

## DOCKETED

<b>Docket Number:</b>	00-AFC-14C
<b>Project Title:</b>	El Segundo Power Redevelopment Project Compliance
<b>TN #:</b>	200155
<b>Document Title:</b>	CEC Request for Data Set One to El Segundo
<b>Description:</b>	N/A
<b>Filer:</b>	Craig Hoffman
<b>Organization:</b>	California Energy Commission
<b>Submitter Role:</b>	Commission Staff
<b>Submission Date:</b>	8/12/2013 3:36:50 PM
<b>Docketed Date:</b>	8/12/2013

**CALIFORNIA ENERGY COMMISSION**

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



August 12, 2013

NRG Energy  
George L. Piantka  
Director, Environmental Business  
5790 Fleet Street, Suite 200  
Carlsbad, CA 92008

**RE: EL SEGUNDO ENERGY CENTER AMENDMENT, (00-AFC-14C)  
DATA REQUEST SET 1 (Nos. 1 - 83)**

Dear Mr. Piantka:

Energy Commission staff has reviewed the Petition to Amend (Petition) for the El Segundo Energy Center Amendment and requires additional information to supplement the environmental analysis, pursuant to Title 20, California Code of Regulations, Section 1769(a)(1)(E). California Energy Commission staff seeks 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 would be constructed and operated in compliance with all applicable laws, ordinance, regulations, and standards; 3) assess whether the project would result in significant environmental impacts; 4) assess whether the facilities would be constructed and operated in a safe, efficient, and reliable manner; and 5) assess potential mitigation measures.

This set of data requests (Nos. 1 - 83) is being made in the areas of: Project Description (Nos. 1 - 6), Alternative Analysis (Nos. 7 – 10), Air Quality (Nos. 11 - 56), Biological Resources (Nos. 57 – 61), Cultural Resources (Nos. 62 - 82) and Visual Resources – Visible Plume (No. 83).

Staff requests that written responses to the enclosed data requests be provided on or before September 12, 2013. If you are unable to provide the information requested, need additional time, or you object to providing the requested information, please send a written notice to both the Siting Committee for the El Segundo Energy Center Amendment and me within 20 days of receipt of this information request. The notification should contain the reasons for not providing the information and the grounds for any objections.

If you have any questions, please call me at (916) 654-4781 or email me at [craig.hoffman@energy.ca.us](mailto:craig.hoffman@energy.ca.us).

Sincerely,

Craig Hoffman  
Compliance Project Manager

Enclosure

**Technical Area:** Project Description  
**Author:** Craig Hoffman

## **BACKGROUND**

The Petition to Amend includes a project description with numerous site plans and project schematics. Staff typically includes site plans and project drawings in the staff analysis to provide staff, decision makers and the public a better understanding of what is being constructed.

Staff is requesting that a site schematic/volumetric drawing be completed for new facilities at the El Segundo Energy Center site. This would include proposed units 9, 10, 11 and 12 along with the proposed administration building.

## **DATA REQUESTS**

1. Please provide a site schematic/volumetric drawing of the facilities to be constructed for units 9, 10, 11 and 12 with associated facilities.
2. Please provide a site schematic/volumetric drawing of the proposed administration building with a description of dimensions and exterior materials and treatments.

## **BACKGROUND**

The Petition to Amend (PTA) describes the complete project as the decommissioning and demolition of exiting units 3 and 4, and then the construction of units 9, 10, 11 and 12. There are inconsistencies in some of the construction schedules and impact descriptions within the Section 3 Environmental Analysis within the PTA. The PTA needs to provide an analysis of the decommissioning and demolition of units 3 and 4. The project description is for a 20-month schedule, but this is only for the construction of units 9, 10, 11 and 12. The construction schedule and environmental analysis needs to include the whole of the project which includes decommissioning and demolition.

## **DATA REQUESTS**

3. Please update the project schedule to include the decommissioning and demolition of units 3 and 4 prior to the construction of units 9, 10, 11 and 12. This should extend the 20-month construction schedule.
4. Please update Section 3 Environmental Analysis for each technical section to include the unit 3 and 4 decommission and demolition work. As an example, in Air Quality, the construction schedule and construction emission needs to include the decommissioning and demolition activities for units 3 and 4. For Socioeconomics, the number of workers needs to be included for the decommissioning and demolition activities for units 3 and 4. For Traffic and Transportation, the vehicle trips need to be updated for the decommissioning and demolition work for units 3 and 4. For Waste Management, the waste removal needs to be included.

## **BACKGROUND**

The Petition to Amend includes the decommissioning and sealing of the ocean intake and discharge conduits for Units 3 and 4. Staff wants to make sure the whole project activity is described. It is important for staff to understand the scope of work and agencies involved in order to determine the project's compliance with applicable laws, ordinances, regulations, and standards (LORS).

## **DATA REQUESTS**

5. Please provide a description of the decommissioning plans for the intake and discharge structures of Units 3 and 4 and the need to perform in-water forebay work.
6. Please provide a timeline for submitting applications to the State Lands Commission and any subsequent approvals by other agencies.

**Technical Area:** Alternative Analysis  
**Author:** Craig Hoffman

## **BACKGROUND**

As part of the analysis of the El Segundo Energy Center Petition to Amend, staff will prepare an alternatives analysis for the project site. The alternatives will review alternative natural gas technologies that could reduce or lessen impacts to the site. Staff will also review modifications to the site layout and design that could reduce off-site impacts.

## **DATA REQUESTS**

7. Please provide a review of why the General Electric turbine and steam generator and Rolls Royce Trent turbines were selected. What other turbines and configurations were considered, and what designs and layouts were eliminated to meet project alternatives and site constraints.
8. Discuss whether any natural gas turbine technologies were discounted because of emission or power generation limitations.
9. Discuss whether any facilities were sited to reduce impacts.
10. Please explain the siting criteria for the proposed administration building. What are the minimum design criteria (square footage, indoor storage space) needed for the operations and administration building?

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

## **AIR QUALITY PERMIT APPLICATION**

### **BACKGROUND**

The proposed project amendment 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 will contain permit limits that will be integrated into the staff analysis. Therefore, staff will need copies of all correspondence between the facility owner and the District in a timely manner in order to stay up to date on any permit issues that arise prior to completion of the Preliminary or Final Staff Analysis.

On page 3-36 of the Petition to Amend (PTA), the facility owner mentioned the NO<sub>2</sub> modeling was refined through conversations and comments from the District staff and the NO<sub>2</sub>/NO<sub>x</sub> ratios for the gas turbines used in the NO<sub>2</sub> modeling were reviewed and approved by the District. Staff needs copies of the communications between the facility owner and the District as references for staff analysis of the proposed project amendment.

### **DATA REQUESTS**

11. Please provide copies of all the previous substantive District correspondence regarding the proposed project amendment with the District, including e-mails, especially regarding selection of the NO<sub>2</sub>/NO<sub>x</sub> ratios.
12. Please provide copies of all substantive District correspondence regarding the proposed project amendment with the District, including e-mails, within one week of submittal or receipt. This request is in effect until the final Commission Decision has been recorded.

