the coastal region where the amended HBEP would be located. In addition, there are some complex terrains between the amended HBEP site and the Mission Viejo monitoring station. Staff believes that the Mission Viejo monitoring station should not be selected as the most representative station for PM<sub>10</sub> and PM<sub>2.5</sub>. In the Final Staff Assessment (FSA) for the licensed HBEP project, staff used Long Beach monitoring station (South LA County Coastal 1) as the most representative monitoring station (for PM<sub>10</sub> and PM<sub>2.5</sub>) for the project site. The Long Beach monitoring station is approximately 17 miles to the northwest of the project site and is more representative for the coastal region where the Amended HBEP would be located. There are no complex terrains between the Long Beach monitoring station and the amended HBEP site.

The highest PM<sub>10</sub> background concentration measured at Long Beach monitoring station during 2011 through 2013 was 45 µg/m<sup>3</sup>. Complete background concentrations for the year 2014 are not available yet. The PTA shows that the maximum modeled PM<sub>10</sub> concentration would be 5.69 µg/m<sup>3</sup> when one of the GE 7FA.05 combustion turbines undergoes commissioning. The maximum modeled PM<sub>10</sub> concentration would be 5.38 µg/m<sup>3</sup> during either commissioning of the GE LMS-100 PB turbines or operation of the amended HBEP project. If the total PM<sub>10</sub> impacts are calculated based on maximum modeled impacts and worst-case background concentrations from Long Beach station, the amended HBEP project would cause exceedance of the California

24-hour PM10 standard of 50 µg/m<sup>3</sup>. A more refined modeling analysis, such as reasonable temporal pairing of the modeled impacts and background data, is needed to show the compliance with the California 24-hour PM10 standard.

## **DATA REQUESTS**

- A9. Please update the PM10 and PM2.5 background data using Long Beach monitoring station (South LA County Coastal 1) as the most representative monitoring station for the project site.
- A10. Please provide a more refined modeling analysis if the sum of maximum modeled impacts and worst-case background concentrations would exceed any ambient air quality standards.

## **FUMIGATION ANALYSIS**

### **BACKGROUND**

The project owner evaluated the impacts of the combustion turbines and auxiliary boiler under fumigation conditions because these are special cases of meteorological conditions. PTA Table 5.1-32 and Table 5.1C.25 only show results for shoreline fumigation impacts analysis. Staff is not able to find impacts analysis for the inversion breakup fumigation. Staff is not able to find the modeling files and spreadsheet calculations associated with the fumigation analysis in the modeling CD that the project owner provided with the PTA.

The project owner used SCREEN3 to model the shoreline fumigation impacts. The SCREEN3 model is essentially a screening version of the ISCST3 model, which was replaced by AERMOD. U.S. EPA released a screening version of AERMOD, AERSCREEN, in 2010. AERSCREEN has replaced SCREEN3 as the recommended screening modeling tool. U.S. EPA has incorporated the fumigation algorithms in the new version of AERSCREEN (version 15181). The AERSCREEN (version 15181) model is capable of analyzing the fumigation impacts of the project.

### **DATA REQUESTS**

- A11. Please update all fumigation impacts analyses using AERSCREEN (version 15181).
- A12. Please provide impacts analyses for both the shoreline fumigation and inversion breakup fumigation.
- A13. Please provide the modeling files and spreadsheet calculations associated with the fumigation impacts analyses.



## COMMISSIONING OF THE COMBINED-CYCLE TURBINES

### BACKGROUND

Page 5.1-15 of the PTA shows that initial modeling of 1-hour NO<sub>2</sub> impacts that assumed commissioning of both combined-cycle turbines concurrently showed an exceedance of the California Ambient Air Quality Standard (CAAQS). Therefore, refined modeling was conducted assuming each turbine would undergo the worst-case commissioning phase separately. With the refined modeling, the project owner was able to show compliance with the 1-hour NO<sub>2</sub> CAAQS.

### DATA REQUEST

A14. Would the project owner accept a staff condition of certification (COC) to limit simultaneous commissioning of both the combined-cycle turbines to make sure the 1-hour NO<sub>2</sub> CAAQS is not exceeded? If not, why not? If yes, please explain how onsite procedures would work to ensure no overlap of commissioning and provide a proposed COC.

## OVERLAP IMPACTS ANALYSIS

### BACKGROUND

Because of the 10-year demolition and construction schedule, there would be some overlap periods of demolition, construction, commissioning and operation. Page 5.1-23 shows that the project owner modeled two overlap periods:

- Combined-cycle power block operation with simultaneous construction of the simple-cycle power block (identified as **Overlap Scenario 1** in PTA).
- Combined-cycle and simple-cycle power block operation with simultaneous demolition of HBGS Units 1 and 2 (identified as **Overlap Scenario 2** in PTA).

