

DOCKETED

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CALIFORNIA ENERGY COMMISSION

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July 17, 2015

John Chillemi, President
NRG Oxnard Energy Center, LLC
100 California Street, Suite 650
San Francisco, CA 94111

Regarding: **PUENTE POWER PROJECT (15-AFC-01),
DATA REQUEST SET 1 (Nos. 1-47)**

Dear Mr. Chillemi:

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.

In this Set 1, Data Requests are being made in the technical areas of: Air Quality (Nos. 1-13), Hazardous Materials Management (Nos. 14-18), Public Health (Nos. 19-24), Soil and Water Resources (Nos. 25-41), Traffic and Transportation (Nos. 42-46) and Worker Safety and Fire Protection (No. 47). Written responses to the enclosed data requests are due to the Energy Commission staff on or before August 17, 2015.

If you are unable to provide the information requested, need additional time, or object to providing the requested information, please send a written notice to the Committee and me within 20 days of receipt of this 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) 654-3936.

Sincerely,

A handwritten signature in black ink, appearing to read "Jon R. Hilliard".

Jon R. Hilliard, Siting Project Manager
Siting, Transmission and Environmental
Protection Division

Enclosure (Data Request Packet)

cc: Docket (15-AFC-01)
Dawn Gleiter – NRG

Technical Area: Air Quality
Author: Jacquelyn Record

BACKGROUND: PROJECT PERMITS

The proposed project will require a Preliminary Determination of Compliance (PDOC) and a Final Determination of Compliance (FDOC) from the Ventura County Air Pollution Control District (VCAPCD or "District"). These documents will be integrated into the staff analysis. Therefore, staff will need copies of relevant correspondence between the applicant and the District in a timely manner in order to stay up to date on any permit issues that may arise during preparation of the Preliminary or Final Staff Assessments.

DATA REQUEST

1. Please provide copies of all substantive District correspondence regarding the Puente Power Project (P3) PDOC and FDOC preparation, including e-mails, within one week of submittal or receipt. This request is in effect until the final Energy Commission Decision has been adopted.

BACKGROUND: EMISSION ESTIMATES

Appendix C-2 (Operational and Commissioning Emission Calculations) and C-6 (Construction Emission Calculations), of the Application for Certification (AFC) are used to document emission calculations. Staff needs the original spreadsheet files of these estimates with live, embedded calculations to complete their review.

DATA REQUEST

2. Please provide the spreadsheet version of Appendix C-2 and Appendix C-6 work sheets with embedded calculations, live and intact.

BACKGROUND: VENTURA COUNTY ATTAINMENT STATUS

AFC Section 4.1.1.4.5 and Table 4.1-34 both state that Ventura County is unclassified for the federal particulate matter (PM10) standard and in attainment for the state PM10 standard. However, according to the Air Resources Board web site (accessed July 6, 2015) [<http://www.arb.ca.gov/regact/2013/area13/area13fro.pdf>], the entire South Central Coast Air Basin (including Ventura County) is in nonattainment for the state PM10 standard. These designations are current as of August 22, 2014. Note that the area is in attainment for lead (particulate) but not for PM10.

DATA REQUEST

3. Please review the current PM10 attainment status for Ventura County and update the information in AFC section 4.1.1.4.5 and Table 4.1-34.

BACKGROUND: CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) MITIGATION FOR NON-ATTAINMENT POLLUTANTS AND PRECURSORS

Because Ventura County is in nonattainment for both the state PM10 and state and federal ozone standards, staff's California Environmental Quality Act (CEQA) analysis will evaluate the significance of all nonattainment pollutant emissions and precursors (i.e. oxides of nitrogen [NOx], volatile organic compounds [VOCs]/ reactive organic compounds [ROCs], PM10, and sulfur oxides [SOx]). When giving credit for shutting

down existing sources, Energy Commission staff recommends CEQA mitigation measures if there would be impacts based on a net increase in actual nonattainment pollutant emissions based upon recent historical emissions, not the Potential to Emit (PTE). AFC Table 4.1-22 (using corrected numbering) compares the annual PTE for the proposed project, assuming a 28 percent annual capacity factor, against actual annual emissions reductions expected from the shut-down of Mandalay Generating Station (MGS), not maximum potential emissions as expressed by the PTE. This table indicates that P3 could increase annual emissions of NO_x, SO_x, (VOC)/ (ROC), CO and PM₁₀/PM_{2.5}.

