DOCKETED

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Description:	Data Request 1 through 63 for Palmdale Energy Project (PEP) PTA
Filer:	Eric Veerkamp
Organization:	California Energy Commission
Submitter Role:	Commission Staff
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October 30, 2015

Mr. Scott Galati
Galati Blek, LLP
555 Capitol Mall #600
Sacramento, CA 95814

Subject: PALMDALE ENERGY PROJECT (08-AFC-9C) - PETITION TO AMEND DATA REQUESTS - SET 1 (Nos. 1-63)

Dear Mr. Galati,

California Energy Commission (Energy Commission) staff has reviewed the Petition to Amend (PTA) for the Palmdale Energy Project and requires additional information to supplement the environmental analysis pursuant to Title 20, California Code of Regulations, Section 1769(a)(1)(E). Energy Commission staff seeks the information specified in the enclosed data requests. The information requested is necessary to: 1) more fully understand the proposed project changes; 2) assess whether the modified facility would be constructed and operated in compliance with applicable laws, ordinances, regulations, and standards; 3) assess whether the proposed project changes 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 modifications to approved mitigation measures.

This set of data requests (1-63) is being made in the areas of Air Quality and Greenhouse Gasses, Cultural Resources, Hazardous Materials Management, Public Health, Socioeconomics, Soil and Water Resources, Transmission System Engineering, and Worker Safety and Fire Protection. Written responses to the enclosed data requests are due to Energy Commission staff on or before November 30, 2015.

If you are unable to provide the information requested, need additional time, or object to providing the requested information, please send a written notice to the Committee and me within 20 days of receipt of this request. The notification must contain the reasons for the inability to provide the information, the grounds for any objections, or the reason additional time is needed.

If you have any questions regarding the enclosed data requests, please call me at (916) 654-4611, or email me at eric.veerkamp@energy.ca.gov.

Sincerely,

Eric Veerkamp
Compliance Project Manager

Enclosure: Data Requests

PALMDALE ENERGY PROJECT (08-AFC-9C)
Data Requests

Technical Area: Air Quality and Greenhouse Gasses
Author: Nancy Fletcher

The following data requests for the Palmdale Energy Project (PEP) address information needed by Energy Commission staff (staff) to complete the Air Quality Analysis. The City of Lancaster submitted separate data requests on October 20, 2015, some of which address information needs similar to those of staff. Staff reviewed the City of Lancaster's data requests to avoid duplication in this data request. Staff has different requirements to complete our analysis. The background information provided below as well as the information requested in each subject area will enable the applicant to provide a complete response to staff data needs.

PROJECT PERMITS: BACKGROUND

The proposed project amendment would require a new Determination of Compliance (DOC) from the Antelope Valley Air Quality Management District (AVAQMD or District). Once available, the DOC 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 on permit issues that may arise during the preparation of the Preliminary and Final Staff Assessments.

DATA REQUEST

1. Please provide copies of substantive District correspondence regarding the Palmdale Energy Project (PEP) within one week of submittal, receipt or reporting event. This includes all DOC preparation documents including emails and reports of conversation. This request is to remain in effect until the final Energy Commission Decision has been adopted.

EMISSION ESTIMATES: BACKGROUND

Appendix 4.1A (Calculation of Maximum Hourly, Daily and Annual Emissions) and Section 5.1E (Construction Emissions and Impact Analysis) for PEP are used to document emission calculations. Staff needs the original spreadsheet files of these emission calculations with live embedded formulas to complete their review.

Staff understands there may have been changes made to the project that may impact construction and operation emissions. For example, the project owner states recycled water from the Palmdale Water Reclamation Plant would be trucked to the project site until such time that the recycled water supply line is brought to the project's property line. It is unclear when this pipeline would be completed. Project emission calculations need to include emissions from the associated activities such as truck trips. Detailed emission spreadsheets are necessary for staff to ensure all project emissions are evaluated. Therefore, all spreadsheets provided should be updated to reflect current project proposals.

DATA REQUESTS

2. Please provide the spreadsheet version of Appendix 4.1A work sheets with live, embedded formulas.

3. Please provide the spreadsheets with supporting calculations for the Construction Emission Estimates presented in Appendix 4.1E. Please provide the spreadsheets with live embedded formulas and include any updates to the spreadsheets reflecting project changes.

4. Please update any other table or spreadsheet as needed to reflect project changes.

AMMONIA EMISSION ESTIMATES: BACKGROUND

Appendix 4.1A (Calculation of Maximum Hourly, Daily and Annual Emissions) for PEP includes tables used to calculate project emissions from the proposed turbines. The spreadsheets list ammonia emissions tied to specific events such as a cold startup, shutdown, etc.; however, the estimated annual emissions from the operation scenarios only include ammonia emissions from steady state operation even though each scenario includes events such as cold startups, warm startups, etc. Staff needs to understand why ammonia emissions are listed for startup and shutdown events but are not included in the annual calculations.