## **CONSTRUCTION AND OPERATION EMISSION CALCULATIONS**

### **BACKGROUND**

PTA Appendices 3.1A (Emissions Calculations and Support Data), 3.1B (Modeling Support Data), 3.1D (Construction Emissions and Support Data), 3.1E (Commissioning Emissions and Support Data), 3.1G (Offset/Mitigation Support Data), and 3.1H (Cumulative Impacts Analysis Emission Data) are used to document emissions calculations. Staff needs the original spreadsheet files of these estimates with live, embedded calculations to complete the analysis of the proposed project amendment.

### **DATA REQUEST**

13. Please provide the spreadsheet versions of Appendices 3.1A, 3.1B, 3.1D, 3.1E, 3.1G, and 3.1H worksheets with the embedded calculations live and intact.

## **CONSTRUCTION EMISSIONS**

### **BACKGROUND**

The facility owner estimated the construction emissions using CalEEMod. In order to replicate the construction emissions, staff needs the original project setup parameters and live input spreadsheets (.xls or .csv files) for CalEEMod.

Page 3-23 of the PTA indicated that fugitive dust emissions were estimated using CalEEMod which, in turn, uses AP-42 emission factors. CalEEMod requires parameters such as percentage of pavement, road silt loading, average vehicle weight for paved road dust and material silt content, material moisture content, mean vehicle speed for unpaved road dust. Staff needs these parameters to complete the review of the fugitive dust emissions estimation.

Page 21 of Appendix 3.1C - Modeling Protocol mentioned wind-blown fugitive dust emissions, sources at or near the ground that are at ambient temperature and have negligible vertical velocity, would be modeled as area sources with a release height of 0.5 meters. According to CalEEMod (version 2011.1) user's guide, fugitive dust from wind-blown sources such as storage piles are not quantified in CalEEMod. Staff cannot find any information regarding the wind-blown dust in the emissions estimation or in the modeling files.

Staff found inconsistencies in the maximum daily and annual construction emissions shown in Table 3.1-13, Table 3.1-14, and Table 3.1D-1. For example, the maximum daily onsite fugitive PM10 emission in Table 3.1-13 is shown to be 206 lbs/day, but it is 8.95 lbs/day in Table 3.1D-1.

### **DATA REQUESTS**

14. Please provide the original project setup parameters and live input spreadsheets needed in CalEEMod and emission factors from AP-42 so that staff could verify the construction emissions calculations.
15. Please provide the worksheets to show controlled and uncontrolled dust emissions estimation and the control efficiency of the mitigation measures.
16. Please verify whether or not the wind-blown dust emissions were estimated during construction period.
17. Please correct the inconsistencies in the construction emissions tables (Table 3.1-13, Table 3.1-14, and Table 3.1D-1).

## **HOURLY EMISSION RATES DURING CONSTRUCTION**

### **BACKGROUND**

Page 3-34 of the PTA stated that all construction activities were assumed to occur during an 8-hour work day. However, in the construction impact analysis, staff noticed that the hourly emission rates were calculated based on the maximum daily emissions

averaged over 16 hours. The hourly emissions rates calculated based on daily emissions averaged over 16 hours would be half of those based on daily emissions averaged over 8 hours.

## **DATA REQUESTS**

18. Please confirm whether the construction emissions estimation and impact analysis were based on 8-hour work day or 16-hour work day.
19. Please revise the impact analysis or emissions estimation to ensure consistency.

## **VOLUME SOURCES**

### **BACKGROUND**

The facility owner modeled the exhaust and construction dust emissions during construction as four volume sources with a vertical dimension of 6 meters (m). Staff checked the air dispersion modeling files provided by the facility owner and found the release height was set to be 6 m and initial vertical dimension was set to be 2.79 m. US EPA provided a best practices guide for modeling fugitive emissions on March 2, 2012 (*Haul Road Workgroup Final Report Submission to EPA-OAQPS*). Based on this guide, if the volume source release height is 6 m, the top of plume height would be 12 m (= 6 m/0.5) and the vehicle height would be 7 m (= 12 m/1.7). The vehicle height of 7 m is much higher than normal vehicle height, which is about 3 m for typical haul trucks according to this US EPA guide. The higher vehicle height would lead to underestimation of the fugitive dust impacts.

The volume source release height needs to be revised to 2.55 m (=  $1.7 \times 3 \times 0.5$ ) if the vehicle height is assumed to be 3 m. The corresponding initial vertical dimension also needs to be revised to 2.37 m (=  $1.7 \times 3 / 2.15$ ) if the vehicle height is assumed to be 3 m.

### **DATA REQUEST**

20. Please revise the construction modeling with more reasonable choices of the source parameters to be consistent with the US EPA guide mentioned above or provide documentation that the previous values are appropriate.

## **CONSTRUCTION IMPACTS**

### **BACKGROUND**

Table 3.1-22 shows construction activities would cause violation of the federal 1-hour NO<sub>2</sub> standard and 24-hour PM<sub>2.5</sub> standard. Staff expects the construction impacts would be even higher if the source parameters are revised as requested in the data request 10. Although as described in the Air Quality section of the PTA, construction is expected to last only 20 months, the project impacts would not be zero after the construction period because the project would go through commissioning and then normal operation. In addition, there are inconsistencies in some of the decommissioning, demolition, and construction schedules and impact descriptions within the Section 3 Environmental Analysis within the PTA (see details in Data



Requests 3 and 4). Staff would like to ensure the emissions and impacts from the decommissioning and demolition are also included in the analysis. Staff would like to know if the construction equipment counts and construction schedule could be revised so that the maximum construction emissions could be reduced. Staff would like to know if the facility owner would propose more mitigation measures to reduce the construction impacts. Staff would like to have a more refined analysis that identifies the spatial extent and number of exceedances of the federal 1-hour NO<sub>2</sub> standard and 24-hour PM<sub>2.5</sub> standard.

## **DATA REQUESTS**

21. If possible, please revise the construction equipment counts and construction schedule so that the maximum construction emissions could be reduced. The construction emissions estimation should include decommissioning and demolition and should be consistent with the responses to Data Requests 3 and 4.
22. Please suggest more mitigation measures to reduce the construction impacts.
23. Please provide a more refined analysis that identifies the spatial extent and number of exceedances of the federal 1-hour NO<sub>2</sub> standard and 24-hour PM<sub>2.5</sub> standard, including construction, commissioning and operations to evaluate the project's impact relative to these standards.

## **EMISSIONS FOR THE GE TURBINE**

### **BACKGROUND**

Table 3.1-17 of the PTA shows the PM emissions per event during fast start and traditional start would be the same (5 lbs/event) for the GE turbine for the combined cycle portion of the proposed facility. Page 3-36 of the PTA also indicates SO<sub>2</sub> and PM emissions are essentially the same for both startup types. But the fast start would only take 30 minutes, while the traditional start would take 60 minutes. Staff expects longer traditional start would lead to more fuel consumption and more SO<sub>2</sub> and PM emissions. If the PM emissions during fast start would be 5 lbs/event and each event takes 30 minutes, the maximum hourly emission during fast start hours would be 9.75 lbs/hr (=  $5 + 9.5/2$ ), which is higher than 9.5 lbs/hr during normal operations.

