Appendix C

Response to Comments

Responses to Public Comments

Final Determination of Compliance

Mariposa Energy Project

Bay Area Air Quality Management District
Application Number 20737

November 2010

The Bay Area Air Quality Management District (District) has received comments regarding the District's Preliminary Determination of Compliance (PDOC) for the proposed Mariposa Energy Project. The District has considered all comments that were submitted, and has made a final determination that the proposed project meets all applicable District Regulations as well as applicable state and federal regulatory requirements. The public comments received on the Preliminary Determination of Compliance are addressed below.

Table of Contents

I. PROCEDURES

Comment I.1. – Request for a Public Meeting
Commenters requested a public meeting as allowed by BAAQMD Regulation 2-2-405.

Response:
BAAQMD Regulation 2-2-405 allows a public meeting, but does not require one. The District has elected not to hold a public meeting. Many commenters who requested a public hearing also provided written comment on the substance of the project. Some comments pertained to the analysis in the PDOC, but it did not appear from these that live testimony was necessary to articulate the concerns raised. Other comments dealt with aspects of the project such as project siting that, while not unimportant, are beyond the scope of the District's review. Such comments are best addressed to the California Energy Commission (CEC). The CEC, which is the lead agency on this project, will hold public meetings that allow the public to provide comments on the proposed project. Members of the public who would like to provide additional input on the Mariposa Energy Project are encouraged to participate in the CEC licensing proceedings. To be advised of these meetings, commenters may sign up for notices of the CEC's meetings by signing up on the CEC's listserve for Mariposa at:

http://www.energy.ca.gov/listservers/index.html

Air District staff will attend and participate in the evidentiary hearing for the proposed project and concerned members of the public may comment at that time or during other CEC meetings for the project.

Comment I.2. – Public Comment Period
A commenter stated that the District did not provide the commenter a 30-day comment period. Commenter states this is a violation of state and federal law. Commenter states that the District is required to reopen the comment period and requests an additional 30-day comment period.

Response:
The District met or exceeded all of the public notice requirements of Regulation 2, Rule 2, Section 405 and Regulation 2, Rule 3, Section 404, including publishing in at least one newspaper of general circulation within the District a notice stating the preliminary decision, the location of the information available, and inviting written public comment for a 30-day period following the date of publication, sending written notice to ARB, the regional office of the EPA and adjacent districts, and providing notice to any person who requested such specific notification in writing.

Comment I.3. – Compliance with Regulations
A commenter stated that the FDOC as presented does not comply with all federal and state regulations.

Response:

The commenter failed to provide specific areas of the PDOC that do not comply with federal and state regulations. The District is not aware of any deficiencies that would make the PDOC not comply with federal and state regulations.

Comment I.4. – Warren-Alquist Act

The Air District received comments stating that the licensing authority of the CEC is subject to, and does not supersede, the District's authority over air quality regulations and the Clean Air Act. The comment claims that the District's authority for licensing and review of power plant operations is delegated by the United States Environmental Protection Agency (EPA) through the federal NSR and Title V provisions and in the EPA-approved State Implementation Plan (SIP), and that if CEC attempted to exercise authority over any provision required by the Clean Air Act or the District's Title V program, it would violate federal regulations, and lead to the loss of the District's authority for federal programs and to sanctions against the State and District. The comment further claims that various sections of the Health and Safety Code regarding injunctive relief and permit appeals show that California law supports the authority of air districts to prevent the construction and operation of a noncomplying source.

Response:

Through the Warren-Alquist Act, the California Legislature established a "one-stop" licensing process for power plant permitting. Commenters are incorrect in stating that the Warren-Alquist Act provides an exception for air quality permitting issues. The Warren-Alquist Act explicitly provides that the CEC license "shall supersede any applicable statute, ordinance, or regulation of any state, local, or regional agency . . ." (Cal. Pub. Util. Code § 25500) so as to streamline the licensing process by consolidating all applicable regulatory determinations in a single proceeding. It also grants the California Supreme Court sole jurisdiction to hear any legal challenge to the CEC's licensing decision (Cal. Pub. Util. Code § 25531 subd. (c)), thereby streamlining judicial review of power plant licenses. There is no indication that the Warren-Alquist Act was intended to work any differently with respect to air quality permitting.