The Applicant also states in AFC Section 4.1.5 that they “...will review options to mitigate the net emission increase for the other pollutants (notably ROC, PM₁₀, and PM_{2.5}), including funding the Carl Moyer Program or a similar emission reduction program specific to this project.” However, the applicant did not quantify any of these mitigation measures or provide any information concerning the likelihood of obtaining sufficient emissions reductions to fully mitigate potential project impacts.

DATA REQUESTS

4. Please identify the expected actual emissions from P3 using the average capacity factor expected from operations, especially for future years when P3 becomes operational through year 2030, with increased use of variable and intermittent renewable facilities supplying electricity to the California grid. For each pollutant, please provide the basis for the lb/MMBtu and lb/hr emissions rates in Table 4.1-18 (corrected) and the lbs/hr emissions rates in Table C-2.11. Also, please update net emissions table 4.1-22, or create a new table.
5. For all increases in emissions of nonattainment pollutants and their precursors, please identify and quantify a complete package of proposed mitigation measures.

BACKGROUND: FIRE WATER PUMP

The AFC states on Page 2-38 that repurposed electric fire pumps installed during the 1950s would be used to provide onsite fire protection and that they are served by two independent power feeds. It is unclear if the electric fire pumps would be able to provide fire protection during times of electric grid blackouts, especially considering their age. Staff is concerned that if this equipment is not able to provide adequate fire protection during electric grid black outs, alternative fire pump engines (e.g. natural gas or diesel fueled engines) would be needed and the potential emissions from these engines should be included in the AFC.

DATA REQUEST

6. Would the applicant consider using either natural gas or diesel fueled fire pump engines? If so, please quantify the emissions from these engines from readiness testing and maintenance and include emissions from this equipment in the air quality assessment.

BACKGROUND: CUMULATIVE AIR QUALITY IMPACTS

The AFC (Section 4.1.4.1.2 and Appendix C-7) describes a cumulative impact analysis, but only includes a list of 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). None of these sources were evaluated because their emissions are all less than 5 TPY of any pollutant. However, the impact from the nearby sources may not be reflected in the background ambient air quality data used for establishing baseline conditions because they were obtained from the Oxnard station located 7 miles from the project site.

DATA REQUESTS

7. Please provide a copy of the District's correspondence regarding existing and planned cumulative sources located within six miles of the P3 site.
8. Please provide the list of sources to be considered in the cumulative air quality impact analysis.
9. Please provide the cumulative modeling and impact analysis, including P3 and other identified existing (include SCE McGrath Peaker and the Mandalay Unit 3) and planned projects within 6 miles of the P3 site.

BACKGROUND: CONFIRMATION OF HEAT INPUT AND OPERATING PROFILE

Greenhouse Gas Emission Calculations Table C-2.16 for the existing Unit 3 gas turbine (GT) has an "Annual Fuel Use (MMBtu/yr)" of 90,450. However in the column titled "Operating Hours per Year", there is no value.

DATA REQUESTS

10. Please give all assumptions that were used to calculate the Annual Fuel Use (MMBtu/yr).
11. Please verify the megawatts (MW) in gross output for the existing Unit 3 GT.

BACKGROUND: THERMAL PLUME VELOCITY INPUT

Staff intends to perform an area-wide, cumulative vertical plume velocity modeling analysis for the new P3 gas turbine stack, the existing Unit 3 stack, the McGrath Peaker stack, and all associated sources of thermal plumes. Staff already has the information needed for P3's new GE 7HA.01 turbine stack, but requires corresponding information for the McGrath Peaker stack, the existing Unit 3 stack(s) and all associated, significant heat rejecting cooling systems to complete this analysis.