Page 3-27 of the PTA shows the facility owner expects that there could be as many as two startup hours and two shutdown hours per day for the GE turbine, which is consistent with Table 3.1A-17. But Table 3.1A-17 assumed 21 hours of normal operations of the GE turbine, which leads to a total of 25 hours (instead of 24 hours) per day. The 21 hours of normal operations need to be corrected to 20 hours so that the total number of hours per day is correct.

Table 3.1A-9 shows the maximum hourly SO<sub>x</sub> emissions from the GE turbine would be 5.1 lbs/hr based on the maximum short-term sulfur content of 0.75 grains/100 scf fuel. However, the maximum daily SO<sub>x</sub> emissions in Table 3.1A-17 were based on 1.7 lbs/hr during normal operations (using sulfur content of 0.25 grains/100 scf fuel) and 1.4 lbs/hr during fast and traditional start conditions. Staff believes the daily emissions are short-

term and should be based on maximum short-term sulfur content of 0.75 grains/100 scf of fuel.

The PTA does not provide more information regarding the essential differences between the fast start and traditional start. The PTA does not clarify under what circumstances would the fast start or traditional start occur or whether the facility owner has full control over these events.

## **DATA REQUESTS**

24. Please clarify under what circumstances the fast start or traditional start would occur and whether the facility owner has full control over these events.
25. Please explain why the PM emissions per event during fast start and traditional start would be the same while the time it takes for the traditional start would be twice of the fast start.
26. Please revise the daily SO<sub>x</sub> emissions based on maximum short-term sulfur content of 0.75 grains/100 scf of fuel.
27. Please provide any manufacturer guarantees for the emissions from the GE turbine during fast start, traditional start, and shutdown as well as normal operations.
28. Please revise the number of operating hours for the GE turbine in Table 3.1A-17 and other related tables so that the total number of hours per day is correct.
29. Please revise the maximum hourly, daily, and annual emissions and corresponding air dispersion modeling for the GE turbine according to the manufacturer guarantee.

## **EMISSIONS FOR THE TRENT TURBINES**

### **BACKGROUND**

Table 3.1-17 of the PTA shows the PM emissions for each Trent turbine for the simple cycle turbines proposed for the project would be 3.8 lbs/event during 30-minute startup and 2.2 lbs/event during 20-minute shutdown. The hourly PM emissions during a startup hour would be 6.3 lbs/hr ( $= 3.8 + 5/2$ ), which would be higher than 5 lbs/hr during normal operations. The hourly PM emissions during a shutdown hour would be 5.5 lbs/hr ( $= 2.2 + 5 \cdot 40/60$ ), which would also be higher than 5 lbs/hr during normal operations. Staff noticed a single value of 5 lbs/hr PM emissions was used in the calculations for the maximum daily and annual emissions in Table 3.1A-17, Table 3.1A-19, Table 3.1E-2, and thus Table 3.1-18. These tables and other related tables need to be revised if the PM emissions during startups and shutdowns would be higher than the normal operations.

Page 3-27 of the PTA mentioned the worst hourly emissions for the Trent turbines would occur when both a startup and a shutdown occur during the same hour. For this hour, there would be 30 minutes of emissions due to startup, 10 minutes of normal

operation emissions, and 20 minutes of emissions due to shutdown. The PTA indicated and staff verified that the worst hourly emissions were used in the air impact analysis. But the maximum hourly emissions for Units 11 and 12 shown in Table 3.1-18 do not reflect these worst hourly emissions. Table 3.1-18 needs to be revised to reflect these worst case hourly emissions.

Table 3.1A-15 and Table 3.1-16 show the maximum hourly SO<sub>x</sub> emissions from the Trent turbines would be 1.1 lbs/hr based on the maximum short-term sulfur content of 0.75 grains/100 scf of fuel. However, the maximum daily SO<sub>x</sub> emissions for the Trent turbines in Table 3.1A-17 were based on 0.4 lbs/hr during normal operations (using sulfur content of 0.25 grains/100 scf of fuel), 0.2 lbs/hr during startup and 0.4 lbs/hr during shutdown. Staff believes the daily emissions are short-term and should be based on maximum short-term sulfur content of 0.75 grains/100 scf of fuel.

### **DATA REQUESTS**

30. Please provide any manufacturer guarantees for the emissions from the Trent turbines during startup, shutdown, and normal operations.
31. Please revise the daily SO<sub>x</sub> emissions based on maximum short-term sulfur content of 0.75 grains/100 scf of fuel.
32. Please revise the maximum hourly, daily, and annual emissions tables and corresponding air dispersion modeling for the Trent turbines according to the manufacturer guarantee.

### **OPERATING SCHEDULE OF THE AUXILIARY BOILER**

#### **BACKGROUND**

On page 3-36 of the PTA and in the air quality modeling files, staff noticed the auxiliary boiler was not included in short-term impacts analysis but only included in the annual impacts analysis. However, note 1 of Table 3.1A-3 shows the boiler would not operate at all when Unit 9 is operating, except for the first 20 minutes of startup when it would operate at 100 percent load. Thus the auxiliary boiler would operate simultaneously with Unit 9 during startup. The maximum hourly emissions from the auxiliary boiler would be higher than those shown in Table 3.1-18, which are based on 25 percent load.

The PTA has different assumptions for the operating hours of the auxiliary boiler at different places. The facility owner conservatively estimated the annual emissions of the auxiliary boiler in Table 3.1-18 based on 8,760 hours of operations at 25 percent load. Table 3.1A-19 assumed the auxiliary boiler would operate 3,304 hours per year at 25 percent load and 33 hours at 100 percent load to calculate the annual emissions. Staff estimated that if the auxiliary boiler would operate at 100 percent load for the first 20 minutes of startup of Unit 9, the auxiliary boiler would operate 66.7 hours (= 200 startup hours\*20/60) at 100 percent load instead of 33 hours. The Greenhouse Gas (GHG) emissions estimated in Table 3.1A-20 are based on the assumption that the auxiliary boiler would operate 3,304 hours per year, instead of 8,760 hours as in Table 3.1-18 or the total of 3,304 hours and 33 hours (which should be 66.7 hours as shown above) as in Table 3.1A-19.

## DATA REQUESTS

33. Please revise the maximum hourly emissions from the auxiliary boiler to reflect the possibility that the auxiliary boiler could operate at 100 percent load under certain circumstances.
34. Please revise the short-term impacts analysis to include the auxiliary boiler to take into account the overlap between the operations of the auxiliary boiler and other units.
35. Please revise the number of operating hours of the auxiliary boiler to be conservative and consistent.

## OVERLAP BETWEEN DEMOLITION, CONSTRUCTION, AND OPERATION

### BACKGROUND

The PTA analyzed the impacts of the entire facility by considering the overlap of the commissioning and operation of the new units with the operation of Units 5 and 7. The PTA did not analyze the impacts due to the overlap between the decommissioning and demolition of the old units, construction of the new units, and the operation of Units 5 and 7. Staff needs to review such analysis to complete the analysis of the impacts during construction of the new units.

### DATA REQUEST

36. Please provide an impact analysis considering the overlap of the decommissioning and demolition of the old units, construction of the new units, and the operation of Units 5 and 7.