DATA REQUESTS

5. Please provide additional detail to explain the ammonia emission calculations from the turbines included in Appendix 4.1A.

6. Please revise data tables to include ammonia emissions from proposed startup and shutdown, and transient events if appropriate.

CONSTRUCTION IMPACT ANALYSIS: BACKGROUND

The proposed project amendment includes significant changes to the construction emissions. In addition, the area of the proposed site has been reduced from approximately 333 acres to 50 acres. Although this would reduce the emissions from some construction activities such as grading, the change in the site size could affect the construction impact analysis given the change in the fence lines. Also, much of the previous project site is now outside the amended project's boundary and its potential use is not known. Staff needs to understand what the construction impacts will be to this area as well as to the larger surrounding area. The applicant's preliminary assessment indicates that health-based ambient air quality standards would be exceeded either because of high background values or due to the combined effect of background, plus project construction impacts. The construction emissions need to be remodeled so that staff can understand the proposed project construction impacts.

DATA REQUESTS

7. Please provide a complete air quality impact analysis for the proposed PEP construction emissions including updated emission calculations and air quality modeling files and assumptions.

8. Please provide the construction modeling plot files detailing the fence line and offsite property air quality impacts to all property within six miles of the new project boundary.

CONSTRUCTION, COMMISSIONING AND OPERATION OVERLAP IMPACTS: BACKGROUND

Section 4.1.5 (Air Quality Impact Analysis) and Appendix 4.1E (Construction Emissions and Impact Analysis) discusses the impacts of construction, commissioning and operations. In order for staff to conduct a complete analysis, any potential impacts from overlap of these phases must be included.

DATA REQUESTS

9. Please provide detailed schedules for these phases and discuss any periods of overlap for construction, commissioning and operation of all equipment.

10. Please discuss all assumptions made in the air quality modeling assessment regarding simultaneous construction, commissioning or operation of all project equipment.

PROJECT EMERGENCY ENGINE: BACKGROUND

The proposed PEP includes a diesel-fueled emergency engine. Section 4.1.2.2 (Project Equipment Specifications) identifies the proposed engine as a Caterpillar or equivalent Tier 2 engine rated at 2011 brake horsepower (BHP). The specific engine was not identified; however, engine performance data was included in Appendix 4.1A, Attachment 4.1A-2 Parts 1 and 2 (Fire Pump and Emergency Generator Spec Sheets) for an identified representative engine rated at 1,853 BHP. Emission calculations included in Table 4.1-11 (Diesel Fire Pump and Generator Engine Emissions) were based off calculations included in Table 4.1A-5 (Emergency Gen Set Emissions Estimates). The spreadsheets list the emissions factors used for the engine emission calculations. These emission factors are different than the regulatory emission factors included in Attachment 4.1A-2 Parts 1 and 2. The source of the emissions factors is not clear and needs to be included to determine if they are representative of the proposed engine. In addition Tables 4.1-11 and 4.1A-5 specify the emission calculations, and the modeled emissions rates are based off of an assumption of 1 readiness test maximum per day lasting 0.5 hours per test.

Sections 4.1.4.2 (Proposed Best Available Control Technology) and Appendix 4.1F (Evaluation of Best Available Control Technology) conclude that a proposed Tier 2 emergency engine will meet current AVAQMD BACT requirements. The AVAQMD has currently not published their analysis of the equipment. In addition, other agencies and the Energy Commission are also required to review the proposed PEP. Per the California Environmental Quality Act (CEQA) the Energy Commission reviews the projects and requires mitigation for impacts. The proposed site for the PEP is considered nonattainment for both the federal and state ambient air quality standards for ozone (O_3) and nonattainment for state particulate matter less than 10 microns in size (PM10) ambient air quality standard therefore staff is reviewing all project components to determine appropriate mitigation.

The City of Lancaster has submitted separate data requests regarding the proposed emergency engine. Staff has not concluded that a Tier 4F engine is considered BACT for all pollutants; however, staff is requiring additional information on the emissions factors used to quantify emission from the proposed engine and the availability of cleaner engines.

DATA REQUESTS

11. What is the correct diesel-fueled emergency engine size in BHP?

12. Please provide a discussion on the selection of the emergency engine emission factors used to calculate project emissions and assess project impacts.

13. Please provide a discussion on the availability of cleaner burning emergency engines.

14. What is the basis for selecting 0.5 hours per readiness test?

15. Please provide verification that the engine operations during maintenance would be able to comply with a time restriction of 0.5 hours per readiness test.