Commenters also confuse the interplay between state and federal law with respect to air quality regulation. Both the states and the federal government each have their own separate authority for regulating air pollution. The federal Clean Air Act establishes a system of "cooperative federalism" whereby the states either create their own regulatory programs using their own authority and have the programs approved by EPA as satisfying the requirements of the Clean Air Act, or leave it to EPA to implement EPA's own federal regulations if the state does not create its own program. There is no inconsistency between the Warren-Alquist Act and approvability of California's air quality regulatory programs by EPA. EPA has approved of California's permitting programs, including provisions in air district rules, such as District Regulation 2, Rule 3, that defer to the "one-stop" licensing process established in the Warren-Alquist Act. EPA has never objected to the CEC's primacy in power plant permitting as being inconsistent in with the federal Clean Air Act. Through the CEC licensing process under the Warren-Alquist Act, all clean air regulations are applied to power plants.

II. PROJECT DESCRIPTION

Comment II.1 – Clarifications to Gas Turbine Output

- Section 1, Page 1, 3rd Paragraph, 2nd Sentence – Please correct the statement regarding the facility's electrical production "…, providing a power output from a low of 25 MW to a high of a nominal 200 MW (194 MW net at 59 F)." These values are referenced on Page 2-2 in Volume 1 of the Application for Certification. These corrections should also be made in Sections 3.2 of the PDOC.
- Section 1, Page 1, 3rd Paragraph, 5th Sentence – The turbines have a net rated generation rate of 48.5 MW and a nominal rated generation rate of 50 MW. Please correct the references to turbine production in Sections 3.6, 9 and 10 of the PDOC to reflect the nominal generation rate of 50 MW.

Response:
The District has no objection and will make the changes.

Comment II.2 – Corrections to Project Ownership
Section 1, Page 1, 4th Paragraph, 3rd and 4th Sentences – Please make the following edits to the statement regarding ownership: "The Mariposa Energy Project will be constructed, owned, and operated by Mariposa Energy LLC, which is owned by Diamond Generating Corporation, a wholly owned subsidiary of Mitsubishi Corporation." These corrections should also be made in Section 3.2 of the PDOC.

Response:
The correction has been made.

Comment II.3 – Correction to Dispatch Responsibility
Section 3.1, Page 3, 1st Paragraph, 4th Sentence – The MEP will be dispatched by Pacific Gas and Electric Company, not the California Independent System Operator. Suggest the following text "The Pacific Gas and Electric Company (PG&E), through dispatch orders from the California Independent System Operator (CAISO), would be responsible for dispatching the plant to meet electrical demand."

Response:
The correction has been made.

Comment II.4 – Correction to Pipeline Length
Section 3.1, Page 4, 1st Paragraph, 2nd Sentence – The MEP natural gas pipeline should be corrected to 580 feet in length.

Response:
The District will make the correction.

III. AIR QUALITY STANDARDS

Comment III.1 – Cumulative Impacts Analysis

A commenter stated that the project in combination with other projects that are being permitted or are already approved are further degrading air quality of San Joaquin Valley. Commenter summarizes proposed emissions from Marsh Landing Generating Station, Oakley Generating Station, Willow Pass Generating Station and estimates the emissions impact on the San Joaquin Valley. Commenters stated that the impact of these newly permitted facilities is in addition to the East Altamont Energy Center and the dormant Tesla Power Project. Comments stated that the District is aware that PM10 impacts in the project area are already of concern based on an increment consumption analysis prepared during the Tesla Project permitting.

Response:

The California Energy Commission (CEC) will prepare a cumulative impact analysis for the project area in the staff assessment for the project. The applicant has submitted such an analysis to the CEC that contains the East Altamont Facility. The CEC will evaluate the analysis in its Staff Assessment. A summary of the applicant's results is contained in the Applicant's Data Response Sets 1A and 1B, starting on page 11. The applicant has submitted the modeling files to CEC and has offered to provide them to others upon request. The document can be found at:
http://www.energy.ca.gov/sitingcases/mariposa/documents/applicant/2009-12-01_Data_Response_Sets_1A_and_1B.pdf.
All of the projects identified by the commenter will be required to meet all BAAQMD Regulatory requirements including offsets and BACT and CEC conditions of certification (if each project receives a license). The CEC will ensure that air quality impacts from each project are mitigated. The District would encourage the commenter to participate in the CEC licensing process for the proposed projects.

Regarding the increment consumption analysis prepared by the District for the Tesla Power Project, the Mariposa Energy project does not trigger PSD permit requirements and no increment consumption analysis is required. The CEC will perform modeling for PM10 and PM2.5 including a cumulative impact analysis. The commenter should comment on the particulate modeling contained in the CEC Staff Assessment for the project.

Commenters should also be aware that the Tesla Power Project no longer has a license from the CEC and will not be built. Also, the District Authority to Construct for the East Altamont Facility has been cancelled by the applicant.