The project owner also identified other potential overlap scenarios:

- The project owner addressed the impacts of the overlap period of the operation of the combined-cycle power block with commissioning of the simple-cycle power block in the commissioning impacts analysis. For simplicity, staff would like to identify this overlap period as **Overlap Scenario 3**.
- The project owner expects the operation of the combined-cycle power block to overlap with demolition of HBGS Units 3 and 4. For simplicity, staff would like to identify this overlap period as **Overlap Scenario 4**. The project owner expects that impacts associated with demolition of HBGS Units 3 and 4 would be similar to those associated with demolition of HBGS Units 1 and 2. The project owner modeled **Overlap Scenario 2** which includes demolition of HBGS Units 1 and 2

with operation of both power blocks, rather than just one. Thus the project owner did not model the impacts for **Overlap Scenario 4**.

Page 2-1 of the PTA shows that existing HBGS Unit 1 will be retired in the fourth quarter of 2019 to provide interconnection capacity for the new combined-cycle units and Unit 2 will be retired either after commercial operation of the HBEP simple-cycle units or at the final compliance deadline for once-through-cooling intake structures as determined by the State Water Resources Control Board. Thus staff believes that the operation of existing HBGS Units 1 and 2 would overlap with demolition of existing HBGS Unit 5 and fuel storage tanks, demolition and site preparation of the Plains Tank Farm area, and construction of the combined-cycle power block.

If retirement of HBGS Unit 2 is not required to provide interconnection capacity or Rule 1304 offset exemption, its operation would also overlap with the commissioning and operation of the combined-cycle power block, demolition of HBGS Units 3 and 4, construction, commissioning, and possibly operation of the simple-cycle power block.

## **DATA REQUESTS**

A15. Please update the modeling analyses for **Overlap Scenario 1** and **Overlap Scenario 3** to include the operation of existing HBGS Unit 2.

A16. Please provide modeling analysis for **Overlap Scenario 4**, which should include operation of the combined-cycle power block, demolition of HBGS Units 3 and 4, and operation of existing HBGS Unit 2.

A17. Please provide modeling analysis to evaluate the overlap impacts due to the operation of existing HBGS Units 1 and 2 with the worst-case emissions from demolition of existing HBGS Unit 5 and fuel storage tanks, demolition and site preparation of the Plains Tank Farm area, and construction of the combined-cycle power block. For simplicity, staff would like to identify this overlap period as **Overlap Scenario 5**.

A18. Please provide modeling analysis to evaluate the overlap impacts due to the operation of existing HBGS Unit 2 and commissioning of the combined-cycle power block. For simplicity, staff identifies this overlap period as **Overlap Scenario 6**.

## **AUXILIARY BOILER IMPACTS ANALYSIS**

### **BACKGROUND**

PTA Table 5.1-13 and Appendix Table 5.1B.11 show the maximum hourly emission rates for the auxiliary boiler assuming 100 percent load. However, the short-term emissions rates used in the modeling analysis (which are shown in Appendix Tables 5.1C.5, 5.1C.9, 5.1C.13, 5.1C.16, 5.1C.20, etc.) were half of those shown in Table 5.1-13. The annual emission rates used in the modeling (which are shown in Appendix Tables 5.1C.5, 5.1C.9, 5.1C.16, 5.1C.20, etc.) were also lower than those shown in

Appendix Table 5.1B.11. Staff would like to know why the modeled emissions of the auxiliary boiler would be lower than those shown in Table 5.1-13 and Appendix Table 5.1B.11.

The PTA did not include estimated emissions and impacts analyses for the commissioning of the auxiliary boiler. The PTA did not include impacts analyses for the startup of the auxiliary boiler. Staff would like to know whether the commissioning of the auxiliary boiler would overlap with the commissioning of the combined-cycle turbines. Staff would also like to know whether the startup of the auxiliary boiler would overlap with the startup of the combined-cycle turbines or the simple-cycle turbines.

## **DATA REQUESTS**

A19. Please justify why the modeled emissions of the auxiliary boiler would be lower than those shown in Table 5.1-13 and Appendix Table 5.1B.11.

A20. Please update the modeling analysis if the modeled emissions of the auxiliary boiler were incorrect.

A21. Please provide estimated emissions and impacts analyses for the commissioning of the auxiliary boiler.

A22. Please clarify whether the commissioning of the auxiliary boiler would overlap with the commissioning of the combined-cycle turbines. If yes, please update the modeling analysis for the commissioning of the combined-cycle turbines by adding the commissioning of the auxiliary boiler. If no, please explain how onsite procedures would work to ensure no overlap of commissioning and provide a proposed COC.

A23. Please clarify whether the startup of the auxiliary boiler would overlap with the startup of the combined-cycle turbines or the simple-cycle turbines. If yes, please update the modeling analysis for the startup of the combined-cycle turbines or the simple-cycle turbines by adding the startup of the auxiliary boiler. If no, please explain how onsite procedures would work to ensure no overlap of startups and provide a proposed COC.

## **CONSTRUCTION/DEMOLITION SCHEDULE INCONSISTENCIES**

### **BACKGROUND**

Page 5.1-5 of the Air Quality section of the PTA shows that demolition and construction activities would occur 10 hours per day, 23 days per month. Page 2-13 of the Project Description section shows that the construction plan is based on a single 10-hour shift/6 days per week.

Air Quality Appendix 5.1A shows emission estimates and schedule for different phases of demolition and construction activities. Figure 2.2-1 of the Project Description section

provides an integrated schedule for the demolition and construction activities. Staff noticed the following inconsistencies in the schedules provided in these two sections. Staff would like to know which version of the construction schedule is correct. Staff would like to make sure that the project owner has conservatively estimated worst-case emissions for different phases of demolition and construction.