## IMPACT ANALYSIS OF UNITS 5 AND 7

### BACKGROUND

Tables 3.1B-7 and 3.1B-8 of the PTA show the same stack parameters were used in the modeling for Units 5 and 7 for different averaging periods. Staff would like to know if the facility owner has demonstrated previously that these parameters would lead to most conservative estimates of ground level concentrations.

Table 3.1-8 shows the modeled startup/shutdown emission rate of NO<sub>x</sub> would be 11.48 grams per second (g/s), which is 91 lb/hr per turbine. This is lower than the emission limit of 112 lbs per startup per turbine with each startup not to exceed 60 minutes, as specified in **AQ-20** of the 2010 Commission Decision to the Amendment for El Segundo Power Redevelopment Project (CEC-800-2010-015).

The modeled short-term NO<sub>x</sub> and CO emissions rates during normal operations shown in Table 3.1B-7 are lower than the maximum emissions shown in Table 16 of the 2010 revised FDOC for El Segundo Power Redevelopment Project (TN 56837). For example, Table 3.1B-7 shows the modeled short-term NO<sub>x</sub> emission rate during normal operations is 1.0573 g/s, which is 8.39 lb/hr per turbine; while the maximum NO<sub>x</sub>

emissions rate shown in Table 16 of the 2010 revised FDOC is 30.88 lb/hr for both turbines, which is 15.44 lb/hr per turbine.

The modeling files show the NO<sub>2</sub>/NO<sub>x</sub> ratios for Units 5 and 7 would be 0.45 during startups and 0.3 during normal operations. These ratios are the same as those for the GE turbine (Unit 9) in Table 3.1-24 of the PTA. Staff would like to know if the ratios for Units 5 and 7 were also reviewed and approved by the District.

## **DATA REQUESTS**

37. Please verify that the stack parameters used for Units 5 and 7 were previously proved to result in most conservative estimates of ground level concentrations.
38. Please revise the modeling analysis to be consistent with the emission limits and estimates specified in the 2010 Commission Decisions to the Amendment and 2010 revised FDOC for El Segundo Power Redevelopment Project, or state that the facility owner is willing to accept these lower emissions limits.
39. Please verify if the NO<sub>2</sub>/NO<sub>x</sub> ratios for Units 5 and 7 were reviewed and approved by the District.

## **COMMISSIONING MODELING**

### **BACKGROUND**

The PTA includes commissioning emissions in Table 3.1E-2, but the annual impacts during the commissioning year are missing from the impacts tables. The annual emissions of CO, NO<sub>x</sub> and PM<sub>10</sub> during the commissioning year estimated in Table 3.1E-2 are higher than those during a non-commissioning year estimated in Table 3.1A-19. Annual impacts during the commissioning year are expected to be higher than those during a normal operation year, which may trigger the need for additional mitigation measures. Due to the complexity of the commissioning procedures for new combined-cycle turbine designs, the El Segundo Energy Center had to request a variance from SCAQMD to extend the commissioning period. Staff would like to know if the commissioning hours estimated in Table 3.1E-2 (415 hours for the GE turbine and 121 hours for each Trent turbine) would be sufficient for these proposed turbines. Staff needs to evaluate the commissioning annual impacts based on conservative estimates of commissioning hours and determine compliance with the corresponding ambient air quality standards.

### **DATA REQUEST**

40. Please provide air quality modeling for the annual impacts during the commissioning phase based on conservative estimates of commissioning hours and determine compliance with the annual ambient air quality standards.

## **SF<sub>6</sub> in GHG ANALYSIS**

### **BACKGROUND**

Sulfur hexafluoride (SF<sub>6</sub>) is one of the most potent greenhouse gases. SF<sub>6</sub> is often used for insulating and cooling of electrical equipment such as transformers, circuit breakers and switchgear. The project is identified to have a significant amount of electrical equipment that could use SF<sub>6</sub>. While some of the electrical equipment is noted to be air cooled, the PTA GHG analysis does not include comprehensive information for all electrical equipment regarding if or how much SF<sub>6</sub> would be used. Staff needs to understand if SF<sub>6</sub> is a potential GHG emission from this project and the emission inventory of SF<sub>6</sub>.

### **DATA REQUEST**

41. Please provide details of the SF<sub>6</sub> onsite inventory and leakage emissions both in operation and construction phases to complete the GHG emission estimates.

### **CAPACITY FACTOR**

#### **BACKGROUND**

Section 2.2.6 of the PTA indicates the combined-cycle unit is forecasted to operate at up to 60 percent capacity factor annually, including up to 200 startups per year and 200 shutdowns per year. But the Air Quality and GHG analyses show the combined-cycle unit would operate 5,456 hours per year, including startups and shutdowns, which would lead to a capacity factor of 62 percent (= 5,456/8,760). This is slightly higher than 60 percent capacity factor, thus inconsistent with Section 2.2.6 of the PTA.

#### **DATA REQUESTS**

42. Please clarify whether the capacity factor would be above or below 60 percent annually.
43. Please revise the Air Quality and GHG analyses as needed to the correct estimate of the capacity factor.

### **EMISSION OFFSETS**

#### **BACKGROUND**

The required emission offsets in Table 3.1-37 of the PTA do not agree with either the non-commissioning year emissions in Table 3.1A-19 (or Table 3.1G-2 for NO<sub>x</sub>) or the commissioning year emissions in Table 3.1E-2 (or Table 3.1G-2 for NO<sub>x</sub>). Table 3.1-37 does not distinguish between the commissioning year emissions and non-commissioning year emissions. Table 3.1-37 shows the NO<sub>x</sub> emissions would be offset through the RECLAIM program, but SO<sub>x</sub> emissions would be exempt from District offset requirements under Rule 1304(b). The South Coast Air Quality Management District (SCAQMD) adopted Rule 1325 on June 3, 2011, which requires PM<sub>2.5</sub> emission increases to be offset at an offset ratio of 1.1:1 if the rule is triggered. In addition, the

Energy Commission requires CEQA mitigation of all nonattainment criteria pollutants and their precursors at a ratio of at least 1:1.

## **DATA REQUESTS**

44. Please revise the emission offsets requirements according to the commissioning year and non-commissioning year emissions. The response to this data request should include any changes in assumed capacity factor, as requested in the data request 33.
45. Please clarify whether the SO<sub>x</sub> emissions would be mitigated through the RECLAIM program.
46. Please discuss whether or not the PM<sub>2.5</sub> emissions of the project trigger Rule 1325. If so, please provide the facility owner's PM<sub>2.5</sub> offset strategy to meet this rule. The response to this data request should include any changes in assumed capacity factor, as requested in the data request 33.
47. Please provide the offset strategy for all nonattainment criteria pollutants to meet the Energy Commission's CEQA mitigation requirements. The response to this data request should include any changes in assumed capacity factor, as requested in the data request 33.

## **MISCELLANEOUS EQUIPMENT**

### **BACKGROUND**

Page 2-24 of the PTA shows "A 100 percent capacity, electric motor-driven pump takes suction from the fire/service water storage tank. A 100 percent capacity diesel engine-driven pump will take suction from the city water line and will operate as the backup pump to the electric motor-driven pump." However, the 2010 Commission Decision to the Amendment (CEC-800-2010-015) for the El Segundo Power Redevelopment Project eliminated the backup diesel-fired fire water pump "as backup firewater will be obtained directly from the city of El Segundo's high-pressure potable water lines". Staff would like to have a clarification on whether there would be a diesel fire water pump at the project site.