GREENHOUSE GAS: BACKGROUND

The Energy Commission has adopted regulations that establish a standard for base load generation of 0.5 metric tonnes of carbon dioxide (CO_2) per megawatt hour (MWh) (equivalent to1100 pounds (lbs) CO_2/MWh) for base load generation owned by or under long-term contract to publicly owned utilities. Base load generation is defined as electricity generations from a power plant that is designed and intended to provide electricity at an annualized plant capacity factor of at least 60 percent. Compliance with the emission performance standard is determined by dividing the annual average CO_2 emissions by the annual average net electricity production in MWh.

DATA REQUEST

16. Please provide the detailed calculations and a discussion demonstrating compliance with Title 20: Division 2, California Code of Regulations, Chapter 2, Article 4, Section 1230 et. Seq.

GREENHOUSE GAS EMISSIONS: BACKGROUND

On August 3, 2015, the U.S. Environmental Protection Agency (EPA) administrator signed a notice and submitted it for publishing in the Federal Register. This notice was published in the Federal Register on October 23, 2015 and has an immediate effective date. It sets standards to limit emissions of carbon dioxide (CO_2) from new, modified and reconstructed power plants. The New Source Performance Standards Subpart TTTT-Standards of Performance for Greenhouse Gas Emissions for Electrical Generating Units (EGU) (Title 40, Code of Federal Regulations, Part 60.5508) are set under the authority of the Clean Air Act section 111(b) and are applicable to new fossil fuel-fired power plants commencing construction after January 8, 2014. Section 4.1.1 of the AFC stated the project is planning to operate as a base load power plant with an expected facility capacity factor of 60-80%.

According to Subpart TTTT, base load rating is defined as maximum amount of heat input that an EGU can combust on a steady state basis at ISO conditions. For stationary combustion turbines, base load rating includes the heat input from duct burners. Each EGU is subject to the standard if it burns more than 90% natural gas on a 12-month rolling basis, and if the EGU supplies more than the design efficiency times the potential electric output as net-electric sales on a 3 year rolling average basis. Affected EGUs supplying equal to or less than the design efficiency times the potential electric output as net electric sales on a 3 year rolling average basis is considered a non-base load unit and is subject to a heat input limit of 120 lbs CO_2/MMBtu. Each affected 'base load' EGU is subject to the gross energy output standard of 1,000 lbs of CO_2/MWh unless the Administrator approves the EGU being subject to a net energy output standard of 1,030 lbs CO_2/MWh.

DATA REQUESTS

17. Please provide detailed calculations demonstrating how the plant would comply with the Subpart TTTT requirement.

18. Please clearly indicate in the demonstration for any EGU potentially subject to the CO_2 energy output emission standard if the demonstration is based on gross energy output or if the facility will be seeking approval for the net energy output standard.

EMMISSION REDUCTION CREDITS: BACKGROUND

PEP would be located in Palmdale in northern Los Angeles County and in the AVAQMD within Mojave Desert air basin. AVAQMD is in non-attainment with the state and federal ambient air quality standards for O_3 and the state ambient air quality standard for PM10.

PEP would result in emissions that exceed AVAQMD offset triggers for PM10, volatile organic compounds (VOC), nitrogen oxide (NOx) and carbon monoxide (CO). AVAQMD rules require emissions reduction credits (ERCs) to offset the proposed emissions. The California Energy Commission requires mitigation for the emissions of pollutants and/or their precursors that cause significant impacts. Precursors of O_3 and PM10 include VOC, SOx and NOx.

Emission reduction credits (ERCs) would need to be acquired to satisfy AVAQMD laws ordinances, regulations, and standards (LORS) and mitigate the potential proposed project impacts. PEP is proposing to permit the facility for base load operations. However as stated in Section 4.1.3.2 (Facility Emissions), there is uncertainty if they will be able to acquire the necessary ERCs needed to mitigate the impacts of the proposed operations. Section 4.1.3.4 (Criteria Operations) further describes PEP's proposal to limit facility operations according to match a lower amount of mitigation and proposes the facility be given the ability to potentially increase operations incrementally as more credits are obtained. This stepped approach is not consistent with the AVAQMD permitting process or the Energy Commission licensing process. Projects are required to mitigate their potential impacts and an appropriate demonstration would be required during the licensing process prior to construction or operation.

In addition, the proposed PEP did not identify the specific ERCs that would be used as mitigation for the project. The Revised PTA stated that ERCs could be acquired through one or a combination of options. The options identified in the Amended AFC include: (1) ERCs from the AVAQMD ERC bank, (2) other air district ERC banks either within or outside the local air basin, (3) generation of ERCs through road paving and (4) inter-pollutant offsets. The specifics of which option(s) the applicant is planning to use for mitigation is not included in the Amended AFC. For example, the Amended AFC identified the entire AVAQMD registry as potential sources of ERCs. The registry lists ERCs that have been issued previously by the District. However, this does not mean the ERCs are available for purchase or use as mitigation. Staff needs to be able to review the specific ERCs proposed for mitigation in order to determine if potential impacts are appropriately mitigated under CEQA.