<b>Activities</b>	<b>Appendix 5.1A</b>	<b>Figure 2.2-1</b>
Demolition of Unit 5, fuel storage tanks and Plains Tank Farm	17 months (1-17)	16 months (1-16)
Construction of Combined Cycle Power Block	35 months (18-52)	36 months (17-52)
Demolition of Units 3 and 4	24 months (53-76)	20 months (53-72)
Construction of Simple Cycle Power Block	20 months (77-96)	24 months (73-96)

## **DATA REQUESTS**

A24. Please clarify which version of the demolition and construction schedule is correct.

A25. Please verify whether conservative assumptions were made to estimate the worst-case emissions for different phases of demolition and construction. If not, please update the emissions with the correct demolition and construction schedule.

## **BACT ANALYSIS**

### **BACKGROUND**

On October 13, 2015, the project owner provided an updated Best Available Control Technology (BACT) assessment (TN # 206358) in response to the District's incompleteness letter. The PM10/PM2.5 BACT level for the combined-cycle turbines has been updated to 8.5 lb/hr. However, the emissions tables and impacts analysis in the PTA were based on 9.0 lb/hr BACT level. Staff would like to know if the emissions tables and impacts analysis would be updated accordingly.

### **DATA REQUEST**

A26. Please verify whether the emissions tables and impacts analysis would be updated with the updated BACT level for PM10/PM2.5. If not, please justify why they will not be updated.

**Technical Area:** Greenhouse Gases  
**Author:** Wenjun Qian

## **CARBON POLLUTION STANDARDS FOR NEW POWER PLANTS**

### **BACKGROUND**

On August 3, 2015, the U.S. EPA Administrator, Gina McCarthy, signed a final rule<sup>1</sup> under Clean Air Act section 111(b) to limit the greenhouse gas emissions from new, modified, and reconstructed stationary sources: electric utility generating units. The final rule eliminates the originally-proposed criteria and establishes different limits of greenhouse gas emissions for base load and non-base load natural gas-fired turbines. A “base load” natural gas fired turbine is defined as one that has a capacity factor in percentage above the lower heating value efficiency of the turbine, expressed as a percentage. Correspondingly, a “non-base load” natural gas fired turbine is one that has a capacity factor less than or equal to the lower heating value efficiency of the turbine, expressed as a percentage, with the value capped at 50 percent. Staff would like verification that the Amended HBEP would comply with this final rule.

### **DATA REQUEST**

A27. Please demonstrate how the amended HBEP would comply with the recently-signed carbon pollution standards for new power plants.

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<sup>1</sup> U.S. EPA 2015 - Environmental Protection Agency, Final Carbon Pollution Standards for New, Modified and Reconstructed Power Plants, August 3, 2015. The EPA Administrator, Gina McCarthy, signed the following notice on August 3, 2015, and EPA is submitting it for publication in the Federal Register (FR).

**Technical Area:** Traffic and Transportation – Thermal Plume  
**Author:** Wenjun Qian

**PLUME VELOCITY MODELING DATA**

**BACKGROUND**

Staff will evaluate exhaust stack plume velocities at amended HBEP. The project owner provided exhaust stack parameters for the proposed turbines and the auxiliary boiler. Staff needs the exhaust stack parameters for the air cooled condensers (ACC). Staff needs a summary of the operating conditions for the ACC, including heat rejection, exhaust temperature, and exhaust velocity.

**DATA REQUEST**

A28. 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 also determine at what ambient conditions ACC cells may be shut down, and for staff to model the thermal plume. The ambient conditions included in this table are a generic example of low, medium, and high ambient conditions and can be changed as necessary to fit the project site. These would include any ACCs/heat rejection components used to provide process cooling for the combined-cycle turbines and the LMS100s.

<b>Parameter</b>	<b>Air Cooled Condensers</b>		
Number of Cells			
Cell Height (ft)			
Cell Diameter (ft)			
Distance Between Cells (ft)			
Ambient Temperature	32°F	65.8°F	110°F
Ambient Relative Humidity	87%	58%	8%
Duct Firing			
Number of Cells in Operation			
Heat Rejection (MW/hr)			
Exhaust Temperature (°F)			
Exhaust Velocity (ft/s)			
Exhaust Flow Rate (lb/hr)			

**Technical Area:** Visual Resources – Visible Plume  
**Author:** Wenjun Qian

**VISIBLE PLUME MODELING DATA**

**BACKGROUND**

Staff will conduct a visible plume modeling analysis to estimate the exhaust stack plume frequency and size characteristics of the existing Units 1 and 2 and the proposed new units to determine the baseline plume conditions and post project amendment conditions. Staff will require additional data to complete this analysis.

**DATA REQUEST**

A29. Please provide the following information regarding the exhaust parameters for proposed turbines, the auxiliary boiler, and existing Units 1 and 2.

- a. Stack Exhaust Temperature;
- b. Moisture Content (% by Weight);
- c. Mass Flow (1000 lbs/hr), and;
- d. Average Molecular Weight (lbs/mole).