DATA REQUEST

12. For each vertical plume source identified in the background information above, please summarize the operating conditions including quantity of heat rejection, exhaust temperature, and exhaust velocity in separate plume source tables presented below. The additional data are necessary for staff to determine how the heat rejection load varies with local ambient conditions in order for staff to model each thermal plume. The ambient conditions included in these tables should

correspond to those in AFC Table C-5.2 (using corrected numbering) for the new GE 7HA.01 turbine stack. This table format can be used for stacks and other heat rejection equipment.

Parameter	Each Vertical Plume Source					
	Number of Cells/Stacks					
Cell/Stack Height						
Cell/Stack Diameter						
Ambient Temperature	38.9°F		77.8°F		85°F	
Ambient Relative Humidity	%		%		%	
Evaporative Cooling?	Yes	No	Yes	No	Yes	No
Number of Cells in Operation						
Heat Rejection (MW/hr)						
Exhaust Temperature (°F)						
Exhaust Velocity (ft/s)						
Exhaust Flow Rate (lb/hr)						

13. Please provide Universal Transverse Mercator (UTM) coordinates for each source, including P3, or provide relative distance from P3's stack for each vertical plume source.

Technical Area: Hazardous Materials
Author: Brett Fooks

BACKGROUND

Section 4.5.2.3.1 of the AFC states that the existing Mandalay Generating Station (MGS) ammonia storage tank will be reused for the proposed Puente Power Plant (P3). The AFC does not state the age or current condition of the existing aqueous ammonia tank. Staff needs to know the existing status of the tank to ascertain whether the existing tank meets current code.

DATA REQUEST

14. Please provide the current age of the existing tank along with a narrative demonstrating that the tank is compliant with API 620.
15. Please provide a narrative analysis that the existing tank's anchorage is compliant with the current seismic code.

BACKGROUND

Section 2.7.2.1.1 of the AFC states that the CTG generator will be hydrogen cooled while Table 4.5-3 states that the location of the 100-gallon hydrogen aboveground storage tank is to be determined.

DATA REQUEST

16. Please provide a narrative description of the location and the protection measures for the hydrogen aboveground storage tank.
17. Please provide a narrative description for how the hydrogen gas will either be created on site or delivered. If regular deliveries will be needed to refill the tank, what is the expected frequency?
18. Please confirm that the aboveground storage tank would store hydrogen cryogenically.

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

BACKGROUND: SENSITIVE RECEPTORS

The AFC and appendices provide some information on how the applicant conducted their health risk assessment. The potential impacts associated with toxic air emissions from the proposed power plant were addressed in a health risk assessment (Section 4.9 Public Health). This health risk assessment was prepared using guidelines developed by Office of Environmental Health Hazard Assessment (OEHHA) and California Air Resources Board (ARB), as implemented in the latest version of the HARP2 (Hotspots Analysis and Reporting Program, Version 2) model.

In the AFC's Appendix J, Offsite Sensitive Receptor Report Summary, there is a table listing the number of sensitive receptor sites within 6 miles of the proposed power plant, including day care centers, nursing homes, schools, hospitals, colleges and an arena. Figure 4.9-1 and Figure 4.9-2 are two maps presenting those sensitive receptors. However, staff was unable to align these sensitive receptors with discrete grid receptor numbers. Staff needs the input files which contain the information on grid identification numbers (or receptor numbers) and locations of both sensitive receptors and residential receptors to review and verify the applicant's health risk assessment.

DATA REQUEST

19. Please specify the HARP receptor number and Universal Transverse Mercator (UTM) coordinates for all receptors listed in Table 4.9-4 and Table 4.9-8.
20. Please specify the HARP receptor number and UTM coordinates for the 30 sensitive receptors listed on Figure 4.9-2.