Appendix 3.1C – Modeling Protocol of the PTA stated there would be a black start diesel generator to provide black-start capability. Staff was not able to find more information about the black start diesel generator. Staff would like clarification on whether there would be a black start diesel generator at the project site.

Page 2-7 of the PTA indicates the GE turbine includes a performance fuel gas heater. Staff would like to know if the emissions from the performance fuel gas heater are included in the emissions of the GE turbine. If the performance fuel gas heater has a separate stack from the stack of the GE turbine, staff expects there would be an additional emission source for the performance fuel gas heater.

## **DATA REQUESTS**

48. Please clarify whether there would be a diesel fire water pump at the project site.
49. Please clarify whether there would be a black start diesel generator at the project site.
50. Please clarify whether the emissions from the performance fuel gas heater are included in the emissions of the GE turbine or whether there would be a separate emissions source for the performance fuel gas heater.
51. Please revise emissions calculations and impacts analysis for the above miscellaneous equipment if necessary.

## **GHG BACT**

### **BACKGROUND**

Appendix 3.1F of the PTA includes a GHG Best Available Control Technology (BACT) analysis that concludes the proposed GE turbine and Trent turbines qualify as GHG-BACT for this project. Page 3-45 of the PTA shows the proposed GE turbine would have a net heat rate of approximately 7,670 Btu/kWh (HHV), while the lower end of the heat rate of a combined-cycle turbine is about 7,000 Btu/kWh (Final Staff Assessment of Avenal Energy project, CEC-700-2009-001-FSA). The PTA does not clarify whether the heat rate provided on page 3-45 includes the duct burner or not.

### **DATA REQUESTS**

52. Please indicate how the heat rate of the GE turbine would change if duct burner is used comparing to the heat rate when the duct burner is not used.
53. Please indicate if the proposed design represents the configuration with the best heat rate for this turbine and expected site conditions. If not, please describe why design configurations with a better heat rate cannot be used.

## **BASELINE CONDITIONS**

### **BACKGROUND**

In order to finish the staff analysis of the proposed project amendment, staff would like to understand the baseline conditions of the emissions and energy production of Units 3 and 4. Staff would like to understand how the project would comply with the District's proposed Rule 1304.1, which is anticipated to become effective before this project would receive a permit to construct this facility.

### **DATA REQUESTS**

54. Please provide information about emissions and energy production of Units 3 and 4 for the last three years.



55. Please provide a plan showing how the project would comply with the District's proposed Rule 1304.1.

## **CUMULATIVE ANALYSIS**

### **BACKGROUND**

PTA Appendix 3.1H includes a list of nearby sources within 6-mile radius of the project. However, the facility owner eliminated all the nearby sources in the cumulative analysis. Staff believes the facilities with greater than 5 tons per year (tpy) of emissions of any single criteria pollutant should be included in the cumulative analysis. Staff believes emergency engines should not be exempt from cumulative CEQA analysis. These sources may affect the ground-level concentration gradient that may not be measured by the ambient monitoring stations used to determine background ambient air quality values. Staff would like to make sure that the potential air quality impacts from the project with the nearby sources are not cumulatively significant.

On July 31, 2013, Sierra Research, on behalf of the facility owner, submitted a cumulative impact analysis for the project to SCAQMD as required by the Prevention of Significant Deterioration (PSD) rules. The analysis listed facilities with annual NO<sub>x</sub> emissions more than 10 tpy, some of which were not listed in the PTA Appendix 3.1H. These facilities include the LADWP Scattergood Generating Station, LA City Dept. of Airports, Northrop Grumman Systems Corp., and Hollywood Park Land Co. PTA Appendix 3.1H shows the United Airlines Inc. and AES Redondo Beach have emissions lower than 5 tpy but the analysis submitted to SCAQMD on July 31, 2013 shows the 2010 NO<sub>x</sub> emissions from these two facilities were more than 10 tpy. However, most of the facilities listed in the July 31, 2013 analysis except for LADWP Scattergood Generating Station and Chevron were excluded in the dispersion modeling based on the emissions-to-distance (Q/D) screening method. Staff believes the ground-level impacts are not only affected by the emission rates and distance but also the stack exhaust parameters and meteorological conditions. Instead of the Q/D screening method, staff would like to have an impact analysis showing that the potential air quality impacts from the project with the nearby sources are not cumulatively significant.

On November 20, 2012, AES submitted an Application for Certification (AFC) to the California Energy Commission seeking permission to construct and operate the Redondo Beach Energy Project (RBEP) which would replace the existing Redondo Beach Generating Station units. The AFC indicates the RBEP would emit 121.5 tpy NO<sub>x</sub> and 49.7 tpy PM<sub>10</sub> and PM<sub>2.5</sub>, which would be more than past actual emissions. These emissions are reasonably foreseeable and not reflected in the background measurements thus need to be modeled in the cumulative analysis.

The LADWP Scattergood Generating Station is also going through the repowering process. Staff would like to have the detailed information about the potential emissions of the new units at LADWP Scattergood Generating Station. Staff believes the emissions from the new units are reasonably foreseeable and not reflected in the background measurements thus need to be modeled in the cumulative analysis.

## DATA REQUEST

56. Please provide a modeling analysis showing that the impacts from the entire El Segundo facility and the nearby facilities with greater than 5 tons per year of emissions of any single criteria pollutant are not cumulatively significant. These nearby facilities may include but not limited to: SO CAL GAS CO/PLAYA DEL REY STORAGE FACI (8582), AIR LIQUIDE LARGE INDUSTRIES U.S., LP (148236), GARRETT AVN. SVCS. LLC DBA STANDARD AERO (155828), DIGITAL 2260 EAST EL SEGUNDO, LLC (166388), FIRST CHURCH OF GOD OF LOS ANGELES (168886), T5@ LOS ANGELES, LLC (169168), CHEVRON PRODUCTS CO. (800030), LA City Dept. of Airports (800335), United Airlines Inc. (9755), Northrop Grumman Systems Corp. (800409), Hollywood Park Land Co. (145829), new units at LADWP Scattergood Generating Station (800075), and new units at AES Redondo Beach (115536)

**Technical Area: Biological Resources**  
**Author: Ann Crisp**

## **NITROGEN DEPOSITION: BACKGROUND**

Impacts of excessive nitrogen deposition to plant communities include direct toxicity and changes in species composition among native species such as 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. The project owner has not discussed the potential for effects of nitrogen deposition from the proposed modifications to the El Segundo Energy Center (ESEC) on the potential habitats for special status wildlife species which occur in the project area. Impacts analysis shall include the following sensitive biological resources: the El Segundo Dunes Preserve, the Chevron Preserve, Ballona Creek and the Ballona Wetlands. Energy Commission staff believes that nitrogen deposition resulting from emissions of nitrogen oxides (NO<sub>x</sub>) and ammonia (NH<sub>3</sub>) during operation of the proposed project could have negative impacts on biological resources and that a quantitative analysis of such impacts is needed.