The project owner may provide these exhaust parameters, in tabular form (example shown below), for the range of ambient conditions (i.e. ambient temperature and relative humidity) and operating scenarios that can be reasonably expected to occur at the project site location. The ambient conditions included in this table are a generic example of low, medium, and high ambient conditions and can be changed as necessary to fit the project site.

Parameters	Unit Name		
Stack Height			
Stack Diameter			
Ambient Temperature	32°F	65.8°F	110°F
Relative Humidity	87%	58%	8%
Operating Scenarios			
Full Load Exhaust Temperature (°F)			
Full Load Exhaust Moisture Content (wt %)			
Full Load Exhaust Flow Rate (1000 lbs/hr)			
Full Load Exhaust Average Molecular Weight (lbs/mole)			

**Technical Area:**                    **Project Description**  
**Author:**                                Gabriel Roark

## **BACKGROUND**

Figure 2.1-2 of the petition to amend (PTA) the Huntington Beach Energy Project (hereafter amended HBEP; see AES 2015) lacks a legend, leaving the reader to wonder what the individual components in the figure represent.

## **DATA REQUEST**

A30. Please revise Figure 2.1-2 to include a legend that identifies the project features.

## **BACKGROUND**

The PTA describes the amended HBEP. Staff has identified aspects of the project description that are unclear and raise questions about potential impacts across environmental resource categories. Clarification would ensure staff's ability to assess the analysis contained in the PTA and conduct its own independent analysis, per Title 20, California Code of Regulations, section 1769.

## **DATA REQUESTS**

A31. The PTA states that auxiliary equipment associated with each GE LMS-100 PB simple-cycle combustion gas turbine (CGT) includes generator step-up transformers (AES 2015:2-2). How many generator step-up transformers would be built with each simple-cycle CGT? Where would the generator step-up transformers be located on the project site? What horizontal and vertical ground disturbance would be involved?

A32. The PTA states that auxiliary equipment associated with each GE LMS-100 PB simple-cycle CGT includes auxiliary transformers (AES 2015:2-2). How many auxiliary transformers would be built with each simple-cycle CGT? Where would the auxiliary transformers be located on the project site? What horizontal and vertical ground disturbance would be involved?

A33. The PTA states that the existing fire water distribution system and process water distribution and storage system would be used, but that some modifications would be required (AES 2015:2-3). What is the nature of these modifications, where would they be made, and what horizontal and vertical ground disturbance would be involved?

A34. Would the two new gas metering stations (see AES 2015:2-3) be built at the same locations as in the Licensed HBEP? If not, where would they be built? What is the planned horizontal and vertical extent of excavation at the proposed locations of the two new gas metering stations?



- A35. The project owner proposes to demolish the existing natural gas metering station (AES 2015:2-8). What is the vertical and horizontal extent of excavation required to demolish this project element?
- A36. The PTA's discussion of the proposed wastewater discharge pipeline contains the statement, "...similar to the Licensed HBEP, process wastewater and stormwater..." (AES 2015:2-4). What is dissimilar between the Licensed and amended HBEPs with respect to the process wastewater and stormwater—flows, locations of the pipelines, depth of excavations?
- A37. The PTA states that demineralized water would be sent to a 100,000-gallon storage tank (AES 2015:2-10). Would this be an existing tank (under the Licensed HBEP) or a new tank?
- A38. The PTA states that blowdown would be sent to an atmospheric flash tank (AES 2015:2-10). Would this be an existing tank (under the Licensed HBEP) or a new tank?
- A39. The PTA states that wastewater from combustion turbine water washes would be trucked offsite (AES 2015:2-10). Where and in what manner does the project owner propose to dispose of this wastewater?
- A40. The PTA indicates that the project owner proposes to construct a new 650,000-gallon, onsite fire/service water storage tank (AES 2015:2-11). Where would this water storage tank be located, and how extensive would the project owner need to excavate to construct the tank?
- A41. The PTA references the addition of an underground fire water loop and fire hydrants (AES 2015:2-11). Where would the project owner install these features, and how extensive would the associated excavation be?
- A42. The demolition activities described in paragraph 3, Section 2.2 of the PTA (AES 2015:2-12) appear identical to the demolition activities described for the Licensed HBEP in paragraph 3, Section 2.2 of the HBEP's application for certification (AES 2012:2-35, 2-36) and the Energy Commission's Final Decision (CEC 2014:2-3). Has the project owner changed anything (such as the depth of excavation) about the demolition of these portions of the HBGS?
- A43. The PTA notes that perimeter vegetation, possibly including mature eucalyptus and pine trees, would have to be removed to build a new entrance through a perimeter berm to the former Plains All American Tank Farm (AES 2015:5.2-2; Fowler 2015). Please define the vegetation removal and extent of excavation required to construct the new entrance to the tank farm in terms of depth and extent of excavation.
- A44. The PTA indicates that the project owner would reconfigure the intersection at Magnolia Street and Banning Avenue (AES 2015:2-14). Please describe what construction activities might be required to reconfigure the intersection, including the depth and horizontal extent of any excavation.