BACKGROUND: HOTSPOTS ANALYSIS REPORTING PROGRAM VERSION 2 (HARP2):

The ARB updated its HARP model to HARP2 in March, 2015. The applicant's Health Risk Assessment (HRA) for both construction and operation was prepared using the updated HARP2. However, some detailed descriptions regarding the parameters used for the model were missing in Section 4.9 of the AFC.

DATA REQUEST

21. Please provide all the parameters in all the pathways, including inhalation, soil, fish, home-grown produce, mother's milk, and dermal absorption.
22. Please provide all other parameters used in HARP2.
23. Please provide all the output files (i.e. xxxOutput.txt).
24. Please provide all other related files to enable staff to replicate the health risk assessment.

Technical Area: Soil and Water Resources
Author: Marylou Taylor

BACKGROUND

Section 2.4 of the AFC states that groundwater was detected at approximately nine feet below ground surface (bgs) during a 2013 geotechnical investigation and historically has been reported as high as five feet bgs. Sections 2.8 and 4.15 of the AFC indicate that construction dewatering would be expected for a short duration to install the seven-foot deep foundations associated with the power block of the proposed P3. Section 4.2.2.6.1 identifies McGrath State Beach, which is the adjacent parcel to the north of the project site, as containing potential jurisdictional wetlands. Staff is concerned that if the adjacent wetlands are groundwater dependent, dewatering activities at the site could result in drawdown that could impact biological resources.

DATA REQUESTS

25. Please identify nearby wetlands and critical habitats located within a 2,000-foot radius of the proposed P3 site. Discuss whether groundwater under the proposed site contributes to replenishment of ground or surface water at the wetland areas, and whether proposed dewatering activities would adversely affect wetland areas by reducing the amount or levels of groundwater
26. Estimate the length of time dewatering activities are expected for excavation work, assuming a conservative groundwater depth of seven feet below ground surface.
27. Estimate the configuration of wells, rate of pumping, and the total volume of water pumped. Also calculate the radius of influence of pumping and estimated drawdown within the affected wetland.
28. Please provide a discussion of the aquifer parameters and data used to estimate pumping effects (radius of influence and drawdown) in item 27 above and why it is adequate for site characterization.
29. Discuss whether a site specific pump test should be conducted to verify any assumptions in the aquifer parameters used to estimate potential drawdown in the affected wetland.
30. Explain measures proposed to mitigate adverse environmental impacts, the effectiveness of the proposed measures, and any monitoring plans proposed to verify the effectiveness of the mitigation.

BACKGROUND

Section 4.15.2.2.1 of the AFC states that, due to previous operations by the former owner of MGS, groundwater beneath the southern portion of the MGS property may have elevated concentrations of arsenic, chromium, nickel, and vanadium. The P3 site is in the northern portion of the property, which is upgradient from the impacted groundwater. However, pipeline trenching is proposed in the southern portion of the MGS property, where potentially impacted groundwater could be present.

The applicant does not expect trenching activities to encounter impacted groundwater because the trenching depth (4 feet bgs) is expected to be above the groundwater level.

However unlikely, staff is concerned the presence of contamination in discharge from dewatering could require regulated treatment and/or disposal.

DATA REQUEST

31. Please discuss what steps would be taken to ensure contaminated groundwater is not present in discharges from dewatering where contaminated groundwater occurs. Also discuss how these actions comply with any applicable regulatory programs, including the Los Angeles Regional Water Quality Control Board.

BACKGROUND

Section 1.7 of the AFC states that decommissioning of MGS Units 1 and 2 would include the following elements: de-energize electrical equipment, remove gasses and oil from equipment, physically isolate equipment by disconnecting from piping systems or other means, and verify that all facilities are left in a safe condition. Section 4.5.1 states that hazardous materials typical of a natural-gas-fired power plant are currently used at the MGS facility and stored in aboveground storage tanks (ASTs), equipment, drums, and small containers. Decommissioning typically includes removing all liquids and chemicals from equipment, asbestos & lead abatement, remediation of potential impacts from polychlorinated biphenyls in spills and in building materials, and mercury containing device removal. Decommissioning typically includes removing all liquids and chemicals from equipment, asbestos and lead abatement, remediation of potential impacts from polychlorinated biphenyls in spills and in building materials, and mercury containing device removal. Staff presumes water would be used during decommissioning of MGS Units 1 and 2 to facilitate shut down for a clean and safe site. Staff is concerned the presence of contamination in water discharges could require regulated treatment and/or disposal. In addition, staff must analyze impacts of potential maximum water use.