## **DATA REQUESTS**

57. Please quantify the existing baseline total nitrogen deposition rate, in the vicinity of the modified ESEC, in kilograms per hectare per year (kg/ha/yr). The geographical extent of the nitrogen deposition mapping should be directed by the results, i.e. extend geographically to where the deposition is considered below any stated threshold of significance for vegetation communities. Thresholds for nitrogen deposition by vegetation type are available within the March 2007 California Energy Commission report, titled "Assessment of Nitrogen Deposition: Modeling and Habitat Assessment," available at: <http://www.energy.ca.gov/2006publications/CEC-500-2006-032/CEC-500-2006032> PDF, and the May 2007 California Energy Commission PIER report, titled "Impacts of Nitrogen Deposition on California Ecosystems and Biodiversity," available at: <http://www.energy.ca.gov/2005publications/CEC-500-2005165/CEC-500-2005-165.PDF>. Please include references and guidelines used in your baseline analyses.
58. Please use AERMOD or an equivalent model to provide an analysis of impacts due to total nitrogen deposition from operation of the modified ESEC. The analysis should specify the amount of total nitrogen deposition in kg/ha/yr at the El Segundo Dunes Preserve, the Chevron Preserve, Ballona Creek and the Ballona Wetlands, and designated critical habitat for western snowy plover (*Charadrius nivosus nivosus*), and any other sensitive vegetation communities or habitats that occur in the project area for wet and dry deposition. Please provide the complete citation for references used in determining this number.
59. Please provide an isopleth graphic over USGS 7.5-minute maps (or equally detailed map) of the direct nitrogen deposition rates caused by the modified ESEC. This will be a graphical depiction of the project's nitrogen deposition.

60. Please provide a comprehensive cumulative impact analysis for the nitrogen deposition in kg/ha/yr caused by modified ESEC in relation to other reasonably foreseeable projects and provide an isopleths graphic over USGS 7.5-minute maps of the nitrogen deposition values.

#### **BACKGROUND - SPECIAL-STATUS PLANT AND WILDLIFE SPECIES:**

In Section 3.2 of the Petition to Amend, the project owner has indicated that special-status species have the potential to occur in the project area and that implementing existing Conditions of Certification **BIO-6**-through **BIO-12** and **BIO-14** would be adequate to address potential impacts to biological resources from implementation of the modified ESEC. However, none of these conditions specify what impact avoidance and minimization measures would be implemented to reduce the effects of noise, vibration, and lighting to sensitive biological resources that may occur during demolition and construction activities. Specifically, California brown pelican and monarch butterfly were identified as having suitable habitat in the project area yet no measures were identified to avoid and minimize impacts during project activities.

#### **DATA REQUESTS**

61. Please identify the impact avoidance and minimization measures that would be implemented to reduce the effects of noise, vibration, and lighting on nesting birds; specifically impacts on burrowing owl and western snowy plover (given the proximity of designated critical habitat for western snowy plover near the southern end of Dockweiler State Beach). Additionally, please assess impacts on roosting bats and other potentially occurring special-status species identified in Table 3.2-1.

**Technical Area:** Cultural Resources  
**Authors:** Gabriel Roark and Amber Grady

## **BACKGROUND**

The 2013 Petition to Amend (2013 PTA) for the proposed El Segundo Power Facility Modification (ESPFM) does not list the preparer(s) and qualifications of the cultural resources analysis contained therein (ESEC 2013:3-71–3-77). Staff needs to know the preparer(s)'s qualifications in order to assess the adequacy of the analysis contained in the 2013 PTA.

## **DATA REQUEST**

62. Please name the individual(s) who conducted the cultural resources analysis for the 2013 PTA, their affiliation, academic degree(s), and years and type of experience in California cultural resources management.

## **BACKGROUND**

Pursuant to Public Resources Code, section 25525, and Title 20, California Code of Regulations, section 1769, the Energy Commission may approve post-certification amendments and changes that—among other criteria—remain in compliance with all applicable laws, ordinances, regulations, and standards (LORS). Staff's review of the cultural resources section of the 2013 PTA identifies several pieces of information that are missing from the LORS analysis (ESEC 2013:3-72). In particular, staff cannot presently concur with the 2013 PTA's statement that, "...the Amendment will not alter the assumptions or conclusions in the CEC Final Decision and no additional or revised LORS compliance requirements have been identified" (ESEC 2013:3-72) because several local laws and plans have been updated since the project owner's previous applications to the Energy Commission since 2000. These updates could present new cultural resources requirements and are not addressed in the 2013 PTA. Specific observations and data requests related to LORS are presented immediately below.

## **DATA REQUESTS**

63. The 2013 PTA and previous documents submitted by the project owner do not discuss whether the local coastal plans of the cities of El Segundo and Manhattan Beach, as well as Marina del Rey (County of Los Angeles), have requirements applicable to cultural resources (ESEC 2013:3-72; ESP II 2000:5.7-69–5.7-71; Shaw 2007:3-47). Please state whether these local coastal plans have such requirements, what those requirements are, and whether the proposed amendment complies with applicable requirements. When responding to this data request, please provide full bibliographic information for the local coastal plans examined, including internet address, if applicable.
64. The City of El Segundo's Municipal Code has a historic preservation element, which the project owner has not discussed. Please indicate whether the historic preservation element has requirements applicable to the proposed ESPFM, what those requirements are, and whether the proposed amendment complies with the

applicable requirements. Please cite the applicable sections of the municipal code in your response.

65. The preferred offsite construction laydown area is located at 777 W. 190<sup>th</sup> Street in the City of Gardena (ESEC 2013:3-72). The 2013 PTA and previous documents submitted by the project owner do not discuss whether the City of Gardena's General Plan contains cultural resources requirements. Please state whether the general plan has cultural resources requirements applicable to the proposed amendment, what the requirements are, and whether the proposed amendment complies with the applicable requirements. When responding to this data request, please provide full bibliographic information for the general plan, including internet address, if applicable.
66. The 2013 PTA and previous documents submitted by the project owner do not discuss whether the adjacent City of Manhattan Beach's land use element or other portions of its general plan contain cultural resources requirements, although the proposed amendment is located adjacent to the city limits. Please state whether the general plan has cultural resources requirements applicable to the proposed amendment, what the requirements are, and whether the proposed amendment complies with the applicable requirements. When responding to this data request, please provide full bibliographic information for the general plan, including internet address, if applicable.
67. The proposed LAX-Pershing construction laydown and parking area is situated in Los Angeles's city limits (ESEC 2013:Figure 2-10). The 2013 PTA and previous documents submitted by the project owner do not discuss the cultural resources requirements contained in the conservation element of the City of Los Angeles's General Plan. In addition, the City of Los Angeles has adopted a number of community plans since the project owner's original (2000) submittal. Please state whether the general plan has cultural resources requirements applicable to the proposed amendment, what the requirements are, and whether the proposed amendment complies with the applicable requirements. When responding to this data request, please provide full bibliographic information for the general plan, including internet address, if applicable.
68. The proposed Marina del Rey Boat Launch construction laydown and parking area is located in the community of Marina del Rey (ESEC 2013:Figure 2-10). The Marina del Rey Land Use Plan (County of Los Angeles) has been updated, but is not discussed in the 2013 PTA. Please state whether the land use plan has cultural resources requirements applicable to the proposed amendment, what the requirements are, and whether the proposed amendment complies with the applicable requirements. When responding to this data request, please provide full bibliographic information for the land use plan, including internet address, if applicable.
69. The Dockweiler State Beach construction laydown and parking area is located in the County of Los Angeles (ESEC 2013:Figure 2-10); the beach is operated by the County. The County is currently updating its general plan for 2035, including revisions to its cultural resources policies. The County expects to adopt the 2035

general plan in 2013. Please discuss the cultural resources requirements in the draft 2035 general plan.