## REFERENCES

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- AES 2012—AES Southland Development, with CH2M Hill.** *Application for Certification, Huntington Beach Energy Project*. Vol. 1. June. Long Beach, CA. Submitted to California Energy Commission, Sacramento. On file, Docket Unit, California Energy Commission, Sacramento. 12-AFC-02. TN 66003.
- AES 2015—AES Southland Development, with CH2M Hill.** *Petition to Amend Huntington Beach Energy Center (12-AFC-02C)*. September. Long Beach, CA. Submitted to California Energy Commission, Sacramento. On file, Docket Unit, California Energy Commission, Sacramento. 12-AFC-2C. TN 206087.
- CEC 2014—California Energy Commission.** *Huntington Beach Energy Project, Final Decision*. November. Sacramento, CA. CEC-800-2014-001-CMF. On file, Docket Unit, California Energy Commission, Sacramento. 12-AFC-02. TN 203309.
- Fowler 2015—Melissa Fowler.** Huntington Beach Energy Project: Biological Reconnaissance Survey for Plains All American Tank Farm. September 2. CH2M Hill. Prepared for AES Southland Development. Appendix 5.2A to *Petition to Amend Huntington Beach Energy Center (12-AFC-02C)*, by AES Southland Development, with CH2M Hill. September. Long Beach, CA. Submitted to California Energy Commission, Sacramento. On file, Docket Unit, California Energy Commission, Sacramento. 12-AFC-2C. TN 206087.

**Technical Area:** Cultural Resources

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

## **BACKGROUND**

The petition to amend (PTA) discloses that CH2M Hill, the project owner's environmental consultant, conducted an updated literature search on July 7, 2015 (AES 2015:5.3-2). Judging by the PTA's description of the updated records search, staff assumes that the consultant conducted it at the South Central Coastal Information Center (SCCIC) of the California Historical Resources Information System (CHRIS) using a buffer of 1 mile surrounding the former Plains All American Tank Farm property.

## **DATA REQUESTS**

A45. Please confirm whether the updated literature search was conducted at the SCCIC.

A46. If the updated records search was conducted at the SCCIC, please provide:

- a. a copy of the updated literature search request,
- b. any response from the SCCIC regarding the updated literature search,
- c. the results map for the updated literature search, and
- d. a bibliography of studies and resource records included in the updated literature search (please do not include records from previous literature reviews conducted for the Licensed Huntington Beach Energy Project [HBEP]).

Should any of the items a–d above disclose the location of confidential cultural resources, please submit the requested information under a request for confidential designation (Cal. Code Regs., tit. 20, § 2505).

## **BACKGROUND**

To assess the completeness and adequacy of the PTA's cultural resources assessment for the Amended HBEP, staff requires a statement of qualifications for the cultural resources personnel that conducted the assessment.

## **DATA REQUESTS**

A47. Please provide a statement of qualifications for Ms. Amy McCarthy Reid, including academic degree, if applicable.

A48. Please indicate who prepared Section 5.3 (Cultural Resources) of the PTA and provide a statement of qualifications for each contributor<sup>2</sup>, including academic degree, if applicable.

## **BACKGROUND**

The PTA states, “On July 9, 2015, Natalie Lawson, M.A., R.P.A., performed a pedestrian inventory of the proposed disturbance areas for the amended HBEP to identify prehistoric or historic cultural resources that would be affected by the above-grade demolition of the tanks” (AES 2015:5.3-2). The PTA provides no further description of the pedestrian inventory, leaving staff unable to determine whether Ms. Lawson used appropriate inventory methods.

## **DATA REQUEST**

A49. Please describe the transect intervals and other methods employed during the pedestrian inventory.

## **BACKGROUND**

The PTA states, “Architectural historian, Amy McCarthy Reid, M.A., also completed an intensive survey of the entire Plains All American Tank Farm and a windshield survey of the adjacent parcels on July 9, 2015. This architectural survey included viewing all buildings and structures, and characterizing the adjacent neighborhood.” (AES 2015:5.3-2.) The PTA provides no further description of the architectural survey, leaving staff unable to determine whether Ms. Reid used appropriate survey methods, or what constitutes an “intensive survey” in this case.

## **DATA REQUEST**

A50. Please describe Ms. Reid’s survey methods and how they constitute an intensive survey.

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<sup>2</sup> Staff does not require statements of qualification from Ms. Gloriella Cardenas or Ms. Natalie Lawson, as both archaeologists had worked on the Licensed HBEP.

## **BACKGROUND**

The Plains All American Tank Farm (tank farm) falls within the one-parcel built environment survey boundary (Project Area of Analysis or PAA) for the amended project and would be used as a parking area during construction of the amended project. The Plains All American Tank Farm has not been surveyed, evaluated or recorded on DPR forms. Energy Commission siting regulations require recording of potential historic resources that are “45 years or older”, not “more than 45 years old” as stated in the petitioner’s methodology discussion [(Cal. Code. Regs. ,tit. 20, § 1704 (b)(2), Appendix B(g)(2) (B) and (C)]. Assuming the tank farm dates to 1965, as stated in the PTA (AES 2015; p. 5.3-2), it is now 50 years old. This exceeds the “45 years or older” requirement for recording historic built environment resources within the one-parcel PAA. Additionally, the city of Huntington Beach has prepared an update to the Historic and Cultural Resources Element of the General Plan (Galvin 2014a). Policy HCR 1.1.4 in that draft states “Consider recording the importance of oil history in the city’s development (I-HCR-I)”. An updated Historic Context and Survey Report (Galvin 2014b) documents the importance of the oil industry on Huntington Beach’s development with an entire 12-page section devoted to the subject.