Comment II.2 – Federal NO2 Standard

Commenters stated that the PDOC does not contain a demonstration of compliance with the new federal NO2 standard. A commenter states that the modeled emissions from the project during commissioning will violate the federal NO2 standard based on information contained in the Application for Certification submitted by the applicant to the California Energy Commission. A commenter stated that the PDOC must analyze this impact as

District regulations do not allow projects to exceed ambient air quality standards. Commenter stated the District should consider limiting the number of turbines operating simultaneously during commissioning mode. A commenter stated that the NO2 modeling was done assuming that the maximum hourly emissions of the turbines were 18.5 lb NOx/hr, but the limit is 21.276 lb NOx/hr.

Response:
EPA established a new hourly NO2 standard in 40 CFR 50.11, National primary and secondary ambient air quality standards for oxides of nitrogen (with nitrogen dioxide as the indicator), on February 2, 2010, effective April 12, 2010.

The details of the new standard are in Sections 50.11(b) and 50.11(f), which state:
(b) The level of the national primary 1-hour ambient air quality standard for oxides of nitrogen is 100 ppb, 1-hour average concentration, measured in the ambient air as nitrogen dioxide.

(f) The 1-hour primary standard is met when the three-year average of the annual 98th percentile of the daily maximum 1-hour average concentration is less than or equal to 100 ppb, as determined in accordance with Appendix S of this part for the 1-hour standard.

100 ppb is approximately 188 µg/m3 (micrograms per cubic meter).[1] The 98th percentile for each year is the 175th highest hour for that year.

In the applicant's original Application for Certification (AFC), submitted to the CEC on June 18, 2009, the applicant proposed a maximum of 235 µg/m3 after commissioning (page 5.1-27 of AFC). This was based on maximum emissions of 22.46 lb NOx/hr/turbine and 0.37 lb NOx/hr for the fire pump engine (page 5.1-26 of AFC).

The applicant re-submitted modeling results to the CEC using a maximum emission rate of 18.5 lb NOx/hr/turbine on March 22, 2010. The results were 147.4 µg/m3 for the 4 turbines combined and 186.7 µg/m3 for the 4 turbines and fire pump combined.

The District acknowledges that on page 60 in Section 5.7, the PDOC states that the maximum NOx emission rate per turbine would be 21.276 lb/hr. This emission rate is in error. The correct emission rate of 18.5 lb NOx/hr is found in Table 3 on page 17, on page 90 in permit condition 18, on page 107 in the Startup/Shutdown Emission Estimates per CTG Table, and on page 111.

The CEC published its Staff Assessment for the project on November 8, 2010, which discusses the NO2 modeling that was submitted by the applicant. CEC describes the modeling and presents a summary of the results starting on page 4.1-22 of the Staff Assessment.

The CEC will ensure that air quality impacts from each project are fully mitigated. The District notes that commissioning emission impacts mentioned by the commenter are

[1] *See* http://www.arb.ca.gov/research/aaqs/aaqs2.pdf.

temporary emission rates that will not result in ongoing exceedances of the federal NO2 standard. In addition, the applicant has decided to commission just one turbine at a time, so the maximum hourly NOx emissions during commissioning will not exceed 51 lb/hr and commissioning will not cause exceedances of the standard.

The District would encourage the commenter to participate in the CEC licensing process for the proposed project.

Comment III.3 – PM2.5

Commenter stated that the FDOC needs to address the applicability of new rules related to PM2.5 and compliance of the project with the new PM2.5 rules. Commenter stated that NOx, SOx, and ammonia are precursors for PM2.5 which must be analyzed in the FDOC. Another commenter noted that District is not in compliance with the federal 24 hour PM2.5 standard.

Response:

The Bay Area was recently designated as non-attainment for the national 24-hour fine particulate matter (PM2.5) standard and will be required to prepare a PM2.5 State Implementation Plan (SIP) pursuant to federal air quality guidelines by December 2012.

As stated in footnote 19 of the PDOC:

> "This facility is subject to BACT requirements for PM10 only. PM2.5, a subset of PM10, is regulated under federal requirements in 40 C.F.R. Section 52.21 (PSD) and 40 C.F.R. Part 51, Appendix S (Non-Attainment NSR). The facility is not subject to PSD or PM2.5 Non-Attainment NSR permit requirements under Section 52.21 or Appendix S because the facility is not a "major facility" for the purposes of these regulations. The District is therefore not conducting a PSD permitting analysis or an Appendix S permitting analysis for PM2.5. The District notes, however, that for combustion turbines essentially all of the PM emissions are less than one micron in diameter, so it is both PM10 and PM2.5. (*See* AP-42, Table 1.4-2, footnote c, 7/98 (available at http://www.epa.gov/ttnchie1/ap42/ch01/final/c01s04.pdf). Moreover, the same emissions control technologies that will be effective for PM10 for this facility will also be similarly effective for PM2.5. The District's BACT analysis and emissions limit for PM10 will also therefore effectively be a BACT limit on PM2.5 emissions as well, even though the facility is not subject to the federal PM2.5 BACT requirements."