## **BACKGROUND**

The 2013 PTA states that much or all of the ground within the ESEC project site, including the area of the proposed ESPFM, has been disturbed during construction and operation of the original El Segundo Generating Station. In addition, the project owner has conducted earthwork within the project site to build the ESEC. (ESEC 2013:3-71.) The 2013 PTA does not, however, describe the depth and nature (boring, scraping, mass excavation, trenching, soil removal or replacement, etc.) of previous ground disturbances in the proposed ESPFM. Staff needs this information to determine whether the proposed modification has the potential to cause a significant adverse change in a historical resource or unique archaeological resource by exceeding the depth of previous excavation or cause other impacts not covered by existing conditions of certification. Please note that staff attempted to reconstruct previous, recent construction excavations from the project owner's monthly compliance reports. Staff did not find this task feasible due to the general absence of maps depicting excavation and monitoring areas in the monthly compliance reports.

## **DATA REQUEST**

70. Please provide a narrative description of the type, depth, and extent of previous excavations in the proposed ESPFM as well as supporting graphics. Organize the discussion by component of the 2013 PTA. In identifying the types of previous ground disturbance, indicate whether the underlying material was removed and replaced with fill or the excavated material placed in the void again. Provide enough information to fully describe the depth of previous ground disturbance across the proposed ESPFM. At a minimum, this requires the project owner to state the minimum and maximum depths of previous disturbance for each component of the ESPFM, where the depth varies. Also state whether fill dirt was placed to raise the elevation of any component of the proposed ESPFM. Tables may be used to augment or replace descriptive text. Include areas proposed under the ESPFM to be graded, bored, demolished, mass excavated, trenched for utilities, and so forth. Supporting graphics shall use Figures 2-3a and 2-3b (or figures of similar scale) of the 2013 PTA as a base for mapping previous ground disturbance.

## **BACKGROUND**

The 2013 PTA refers to "portable cycle make-up treatment equipment", apparently in connection with reverse-osmosis (RO) product water, which is to be "regenerated offsite" (ESEC 2013:2-11). Staff is trying to determine the location of the portable cycle make-up treatment equipment and whether any ground disturbance would be involved in its use (acknowledging its portable character). Staging of any equipment, let alone any additional ground disturbance associated with its installation and use, has the potential to damage cultural resources on the ground surface. It is therefore important to staff's analysis to know the location and staging methods for this equipment.

## **DATA REQUEST**

71. Where would the portable cycle make-up treatment equipment be staged? What, if any, kind of ground disturbance would occur in association with its staging and use?

## **BACKGROUND**

The proposed amendment describes a 10-inch-diameter RO water line (ESEC 2013:2-11). The original application for certification, on the other hand, describes an 8-inch-diameter RO water line that would be installed in a trench excavated 50 feet wide and 12 feet deep (ESP II 2000:3.7-1, 5.7-2, Figures 3.2-1, 3.2-2). The current amendment does not clearly state whether the proposed 10-inch line would replace the 8-inch line, whether the proposed 10-inch line would follow the same alignment as the 8-inch line, or what the width and depth of the 10-inch line's trench would be. For staff to assess the potential cultural resource impacts of this proposed project component, staff needs to know the 10-inch line's location and dimensions.

## **DATA REQUEST**

72. Please state whether the proposed 10-inch line would replace the 8-inch line described in the 2000 application for certification. Also indicate whether the 10-inch line would follow the same route as the originally proposed 8-inch-line; if not, please map the alignment of the proposed 10-inch line on a 7.5-minute topographic quadrangle (at a scale of 1 inch = 2,000 feet) and on a figure or figures similar to Figure 2-6 of the 2013 PTA. Also describe the width and depth of the trench required to install the line. Please describe depth in feet below current grade and elevation (feet) relative to mean sea level.

## **BACKGROUND**

Figure 1-2b of the 2013 PTA is labeled, "Fuel Gas Compressor Building." The 2013 PTA also mentions a new natural gas compression stations (ESEC 2013:2-7). The relationship between these two buildings is unclear.

## **DATA REQUEST**

73. Are the two buildings mentioned above one and the same? If not, please describe the buildings, the horizontal and vertical extent of excavation necessary to construct them, and plot the unmapped building on a figure similar to Figure 2-6 of the 2013 PTA. The vertical extent of excavation (depth) should be described in feet below current grade and elevation (feet) relative to mean sea level.

## **BACKGROUND**

The 2013 PTA refers to a "permanently installed forwarding pump" (ESEC 2013:2-11). The PTA, however, does not describe how or where the forwarding pump would be installed. Installation of this pump could result in damage to cultural resources,



rendering it important for staff to understand where the pump would be installed and how much ground disturbance would be necessary to install it.

#### **DATA REQUEST**

74. Please describe and map the location of the proposed forwarding pump on a map similar to Figure 2-6 of the 2013 PTA. Also describe the horizontal and vertical extent of ground disturbance required to install the pump. Please give the vertical extent or depth of excavation in feet below current grade and elevation (feet) relative to mean sea level.

#### **BACKGROUND**

The 2013 PTA mentions dewatering discharge (ESEC 2013:2-16, Table 2-12), but does not state where the project owner proposes to discharge the water. Methods and location of discharge have a variable potential to affect cultural resources.

#### **DATA REQUEST**

75. Please describe where construction dewatering discharge would occur and whether any ground disturbance would be associated, such as constructing a dewatering basin or placing an aboveground dewatering container on an unpaved surface. Plot the location of any such facilities on a map similar to Figure 2-6 of the 2013 PTA.

#### **BACKGROUND**

The 2013 PTA states that a new loop of fire water distribution system would be installed for Units 5–12, the administration building, maintenance shop, and warehouse (ESEC 2013:2-24). The extent of excavation required to install the fire water distribution system, however, is not described.

#### **DATA REQUEST**

76. Please describe the extent of excavation needed to install the proposed fire water distribution system. Include the depth of required excavation in feet below current grade and elevation (in feet) relative to mean sea level.

#### **BACKGROUND**

The 2013 PTA does not describe the depth of excavation required to demolish Units 3 and 4 and construct new Units 9–12. Without this information, staff cannot determine whether the PTA would cause new impacts to cultural resources.

#### **DATA REQUEST**

77. Describe the depth of excavation required to demolish Units 3 and 4 and construct new Units 9–12. Present the depth of required excavation in feet below current grade and elevation (in feet) relative to mean sea level.