Appendix 4.1G (Offsets/Mitigations) identifies mitigation strategies that are not traditionally used to mitigate emission impacts. The proposed strategies need to be explicitly identified in order for staff and other agencies to determine the effectiveness of each proposal. For example the applicant is proposing to generate PM10 and PM10 precursor offsets, SOx, through paving unpaved roads. This mitigation strategy continues to be legally challenged in other air districts based on inadequate CEQA review. Appendix 4.1G (Offsets/Mitigation) Table 4.1G-2 Road Segments Considered for Paving (PM10 Reduction) lists road segments being considered. It is not clear if all the segments listed in the table are viable candidates for paving. Also, the specific methodology being proposed to quantify the emission reductions and generation of ERCs has not been provided. In addition AVAQMD Rule 1305 (Emission Offsets) states

any area and indirect source of actual emission reductions (AERs) must be approved prior to the issuance of any New Source Review (NSR) permit in concurrence with the California Air Resources Board (ARB). AVAQMD Rule 1309 (Emission Reduction Credits) contains standards for granting ERCs and addresses previously unpermitted emission units. The rule states that ERCs cannot be granted unless historical emissions from that unit are included in the District's emissions inventory.

In addition the PEP is proposing to use ozone precursor ERCs from other surrounding air districts either within or outside the local air basin to mitigate emission impacts. The proposal identified the San Joaquin Valley Unified Air Pollution Control District (SJVAPCD) as one of the potential sources of ERCs. The SJVAPCD ERC program uses a tracking system which annually demonstrates that its NSR program is equivalent to federal non-attainment NSR requirements. This includes provisions related to the emission offsets program. The SJVAPCD annually demonstrates the ERC program on a whole is as least as stringent as the federal requirements and the specific ERCs are not adjusted at the time of use. Generally ERCs proposed for use in the AVAQMD would be adjusted at the time of use to reflect any emission reductions in excess of Reasonably Available Control Technology (RACT). Questions remain as to how to handle the ERCs from SJVAPCD since they are adjusted on a programmatic basis. Use of these offsets for mitigation could be subject to review and approval from the ARB and EPA.

All ERCs used for mitigation need to be real, permanent, quantifiable, enforceable and surplus. ERCs proposed to mitigate the project for criteria pollutants or precursors in areas designated as non-attainment must meet the above criteria and must be approved by the appropriate agencies. The Amended AFC includes options for mitigation which would require AVAQMD board, state and federal approvals, as applicable. In addition, other air district's board approval maybe required if ERCs are acquired from air districts other than AVAQMD.

DATA REQUESTS

19. Please include a schedule specifying the steps that are being taken to identify and secure emission reduction credits to allow proposed operation. Please include in this discussion specific details on potential offset sources or other emission mitigation programs being pursued and the quantity of offsets being pursued. Include all agency approvals that would be needed and the timing of these approvals.

20. Please include details on when the applicant is expected to secure emission reductions for the proposed PEP.

21. Please provide the specific methodology proposed for calculating emission reduction credits from road paving and describe how that methodology is consistent with AVAQMD or other approving agency rules and regulations.

22. Please identify and update if applicable the specific road segments that are being proposed including the location and length of the segment proposed corresponding to each location.

23. Please provide current calculations quantifying vehicle miles traveled and calculations quantifying the expected emissions from the proposed roadway segments before and after paving.

24. Please include all supporting data and assumptions used in the emission calculations from the proposed road paving including current traffic counts, surface material silt content, and mean vehicle speed.

25. Please discuss ongoing maintenance that would be required for each roadway segment selected and discuss if the road segment would be maintained by the applicant or if agreements have been made to have maintenance performed by the state or local government agency.

26. Please provide details on the Antelope Valley emission inventory for unpaved road dust.

27. Please describe the entire CEQA environmental review that would be conducted for each roadway segment identified.

28. Please provide the distance of each proposed roadway segment to the proposed emission source.

29. Please provide any documentation from the approving agencies regarding the use and adjustment of ERCs from other air district ERC banks either within or outside the local air basin.