Page 2-14 of the PTA describes construction-related activities that would remove a portion of the earthen berm on the tank farm property to provide a new access road to the property from Magnolia Street. This activity has the potential to affect an historical resource.

## **DATA REQUEST**

A51. Please provide an evaluation of the Plains All American Tank Farm on California Department of Parks and Recreation (DPR) 523 forms (Cal. Code Regs, tit. 14, § 4853) which conforms to the Instructions for Recording Historical Resources published by the California Office of Historic Preservation (OHP 1995).

## **BACKGROUND**

Table 5.3-1 of the PTA summarizes the two cultural resources studies within 1 mile of the former Plains All American Tank Farm (AES 2015:5.3-2). The project owner provided print and PDF copies of one report (Langenwalter and Brock 1985) to the Energy Commission under request for confidential designation (Foster 2015). The project owner did not, however, provide complete bibliographic data for either study, nor did it provide a copy of the second cultural resources study (referred to as Ehringer 2011/OR-04152).

## **DATA REQUESTS**

A52. Please provide full bibliographic entries for the two studies in Table 5.3-1.

A53. Please explain why the Ehringer 2011/OR-04152 report was not provided to staff.

## REFERENCES

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- AES 2012—AES Southland Development, with CH2M Hill.** Application for Certification, Huntington Beach Energy Project. Vol. 1. June. Long Beach, CA. Submitted to California Energy Commission, Sacramento. On file, Docket Unit, California Energy Commission, Sacramento. 12-AFC-02. TN 66003.
- AES 2015—AES Southland Development, with CH2M Hill.** *Petition to Amend Huntington Beach Energy Center (12-AFC-02C)*. September. Long Beach, CA. Submitted to California Energy Commission, Sacramento. On file, Docket Unit, California Energy Commission, Sacramento. 12-AFC-2C. TN 206087.
- Foster 2015—Melissa A. Foster.** Letter Regarding Huntington Beach Energy Project (12-AFC-2C), Application for Designation of Confidential Cultural Resources Records. September 4. Stoel Rives, Sacramento, CA. Submitted to California Energy Commission, Sacramento.
- Galvin 2014a—Galvin Preservation Associates, Inc.** *City of Huntington Beach Historic Resources Element. Tracked Changes Draft for Public Review*. Prepared for City of Huntington Beach. June 2014.
- Galvin 2014b—Galvin Preservation Associates, Inc.** *City of Huntington Beach Historic Resources Context and Survey Report*. Prepared for City of Huntington Beach. Updated 2014.
- Langenwaller and Brock 1985—Paul E. Langenwaller and James Brock.** *Phase II Archaeological Studies, Prado Basin and the Lower Santa Ana River*. May. ECOS Management Criteria, Cypress, CA. Prepared for Los Angeles District, U.S. Army Corps of Engineers, Los Angeles. Contract No. DACW09-83-C-0033. On file, South Central Coastal Information Center, California Historical Resources Information System, Fullerton. Study OR-00801.
- OHP 1995—California Office of Historic Preservation.** Instructions for Recording Historical Resources. Sacramento, California. March 1995.

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

### **BACKGROUND: Construction and Demolition Workforce**

In the Huntington Beach Energy Project (HBEP) Petition to Amend (PTA), there are some discrepancies between Appendix 5.10A and the text on page 2-14. The table shows the peak workforce for the combined-cycle power block would occur in July 2019 (Q3 2019) with 306 workers; the text on page 2-14 states that the peak workforce would occur between the fourth quarter of 2018 and the second quarter of 2019. The table shows a peak workforce for the simple-cycle power block would occur in January 2023 (Q1 2023) with 231 workers; however, page 2-14 of the PTA identifies the peak workforce as 165 workers.

### **DATA REQUEST**

A54. Please confirm the correct peak period for the combined-cycle power block and the correct number of workers during the peak period for the simple-cycle power block.

### **BACKGROUND: Proposed Construction**

The licensed HBEP included the construction of buildings 33 and 34 (control building and maintenance); however, the demolition and construction workforce by trade by month presented in Appendix 5.10A does not include this activity.

### **DATA REQUEST**

A55. Please clarify whether the HBEP PTA includes the construction of buildings 33 and 34 (control building and maintenance), during the last 13 months of the demolition of units 1 and 2, as stipulated in the licensed HBEP.

### **BACKGROUND: Demolition Work and Schedule**

The licensed HBEP identified project activities beginning with the 14-month demolition of the peaker and tank area. The HBEP PTA demolition and construction workforce by trade by month presented in Appendix 5.10A shows demolition of the peaker and tank area over a 7-month period, estimated to begin in January 2016.

### **DATA REQUEST**

A56. Please clarify the demolition schedule for the peaker and tank area shown in Appendix 5.10A.