DATA REQUESTS

32. Please discuss the decommissioning activities that would use water, the proposed water source, and the maximum amount anticipated per day, per month, and total.
33. Compare domestic use of potable water at MGS during normal operation and during decommissioning..
34. Describe how wastewater would be collected, stored, evaluated, and safely disposed.
35. Discuss potential impacts to soil and water resources due to soil disturbance and water runoff during decommissioning activities. Explain measures proposed to mitigate adverse environmental impacts.
36. Discuss proposed measures to prevent underground conduits (existing and proposed) from becoming potential pathways for subsurface discharge that could impact water resources.

BACKGROUND

Section 2.5 and Table 2.5-1 of the AFC identifies major MGS equipment and features to be repurposed for P3, which includes the administration building, warehouse building, and firewater pumps. The administration building would be upgraded to integrate

several standards of Leadership in Energy and Environmental Design (LEED). A portion of the warehouse would be reconfigured to add a control room, also incorporating LEED concepts, to service the proposed P3 facility. The two existing MGS firewater pumps would be retained, and each would have its own new power supply for purposes of emergency backup.

Existing Site Topography (Figure 2.4-2) suggests that the MGS administration and warehouse buildings are located at elevations slightly lower than the proposed P3 facility. In order to evaluate potential impacts due to flooding, staff needs elevation information of major features that could affect onsite safety if damaged by flood.

DATA REQUESTS

37. Please provide general information for the existing MGS administration and warehouse buildings such as:

- Number of floors and type of foundation (e.g. elevated on piles, slab on grade, slab on stem wall with fill);
- If building is elevated, provide general information about the area below the elevated floor (e.g. enclosed space has load-bearing walls, crawlspace with floor below grade); and,
- Descriptions of existing and/or proposed flood-proof features, if any (e.g. flood vents, breakaway walls).

38. Provide elevation of the lowest floor, including basement if applicable, of the existing MGS administration and warehouse buildings. For elevations, use Vertical Datum NAVD88 at the top of the flooring of the building's lowest story (the "lowest floor" as defined by FEMA's National Flood Insurance Program, 44 CFR Sec 59.1).

39. Provide elevation of the new power supplies for both existing firewater pumps. For elevations, use Vertical Datum NAVD88 at the top of the slab/foundation supporting each new power supply.

BACKGROUND

Table 4.15-3 of the AFC summarizes MGS Units 1 to 3 historical water use from and wastewater discharge to the Edison Canal, from 2010 through 2014. Given that Unit 3 will continue to operate after Units 1 and 2 are decommissioned, staff has identified a need to analyze potential impacts of the decreased flows expected in the Edison Canal. Although MGS Unit 3 is a gas combustion turbine unit that does not require condensing of steam, staff understands that Unit 3 uses water from Edison Canal in an auxiliary cooling water heat exchanger.

DATA REQUESTS

40. Please revise Table 4.15-3, or create a new table, with the following information:

- Distinguish historical water use and wastewater discharge between the steam turbines (Units 1 and 2) and the gas turbine (Unit 3); and
- Include corresponding capacity factors.

41. Estimate flow of the Edison Canal when MGS is producing power. Include maximum and typical flow rates and flow velocities. Provide flow meter location(s) and canal dimensions used for calculations.
- Compare to the flow rate and velocity when MGS is not producing power. If MGS maintains a minimum flow to circulate service water when not producing power, please describe.
 - Compare to the flow rate and velocity when only Unit 3 is in service (assume Units 1 and 2 are decommissioned). If Unit 3 is expected to maintain a minimum flow to circulate service water when not producing power, please describe.