30. Please provide correspondence between the EPA, ARB, or AVAQMD regarding the use of ERCs for road paving for PEP

PALMDALE ENERGY PROJECT (08-AFC-9C)
Data Requests

Technical Area: Cultural Resources
Author: Matt Braun

BACKGROUND:

Staff cannot rely upon the record search summary prepared by the previous project owner for its analysis because the record search for the Palmdale Hybrid Power Project (PHPP) is out of date and does not conform to current Energy Commission information requirements. The previous project owner conducted a series of record searches at the South Central Coastal Information Center (SCCIC), the earliest of which was in June of 2007 and the most recent in February of 2009. In the absence of specific cultural resources information requirements for project amendments, staff relies on the cultural resources informational requirements for Applications for Certification (Title 20, Chapter 5, Article 6, Appendix B, (g)(2)) and per guidance from the State Office of Historic Preservation (OHP 1995:2). The information requirements in Appendix B state:

> (B) The results of a literature search to identify cultural resources within an area not less than a 1-mile radius around the project site and not less than one-quarter (0.25) mile on each side of the linear facilities. Identify any cultural resources listed pursuant to ordinance by a city or county, or recognized by any local historical or archaeological society or museum. Literature searches to identify the above cultural resources must be completed by, or under the direction of, individuals who meet the Secretary of the Interior's Professional Standards for the technical area addressed.
>
> Copies of California Department of Parks and Recreation (DPR) 523 forms (Title 14 CCR §4853) shall be provided for all cultural resources (ethnographic, architectural, historical, and archaeological) identified in the literature search as being 45 years or older or of exceptional importance as defined in the National Register Bulletin Guidelines, (36CFR60.4(g)). A copy of the USGS 7.5' quadrangle map of the literature search area delineating the areas of all past surveys and noting the California Historical Resources Information System (CHRIS) identifying number shall be provided. Copies also shall be provided of all technical reports whose survey coverage is wholly or partly within 0.25 miles of the area survey for the project under Section (g)(2)(C), or which report on any archaeological excavations or architectural surveys within the literature search area.
>
> (C) The results of new surveys or surveys less than 5 years old shall be provided if survey records of the area potentially affected by the project are more than five (5) years old. Surveys to identify new cultural resources must be completed by (or under the direction of) individuals

who meet the Secretary of the Interior's Professional Standards for the technical area addressed,

Staff does not think that a new pedestrian survey is necessary for this amendment, despite more than 5 years having passed, because the initial proceeding's geoarchaeological literature review and accompanying archaeological sensitivity analysis remains valid for predicting buried cultural resources. However, since the last record search, it is likely that additional cultural resource studies and findings were documented and evaluated in the record search area. This new information regarding off-site resources will provide staff with a more complete and comprehensive data set from which to draw conclusions regarding any impacts to potentially significant cultural resources that are found during project construction, as well to identify any potential impacts to newly recorded resources along the linear routes. Without current information, staff is hindered in conducting its cultural resources analysis of the PEP.

DATA REQUEST

31. Please conduct a records search at the South Central Coastal Information Center of the California Historical Resources Information System within an area not less than a 1-mile radius around the project site and not less than one-quarter (0.25) mile on each side of the linear facilities, and provide staff with the search results, following the requirements at Title 20, California Code of Regulations, Appendix B.

REFERENCES

OHP – Office of Historic Preservation. *Instructions for Recording Historical Resources*. March. Sacramento, CA: Office of Historic Preservation. Electronic document, http://ohp.parks.ca.gov/pages/1054/files/manual95.pdf, accessed October 13, 2015.

PALMDALE ENERGY PROJECT (08-AFC-9C)
Data Requests

Technical Area: Hazardous Materials
Author: Alvin Greenberg, Ph.D.

BACKGROUND

Staff has reviewed the Revised PTA and notes several differences between it and information provided by the owner in the initial proceedings (2008-2011), in the staff's original FSA (dated December 2010) and the Commission's Final Decision (dated August 2011). Staff requests clarification and additional information in order to properly assess the impacts of the hazardous materials proposed for use, storage, and transportation to the facility. A new Off-site Consequence Analysis (OCA) for the use and storage of 19 percent aqueous ammonia may be needed, a revised number and frequency of deliveries of tanker trucks containing aqueous ammonia is missing, and discrepancies regarding the identity and amounts of hazardous materials proposed for use at the site must be resolved.

The Revised PTA (July 2015) states that "an off-site consequence analysis will be performed to assess potential risks to off-site human populations if a spill [of aqueous ammonia] were to occur" (page 4.1-105). It is unclear if this statement is indicating that the past OCA prepared by the project owner and reviewed and approved by the staff in its FSA is obsolete. If it is, a new one must be prepared prior to staff's preparation of the PSA or FSA. If it remains accurate, a statement reflecting that fact is requested.

DATA REQUEST

32. Please provide either an updated revised OCA or a statement that the previous modeling provided by the applicant in the original proceedings remains accurate and thus no new OCA will be needed.

BACKGROUND

The number of deliveries of 19 percent aqueous ammonia is stated in the original AFC (Section 5.6.3.3), reiterated in staff's FSA (page 4.4-16), and included in the Final Decision (page 6.5-2). Fourteen tanker trucks delivering 8000 gallons each month would result in approximately 168 total tanker truck deliveries each year. The Revised PTA, however, is silent on any deviation from that figure despite there being a potential nominal increase in CT hours of operation.