**Technical Area:** Transmission System Engineering

**Authors:** Laiping Ng

**Technical Senior:** Mark Hesters

Provide a detailed description of the change in design, construction, and operation of any electric transmission facilities, such as generators, transformers, interconnection power lines, substations, switchyards, or other transmission equipment, which will be constructed or modified to transmit electrical power from the Huntington Beach Energy Project PTA (HBEP) to the SCE Huntington Beach Switching Station.

## **DATA REQUEST**

A57. Provide a one-line diagram for the existing SCE Huntington Beach Switching Station after the interconnection of the HBEP project.

- Show bay arrangement of the necessary equipment which is required to interconnect the project.
- Provide ratings of the breakers, disconnect switches, relays, buses, and etc.

A58. Provide generator tie-line conductor type, current carrying capacity, and conductor size.

A59. Provide at least the following one-line diagrams with the updated information. Show all equipment ratings including generator output, power factor, isolated bus duct ratings, etc. which are required for the project.

- Figure 2.1-4
- Figure 3.1-1

A60. Provide auxiliary load information.

**Technical Area:** Visual Resources

**Author:** Jeanine Hinde

## **BACKGROUND**

Under the amended HBEP, views of power block structures across Magnolia Marsh from key observation point 4 (KOP 4) would be larger and more dominant in the field of view compared to the same view under the licensed HBEP. The visual simulations for KOP 4 for the approved HBEP and the proposed amendment are shown in **Figure 5.13-5** of the Petition to Amend. The sizes and massing of structures in the northeast portion of the site would be greater compared to the licensed project and clearly visible from KOP 4. The amended project's air cooled condenser (ACC) would be twice as long as the ACC unit for the approved HBEP (420 feet compared to 209 feet). The amended



HBEP's ACC would also be a few feet taller and wider. A portion of one end of the simulated ACC unit is visible on the right side of image "B" in **Figure 5.13-5**. Most of the mass of the ACC unit is truncated in the simulation, and as a result, staff is unable to compare the amended HBEP to the licensed HBEP for views from KOP 4.

A portion of a wall inside the site perimeter is shown in the simulation for KOP 4 for the amended HBEP (behind the shorter perimeter wall in **Figure 5.13-5**, image "B"). The text description on page 5.13-7 in the Petition to Amend describes it as a "tall sound wall" on the site but provides no information on its dimensions or other details (e.g., height and design).

It states on page 5.13-2 of the Petition to Amend that the existing HBGS Units 1 and 2 would be removed to the top of the steam turbine deck, which would leave 30-foot-tall concrete structures in place in the footprint of those units. Although the concrete structures would be visible from KOP 4, they are not represented in the visual simulation for KOP 4.

## **DATA REQUESTS**

A61. Staff requests a new KOP photograph and corresponding visual simulations for KOP 4. The revised KOP 4 photograph requires changing the view orientation to completely represent publicly visible power plant structures in the images for the licensed and amended HBEP. The revised photograph shall be used to produce new versions of **Figures 5.13-5**, **5.13-5A**, and **5.13-5B** from the **Visual Resources** section and visual appendix in the Petition to Amend.

If all visible power plant structures for the amended HBEP cannot fit into a single 50-mm frame for the revision of KOP 4, staff requests a wide angle of view be used to re-photograph the project site from that KOP. However, the existing view photograph and visual simulations must represent life-size scale when reproduced on 11 by 17-inch paper and held at a reading distance of approximately 12 inches or greater. The horizontal angle of view and lens setting must be provided for each image.

Staff requests the new KOP 4 simulation for the amended project include the 30-foot-tall concrete structures that would remain in the footprints of HBGS Units 1 and 2 and likely be visible to the right of the LMS100 stacks.

A62. Staff requests further details on the tall sound wall, including dimensions, type of construction, and other descriptive details.

## **BACKGROUND**

In April 2014 during the original proceeding for the HBEP, the city of Huntington Beach (City) adopted Resolution No. 2014-18 supporting the applicant's conceptual architectural improvements and surface treatments for the project. The **Visual Resources** analysis for the licensed HBEP used the applicant's concept for architectural screening and enhancement to assess impacts on visual resources from

the KOPs closest to the project site (KOPs 1, 4, and 5). The simulations showing the concepts for architectural screening are included in the FSA and the Commission Decision for the project. Refer to **Visual Resources Figures 4c, 10, and 12** in the Commission Decision (TN #203309). Refer also to pages 6.5-10, 6.5-15, and 6.5-17 in the Commission Decision describing use of the visual enhancement images to reach impact conclusions for these KOPs.

The amended HBEP would change the types, sizes, and massing of power plant structures on the site. These changes require the applicant to prepare a revised conceptual architectural screening plan for the project. The applicant presented some revised architectural enhancement concepts to City staff in July 2015. The City provided comments on the applicant's presentation and anticipates receiving refined conceptual plans based on those comments.

The applicant depicts simulated landscape plantings in the images contained in the Petition to Amend. The applicant's text descriptions of the simulations refer to the plantings (including palm trees and other shrubs and trees) that would visually screen power plant structures. This presents a problem for the visual analysis because no landscape plan beyond a 2-year-old conceptual plan currently exists. (See TN #201142 from November 2013, which includes the landscape concept.) The species that will ultimately be approved and their location, spacing, density, and mature heights are not yet determined. Also, staff considers landscape screening to be secondary to the project's permanent architectural enhancements. Landscape plantings that are ultimately approved as part of the project's on-site landscape and irrigation plan (Condition of Certification **VIS-2**) would soften and partially screen views of the project's permanent structures.