## **BACKGROUND**

Staff cannot rely upon the existing records search summaries prepared by the project owner for its analysis because the records searches for the ESEC project and previous amendments are out of date and do not conform to current Energy Commission informational requirements. Units 3 and 4, slated for demolition in the 2013 PTA, have not previously been assessed for archaeological resource potential. Previous cultural resource studies commissioned by the project owner included records searches that cover the area occupied by Units 3 and 4. The records searches covered proposed project facilities, plus a 0.5-mile buffer surrounding the plant site and linear features, and a 0.25-mile buffer surrounding temporary staging and parking areas. (Wesson et al. 2000:18, Figure J-2, Attachment B; White and White 2007:5.)

The age of the records searches (13 years) is a major concern for staff—additional cultural resource studies might have been conducted in the project vicinity and new cultural resources identified as a consequence. Additionally, since 2007, Energy Commission siting regulations have required applicants to conduct records searches for a minimum of 1 mile from the proposed project site and a minimum of 0.25 mile from proposed linear facilities. (20 Calif. Code Regs., ; Appen. B (following Art. 6), § (g)(2)(B); see also § 1704, subd. (b)(2)).

## **DATA REQUEST**

78. Please conduct a records search at the South Central Coastal Information Center of the California Historical Resources Information System, and provide staff with the search results, following the requirements at Title 20, California Code of Regulations, Appendix B. With respect to the minimum records search area, consider the visibility (height) of proposed units 9–12 to the surrounding area in order to account for visual impacts to cultural resources.

## **BACKGROUND**

The PTA does not provide a map of the project area on a 7.5-minute U.S. Geological Survey topographical quadrangle base. In addition to being a standard piece of information required of applications at Title 20, California Code of Regulations, Appendix B, section (b)(1)(A), such mapping is critical to cultural resource assessments. Use of the 7.5-minute U.S. Geological Survey topographic quadrangle for project mapping facilitates direct comparison with records search results because the topographic quadrangle is the map of record at the California Historical Resources Information System.

## **DATA REQUEST**

79. Please map the proposed modification on a 7.5-minute U.S. Geological Survey topographical quadrangle base.

## BACKGROUND

The project owner submits that “cultural resource observations beneath Units 3 and 4, if discovered, will not be significant based on the extensive inspection by the Cultural Resource Specialist and Monitors during the ESEC construction” (ESEC 2013:3-71). The PTA contains no further discussion or substantiation of the project owner’s analysis of potential impacts of cultural resources (ESEC 2013:3-71 through 3-77). Staff assumes that substantiation of this claim is contained in a project owner-prepared cultural resources technical report that is consistent with the content requirements of Title 20, California Code of Regulations, Appendix B, section (g)(2)(C).

## DATA REQUEST

80. Please provide a copy of the project owner-prepared cultural resources technical report, as well as a schedule for submittal of the report to the South Central Coastal Information Center of the California Historical Resources Information System.

## BACKGROUND

In 2000 JRP Historical Consulting Services prepared the *El Segundo Power Redevelopment Project Historic Resources (Built Environment) Report*, which included four documents: Appendix K(1) was an historic evaluation of the El Segundo Generation Station; Appendix K(2) addressed the pipelines, staging, and parking areas; Appendix K(3) addressed the sanitary discharge line and the proposed water supply lines; and Appendix K(4) addressed the Kramer Staging Area. These documents identified potential historic built environment resources that could be impacted by the various project components as they were proposed at the time. As this document is nearly 13 years old some clarification and updating is need to address the current amendment.

## DATA REQUESTS

81. It appears that the proposed project components as described in the 2013 PTA would all fall within the previously surveyed areas of the JRP report. Please provide a figure shows an overlay of the proposed amendment onto Figure K-1 of the JRP report.
82. Please provide an update to the JRP report that includes the condition of any previously identified historic-age resources (e.g., extant, demolished, modifications) and evaluations for any built environment resources that have become historic-age since 2000 (i.e., any resource built in, or prior to, 1968).

## REFERENCES CITED

**ESEC 2013—El Segundo Energy Center, with CH2M Hill.** *El Segundo Energy Center Petition to Amend (00-AFC-14C)*. April. On file, Dockets Unit, California Energy Commission, Sacramento. 00-AFC-14C.

**ESP II 2000—El Segundo Power II.** *Application for Certification: El Segundo Power Redevelopment Project.* December. 2 vols. Submitted to California Energy Commission, Sacramento. Dockets Unit No. 00-AFC-14. Electronic document, [http://www.energy.ca.gov/sitingcases/elsegundo/documents/applicants\\_files/afc\\_cd-rom/VOLUME%201A/5.7.pdf](http://www.energy.ca.gov/sitingcases/elsegundo/documents/applicants_files/afc_cd-rom/VOLUME%201A/5.7.pdf), accessed May 13, 2013.

**Shaw 2007—Shaw Environmental.** *Petition to Amend Final Commission Decision for the El Segundo Power Redevelopment Project, CEC-800-2005-001-CMF.* June 18. Irvine, CA. Project No. 1009724011. Prepared for ESP II, El Segundo, CA. Electronic document, [http://www.energy.ca.gov/sitingcases/elsegundo\\_amendment/2007\\_amendment/owner/2007-06-29\\_FINAL\\_PTA\\_FOR\\_ESPR.PDF](http://www.energy.ca.gov/sitingcases/elsegundo_amendment/2007_amendment/owner/2007-06-29_FINAL_PTA_FOR_ESPR.PDF), accessed May 13, 2013.

**Wesson et al. 2000—Alex Wesson, Bryon Bass, and Brian Hatoff.** *Technical Report: El Segundo Power Redevelopment Project, Cultural Resources (Archaeological Resources).* December. URS Corporation, Oakland, CA. 66-00000030.01 01070. Prepared for California Energy Commission, Sacramento. On file, Cultural Resources Unit, California Energy Commission, Sacramento.

**White and White 2007—Laura S. White and Robert S. White.** *A Phase I Cultural Resources Assessment of a 10.11 Acre Parcel Located at 777 W. 190<sup>th</sup> Street, City of Los Angeles, County of Los Angeles.* June 25. John Minch & Associates, Mission Viejo, CA. Prepared for Shaw Environmental & Infrastructure, Irvine, CA. On file, Cultural Resources Unit, California Energy Commission, Sacramento. 00-AFC-14.

**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 3 and 4 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**

83. Please provide the following information regarding the exhaust parameters for proposed new units and existing Units 3 and 4.
- a. Stack Exhaust Temperature;
  - b. Moisture Content (% by Weight);
  - c. Mass Flow (1000 lbs/hr), and;
  - d. Average Molecular Weight (lbs/mole).

The facility owner may provide these exhaust parameters, in tabular form (example shown below), for the range of ambient conditions (i.e. ambient temperature [cold, average, and hot] and relative humidity) and operating scenarios (with and without duct firing for the combined-cycle turbine) that can be reasonably expected to occur at the project site location.

Parameters	Unit Name					
Stack Height						
Stack Diameter						
Ambient Temperature						
Relative Humidity						
Operating Scenarios	Non-duct Fired	Duct Fired	Non-duct Fired	Duct Fired	Non-duct Fired	Duct Fired
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)						