DATA REQUEST

33. Please provide clarification on the number of aqueous ammonia tanker truck deliveries weekly and yearly or a statement that no change will occur.

BACKGROUND

In the Revised PTA, Appendix A, *Hazardous Materials Proposed for Use at the PEP*, has a number of differences from the approved project list. Specifically, 93 percent sulfuric acid is missing, hydrogen gas is absent, and eight Nalco water treatment chemicals are missing. The absence of sulfuric acid is important because the Revised PTA requests that 93 percent sulfuric acid remain in Condition of Certification **HAZ-9**, section 8 (Page 4.3-6 of the revised PTA) while proposing to remove another hazardous material that is no longer on the list.

DATA REQUEST

34. Please provide clarification (purpose, storage method, amount and concentration, etc.) on the proposed use of 93 percent sulfuric acid, hydrogen gas, and the eight Nalco water treatment chemicals.

PALMDALE ENERGY PROJECT (08-AFC-9C)
Data Requests

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

BACKGROUND- Health Risk Assessment (HRA) for Construction Phase

According to the Revised PTA, construction of the Project would take approximately 25 months. Temporary emissions from construction-related activities are discussed in Section 4.1, Air Quality and Appendix 4.1E. However, the applicant did not conduct a health risk assessment (HRA) for construction in the PTA assessing the potential risk to human health from the project's toxic air emissions (i.e. diesel particulate matter [DPM]) during the construction phase.

The applicant also did not conduct a HRA for construction phase for the approved Palmdale Hybrid Power Project (PHPP). In addition, in March 2015 Office of Environmental Health Hazard Association (OEHHA) approved a revision to the Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments. OEHHA developed age sensitivity factors (ASFs) to take into account the increased sensitivity to carcinogens during early-in-life exposure. This new methodology incorporates the fact that exposure varies among different age groups and exposure occurring in early life has a higher weighting factor.

Staff needs the applicant to conduct a HRA according to the new guidance manual.

DATA REQUESTS

35. Please conduct a HRA for the construction period to assess the potential risk to human health from the project's DPM using the Hotspots Analysis and Reporting Program version 2 (HARP2) and approved risk assessment health values.

36. Please provide a discussion of the potential health risks from DPM for the construction phase of this project, including the calculated risk values and their significance.

37. Please provide risk values of: (1) Point of Maximum Impact (PMI), (2) Maximally Exposed Individual Resident (MEIR) and (3) Maximally Exposed Individual Worker (MEIW) associated with construction activities.

BACKGROUND- HRA for Operation Phase

California Air Resource Board (ARB) also updated the HARP model to HARP2 in March, 2015. The applicant's HRA for operation was prepared using the updated HARP2. However, some detailed descriptions regarding the parameters used for the model were missing in Section 4.1.7 of the Revised PTA. Moreover, the Project HRA Summary of Table 4.1-44 only provides the risk values at the Point of Maximum Impact

(PMI), not values for the maximally exposed residence, off-site workers and the nearest sensitive receptors.

DATA REQUESTS

38. Please provide the risk values of Maximally Exposed Individual Resident (MEIR), Maximally Exposed Individual Worker (MEIW), and the nearest sensitive receptors associated with operation activities.

39. Please also specify their HARP2 receptor numbers.

40. Please provide all the parameters for all the pathways, including inhalation, soil, fish, home-grown produce, mother's milk, and dermal absorption.

41. Please provide all the output files (i.e. xxxOutput.txt).

42. Please provide all other related files to enable staff to replicate the health risk assessment.

BACKGROUND- Sensitive Receptors

The Revised PTA provides some information on sensitive receptors for this project. A partial list of the nearest sensitive receptors based upon receptor type is listed in Table 4.1-37. Also, Appendix 4.1D delineates data on population by census tract within a 6-mile radius of the site, as well as a comprehensive list of sensitive receptors analyzed in the HRA. However, staff was unable to identify these sensitive receptors from discrete grid receptors. Staff needs the input files which contain the information on grid identification numbers (or HARP2 receptor numbers) and locations of both sensitive receptors and residential receptors to review and verify the applicant's health risk assessment.

DATA REQUEST

43. Please specify the HARP2 receptor numbers for all receptors listed in Table 4.1-37 and Table 4.1-D2.

BACKROUND- KML File

In HARP2, after calculating risk results, the ***Export*** option allows users to export the risk values of each grid or receptor into a KML file. Then the KML file could be imported into Google Earth to see an aerial image of the grids/receptors. However, staff couldn't generate the KML file since the air dispersion modeling was done separately in AERMOD, not in HARP2.