## **DATA REQUESTS**

A63. Staff's analysis of the original HBEP used the applicant's architectural screening concept to reach impact conclusions for the KOPs closest to the project site. Staff requests images of the revised and refined architectural screening concept to allow completion of the comparative analysis of the amended HBEP to the licensed HBEP. Staff requests that the updated images for KOPs 1, 4, and 5 be used to produce new figures showing the conceptual architectural screening and surface treatments. The re-photographed image for KOP 4 is to be used as the basis for the architectural screening concept for that view.

A64. Staff requests removal of the simulated landscape plantings from the images for KOPs 1, 4, and 5 showing the revised and refined architectural screening concept. This will allow staff, and ultimately other reviewers, to clearly see the effect of proposed architectural screening and surface treatments on the key views.

## **BACKGROUND**

The Petition to Amend provides tables listing structure dimensions for the licensed and amended HBEP. **Tables 5.13-1** and **5.13-2** include dimensions for the licensed project's "Control/Administration Building" and "Maintenance/Warehouse Building." For the

proposed GE Frame 7FA power block, **Table 5.13-1** lists an “Administration Building,” “Control Building,” and “Maintenance/Warehouse Building,” each measuring 100 x 50 x 25 (feet). For the proposed LMS100s, **Table 5.13-2** lists an “Electrical Building,” measuring 170 x 42 x 15 and a “Warehouse/Administration Building,” measuring 270 x 138 x 17. The “Electrical Building” imaged in **Figures 2.1-3b** and **2.1-3c** appears near the GE Frame 7FA power block. An electrical building does not appear in the images near the LMS100 power block.

Section 2.0 in the Petition to Amend, Project Description, includes a series of figures with plant elevations (**Figures 2.1-3a** through **2.1-3d**). Those figures show one building identified both as the “Mechanical Building” and “Gas Compressor Building” for the GE Frame 7FA power block. The figures also show an *existing* 17-foot-tall shop/warehouse/admin building. **Figure 2.1-3a** shows an *existing* 40-foot-tall “RO/EDI Building,” and **Figure 2.1-3b** shows an *existing* 30-foot-tall “RO/EDI Building.”

**Tables 5.13-1** and **5.13-2** list heights of transmission structures for the licensed project. The corresponding dimensions for the amended project are incomplete.

The diameter of the exhaust stacks for the licensed project would have been approximately 18 feet. The diameters of the stacks for the amended project are not provided.

The quantities of structures for the licensed and amended projects are not provided.

It is not clear from the tables whether some structures are associated with one or the other power block and others are common to both.

The June 2012 AFC for the proposed HBEP includes **Figure 2.1-1**, “General Arrangement/Site Plan,” which labels and lists project equipment. The Petition to Amend contains a similar site plan but without a list of project equipment (**Figure 2.1-2**).

## DATA REQUESTS

Staff requires additional information on project structures and buildings to allow a comparison of the visual effects of the licensed HBEP to the proposed amended project. Staff requests corrections and additions to **Tables 5.13-1** and **5.13-2** and **Figures 2.1-2** through **2.1-3d** of the Petition to Amend:

A65. Please clarify whether the administration building, control building, and maintenance/warehouse building listed in **Table 5.13-1** are three separate structures that would serve the GE Frame 7FA power block, each measuring 100 x 50 x 25.

A66. Please indicate quantities of buildings and structures associated with each power block for the licensed and amended projects. Please indicate which ones are common.

A67. Please indicate HBGS buildings listed in the two tables that would be retained and used for the proposed amended project. Based on **Figures 2.1-3a** through **2.1-3d**,

this includes the 17-foot-tall “Existing Shop/Warehouse/Admin Building” and the 40-foot-tall “Existing RO/EDI Building.” (Please also state what RO/EDI means.) Please add the RO/EDI building to the table(s).

- A68. Please correct the tables as necessary to eliminate possible double listing of buildings that serve more than one purpose. For example, the GE Frame 7FA mechanical building and gas compressor building appear as one building based on the images and structure labels shown in the Section 2.0, Project Description figures.
- A69. Please make corrections as necessary to **Figures 2.1-3a** through **2.1-3d**. For example, **Figure 2.1-3a** shows the “Existing “RO/EDI Building” as 40 feet tall; **Figure 2.1-3b** shows it as 30 feet tall.
- A70. Please add the 40-foot-tall and 30-foot tall water tanks to the tables and include tank diameters.
- A71. Please add the “tall sound wall” to the table.
- A72. Please add the diameters for the exhaust stacks to the tables.
- A73. Please add dimensions and quantities for the proposed transmission structures to the tables.
- A74. Please add the equipment list and corresponding numbers to **Figure 2.1-2**, including the sound wall and the “transformer wall” listed in **Tables 5.13-1** and **5.13-2**. Please add the HBGS Units 1 and 2 concrete structures to **Figure 2.1-2**.