Technical Area: Traffic and Transportation
Author: Andrea Koch

BACKGROUND: DELIVERIES

Table 2.9-2 on page 2-56 of the AFC includes a column called “Delivery Duration Months”..

DATA REQUEST

42. Please confirm if this column actually represents the construction month of delivery rather than the delivery duration in months.

BACKGROUND: PEAK CONSTRUCTION P.M. PEAK HOUR TRIPS

Page 4.12-7 of the AFC states that of the 90 peak-month construction workers, approximately 60 percent would leave during the 4 to 6 p.m. peak hours. Staff calculated that this would mean that approximately 54 peak month workers would depart during the p.m. peak hour. (Table 4.12-5 on page 4.12-22 of the AFC is consistent with this number.)

This conflicts with a statement further down the page that states: “Based on the assumptions and projected construction workforce, it is anticipated that during the peak construction month, the project would generate approximately...nine trips during the p.m. peak hour”.

DATA REQUEST

43. Please provide the correct information.

BACKGROUND: CONSTRUCTION WORKER DEPARTURE SAFETY

Figure 4.12-7 of the AFC, which shows project construction trip distribution, indicates that upon exiting the site, the majority of vehicles would turn left to travel northbound on Harbor Boulevard. This means that vehicles would have to turn across the southbound lane at an uncontrolled intersection. Staff has concerns about possible vehicular accidents resulting from this turn.

DATA REQUEST

44. Please explain what steps would be taken to reduce collision hazards at this location.
45. Please provide level of service information for the intersection at W. Fifth Street and Victoria Avenue, and for the road segment of Victoria Avenue between W. Fifth Street and Gonzales Road, to help staff assess the feasibility of a change in route for exiting vehicles, where exiting vehicles would turn right to travel southbound on Harbor Boulevard.

BACKGROUND: FAA NOTIFICATION

Pages 4.12-10 through 4.12-11 of the AFC state: “The Federal Aviation Administration (FAA) Regulations Part 77 establishes standards for determining obstructions in

navigation space and sets forth requirements for notification of proposed construction. These regulations require notification of any construction over 200 feet in height above ground level...The P3 stack would be 188 feet above the ground; therefore, the project would not have any structures tall enough to trigger the filing of Form 7460 (Notice of Proposed Construction or Alternation) with the FAA.”

While it is true that the project’s stack height is below the 200-foot notification threshold,, the stack height is above another threshold which requires the applicant to file a Form 7460 with the FAA. According to Title 14, Code of Federal Regulations, Section 77.13(2)(i), the FAA shall be notified of “any construction or alteration of greater height than an imaginary surface extending outward and upward at [a slope of] of 100 to 1 for a horizontal distance of 20,000 feet from the nearest point of the nearest runway of each airport...with at least one runway more than 3,200 feet in actual length...” Using the AFC’s statement that the Oxnard Airport is 1.8 miles from the project site, staff calculated that any stack higher than 95 feet requires FAA notification. This means that the project’s 188-foot-tall stack requires FAA notification.

Staff notes that the applicant stated in the AFC that they would be submitting Form 7460 to the FAA to determine the appropriate stack lighting for the project. By doing this, the applicant would also fulfill the FAA notification requirement.

DATA REQUEST

46. Please submit a copy of the submitted FAA Form 7460, as well as the FAA’s Determination (when available).

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

BACKGROUND

Section 4.16.6 of the AFC states that the existing MGS electric fire pumps will be reused to serve the new facility and the existing Unit 3. Because the Mandalay pumps will be reconfigured and will now serve a larger fire protection water system that includes the Mandalay and Puente projects, staff needs to know the specifications and current condition of the existing Mandalay electric fire pumps to understand that adequate reliability should be expected of the proposed reconfigured and combined fire protection system.

DATA REQUEST

47. Please provide a written narrative with the current age and condition of the existing electric pumps with an emphasis on their expected reliability and adequacy.