DATA REQUEST

44. Please provide the exported risk data in KML format.

PALMDALE ENERGY PROJECT (08-AFC-9C)
Data Requests

Technical Area: Socioeconomics
Author: Ellen LeFevre and Lisa Worrall

BACKGROUND: Construction Workforce

Section 6.21 on page 6.2-1 of the PEP Revised PTA states that during construction, the project would have a monthly average workforce of 367 and peak workforce of 706. However, Table 5.11-12 in Appendix 6-B states that during construction, the project would have a monthly average workforce of 248 and a peak workforce of 544. Calculating the average and peak number of workers in the table yields an average of 268 and a peak of 544. Staff has the following request.

DATA REQUESTS

45. Please confirm the average number of monthly workers and peak workforce during the construction period.

46. Please provide the construction workforce by month during the 25-month construction period. If possible, please also present the construction workforce by trade (e.g. boilermaker, electrician) and month.

BACKGROUND: Construction Schedule

Section 2.1 on page 2-3 states that commercial operation of the modified project is planned for summer 2019/summer 2020. Construction is estimated to take 25 months (Section 6.2 Socioeconomics, pg. 6.2-1). There is no construction schedule in the PTA.

From the information above, staff calculates the earliest construction would begin is June 2017 (beginning of Quarter 3) and end June 2019. At the latest, staff calculated construction would begin in August 2018 (end of Quarter 3) and end August 2020. Staff uses construction scheduling information in the cumulative analysis for Socioeconomics and in communication with other agencies such as law enforcement. Other technical areas would also benefit from this information. Staff has the following request.

DATA REQUEST

47. Please confirm the construction schedule (start and end) estimated for the modified project.

PALMDALE ENERGY PROJECT (08-AFC-9C)
DATA REQUESTS

Technical Area: Soil and Water Resources
Authors: Christopher Dennis

BACKGROUND

The PEP states that recycled water from the Palmdale Water Reclamation Plant (WRP) would be trucked to the project site until such time that the recycled water supply line is brought to the project's property line. This information raises questions about delays in completion of the recycled water supply line, which may affect reliability of the water supply, traffic, and air quality. Staff is required to evaluate potential impacts related to the timing of recycled water service and alternative methods that may be used to deliver the water supply.

DATA REQUESTS

Please provide the following information for:

48. The recycled water delivery pipeline.
    a) Please provide a schedule for pipeline construction, preferred and alternate routes, and the expected completion date for each of the routes.
    b) When would the tertiary upgrades be made at Palmdale and Lancaster Water Reclamation Plants (WRP)? Please include the timing for completion in the schedule for recycled water delivery to the project.

49. Trucking recycled water to the project construction site.
    a) How many truckloads of secondary treated recycled wastewater would be delivered to the project site each day during construction on average and during peak activity?
    b) What size (gallons) of water trucks would be used to deliver the water?
    c) What are the preferred and alternate routes the water trucks would use to deliver the recycled water?
    d) Describe any on-site water storage tanks that would need to be constructed as part of the project to accommodate recycled water deliveries.

50. Trucking recycled water to the operating power plant.
    a) If the recycled water supply lines are not complete by the commercial operation date, how many truckloads of recycled water would be delivered to the power plant:
        i) per average day?
        ii) on a maximum day?
    b) What size (gallons) of water trucks would be used to deliver the water?
    c) Are the preferred and alternate routes that would be used by the water trucks to deliver the water the same routes that were used for construction? If not, please identify new routes.

d) Would any on-site water storage tanks need to be constructed as part of operation of the project to accommodate water deliveries?

BACKGROUND

As of the date of the Palmdale Hybrid Power Project (PHPP) Final Staff Assessment, Palmdale WRP was not permitted to provide recycled water for uses other than its effluent management site area or to its storage ponds. Revised Lahontan Regional Water Quality Control Board (RWQCB) Waste Discharge Requirements (WDRs) are required in order for the Palmdale WRP to provide recycled water to the power plant.

DATA REQUEST

51. Please discuss the schedule for revising Waste Discharge Requirements to be issued by the Lahonton (RWQCB) for the Palmdale WRP.

BACKGROUND

The PEP would change wastewater processing from a zero liquid discharge system to disposal of all wastewater to the city of Palmdale sewer pipeline. This pipeline connects to the Palmdale WRP operated by the Sanitation Districts of Los Angeles County. Staff must evaluate whether the wastewater quality and volume would affect the Palmdale WRP capacity and meet discharge requirements.

DATA REQUEST

52. Please provide the estimated annual volume of wastewater that would be disposed to the sewer and discuss whether the discharge would comply with the Palmdale WRP discharge requirements.

BACKGROUND

The PEP would be using up to 320 acre-feet per year of recycled water. A will-serve letter was given to PHPP by the Los Angeles County Waterworks Districts in January 2006. Since this time, additional contracts have been made for recycled water and a new joint-power authority has been formed (Palmdale Recycled Water Authority). Other changes since 2006 may also have occurred. These changes make the recycled water will-serve letter uncertain.

DATA REQUEST

53. Please provide a will-serve letter for the 320 acre-feet of recycled water supply.

BACKGROUND

The PEP would be using up to 3.6 acre-feet per year of potable water. A conditional will-serve letter was given to PHPP by the Los Angeles County Waterworks Districts in October 2007. This conditional will-serve letter is eight years old. The validity of this eight year old will-serve letter is uncertain.

DATA REQUEST

54. Please provide a will-serve letter for the annual 3.6 acre-feet of potable water.

PALMDALE ENERGY PROJECT (08-AFC-9C)
Data Requests

Technical Area: Transmission System Engineering
Authors: Laiping Ng

BACKGROUND

Provide a detailed description of the change in design, construction, and operation of any electric transmission facilities, such as generators, transformers, interconnection power lines, substations, switchyards, or other transmission equipment, which will be constructed or modified to transmit electrical power from the PEP to the SCE Vincent Substation.

DATA REQUESTS

55. Resubmit Figure 3-1a and Figure 3-1b.
    - Show bay arrangement of the necessary equipment which is required to interconnect the project.
    - Provide ratings of the breakers, disconnect switches, relays, buses, and etc.

56. Provide detail drawings for the take-off structures, pole and tower configurations which were required in interconnecting the transmission lines from the PHPP PTA to the Vincent Substation,

57. Provide a map showing the approved tie-line route and the proposed route only.

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

59. Provide the auxiliary load information.

60. Provide the California ISO Phase I and/or Phase II Interconnection Study of the proposed maximum output of 700 MW PEP or a study for the 130 MW net increase to the California ISO control grid. The Study should analyze the system impacts with and without the project during peak and off-peak system conditions, and demonstrate conformance or non-conformance with the utility reliability and planning criteria with the following provisions:
    a. Identify major assumptions in the base cases including imports to the system, major generation and load changes in the system and queue generation.
    b. Analyze the system for N-0, important N-1 and critical N-2 contingency conditions and provide a list of criteria violations in a table showing the loadings before and after adding the new generation.
    c. Analyze Short circuit duties.

d. Analyze system for Transient Stability and Post-transient voltage conditions under critical N-1 and N-2 contingencies, and provide related plots, switching data and a list for voltage violations in the studies.

e. Provide a list of contingencies evaluated for each study.

f. List mitigation measures considered and those selected for all criteria violations.

g. Provide electronic copies of *.sav and *.drw PSLF files.

h. Provide power flow diagrams (**MW, % loading & P. U. voltage**) for base cases with and without the project. Power flow diagrams must also be provided for all N-0, N-1 and N-2 studies where overloads or voltage violations appear. Provide the pre and post project diagrams only for an elements largest overload.

PALMDALE ENERGY PROJECT (08-AFC-9C)
Data Requests

Technical Area: Worker Safety and Fire Protection
Authors: Alvin Greenberg, Ph.D.

BACKGROUND

Staff has reviewed the Revised PTA (dated July 2015), the information provided by the applicant in the initial proceedings (2008-2011), staff's FSA (dated December 2010), and the Commission's Final Decision (dated August 2011). Due to recent events at other power plants licensed by the Energy Commission, staff requests clarification and additional information in order to properly assess the impacts on worker safety and the adequacy and ability to meet all LORS for fire protection systems.

DATA REQUESTS

61. Please provide an Operations Fire Prevention Plan that includes, among the other standard content, a Standard Operating Procedure (SOP) for investigating and assessing problems and/or failures of the fire suppression and detection systems and procedures to notify the LA County Fire Department (LACFD) and the Compliance Project Manager (CPM) of all fire suppression alarm trips and any impairment of a fire suppression system, planned and unplanned.

62. Please describe the backup water supply to the fire suppression system when the dedicated 200,000 gallon on-site reserve is exhausted. If the back-up supply is the potable water main from the LA county Waterworks District #40 pipeline, please describe the engineering system that will be used to connect to this source and the cross-connection prevention methods to be used.

63. Despite noting that some small evaporative coolers will use water (although not standing overnight), section 4.1.7.2.9 states that because the facility will use dry cooling, "Legionella is not an issue of concern" and thus "no mitigations are required at this time". Please justify this statement in light of the fact that any evaporative cooling system (including the ones proposed for the two CTs) no matter how small is susceptible to the growth of *Legionella pneumophila* unless proper precautions are taken which include and would be part of a cooling water management plan: the avoidance of stagnant water by automatic draining, low water operating temperature *(*rarely goes above 68°F), avoidance of corrosion and scaling, use of a biocide, no production of aerosols that could result in worker exposure, and proper maintenance of the units by qualified personnel.