The PDOC contains the required PM10 BACT analysis, NOx BACT analysis, POC BACT analysis, and SO2 BACT analysis. The permit conditions in the PDOC also limit the ammonia slip from the project to 5 ppm. The ammonia slip limit and the application of BACT for PM10, NOx, POC, and SOx will limit the directly emitted PM10 emissions as well as the PM10 precursor emissions.

The project is not subject to federal PSD permit requirements or Appendix S requirements that would require a separate PM2.5 analysis for the project. EPA has addressed the issue of regulating ammonia as a precursor to particulate matter in its recent $PM_{2.5}$ rulemaking. EPA established there that it presumes that ammonia is not a secondary particulate matter precursor and should not be included in the PSD BACT

analysis.[2,3] EPA did provide that states will have the discretion to include ammonia in particulate matter regulations when adopting their own SIP-approved NSR permitting programs, provided they can make a technical showing that ammonia will be a significant contributor to $PM_{2.5}$ concentrations. But until that time, while states are applying EPA's rules for particulate matter, EPA has established that ammonia is not to be included in the permitting analysis as a precursor to secondary PM formation. This is clear from the definition of "Regulated NSR Pollutant" in 40 C.F.R. Section 52.21(b)(50)(i), which includes several precursors but specifically excludes ammonia.[4]

The BAAQMD 2010 Clean Air Plan does consider ammonia to be a PM2.5 precursor for the Bay Area and in the future the District may implement specific regulatory requirements to minimize ammonia emissions from specific sources. However, in the San Joaquin Valley, the situation is different. The San Joaquin Valley Air Pollution Control District (SJVAPCD) 2008 PM2.5 plan[5] states that "Ammonia is abundant throughout the valley and does not act as a limiting precursor." The SJVAPCD 2008 PM2.5 plan also references a study called *Processes Influencing Secondary Aerosol Formation in the San Joaquin Valley During Winter* that states "The results indicate ammonium nitrate formation is ultimately controlled by NOx emission rates and the other species, including VOCs and background ozone, which control the rate of NOx oxidation in winter, rather than by ammonia emissions."[6] Based on the analysis in SJVAPCD 2008 PM2.5 plan, additional ammonia emissions should not significantly influence PM2.5 levels in the San Joaquin Valley.

Nonetheless, the PDOC prepared for the Mariposa Energy Project meets all current regulatory requirements to minimize direct PM emissions as well as precursor emissions.

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[2] See 40 CFR 52.21(b)(50)(i).

[3] See 73 Federal Register 28321-28350 (May 16, 2008).

[4] EPA has established the same situation for Non-Attainment NSR permitting under Appendix S during the transition period while states are developing their own $PM_{2.5}$ Non-Attainment NSR permitting programs. "Regulated NSR Pollutant" is similarly defined under Appendix S to exclude ammonia as a particulate matter precursor. (*See* 40 C.F.R. Part 51, Appendix S, § II.A.31.iii.) These regulatory definitions in EPA's rules governing its NSR program provide that ammonia should be excluded as a particulate matter precursor when these rules are used. These definitions contrast with the provisions for states to adopt their own SIP-approved Non-Attainment NSR and PSD programs, which allow for states to regulate ammonia as a particulate matter precursor if they can show that ammonia will significantly contribute to secondary PM formation. (*See* 40 C.F.R. 51.165(a)(1)(xxxvii)(C)(4) (providing that ammonia can be included as a precursor to secondary formation when states adopt their own permitting programs, upon sufficient showing).) These issues are discussed in more detail in EPA's preamble to its final rule, where EPA explains its intention that ammonia is not to be included in PSD permitting but can be included in states' own non-attainment NSR permit programs where appropriate. (*See* 73 Fed. Reg. 28321, 28330 & 28347-49 (May 16, 2008).)

[5] See San Joaquin Valley Air Pollution Control District *2008 PM2.5 Plan*, April 30, 2008, at p. 3-8 (available at: http://www.valleyair.org/air_quality_plans/AQ_Final_Adopted_PM25_2008.htm)

[6] See San Joaquin Valley Air Pollution Control District *2008 PM2.5 Plan*, April 30, 2008, at p. 3-10 and footnote 5 of *2008 PM2.5 Plan*.

IV. HEALTH

Comment IV.1 – Public Health

Commenters raised concerns about public health impacts, including cancer and non-cancer impacts, from the proposed Mariposa Energy Project, specifically about impacts to the community of Mountain House and to sensitive populations such as children and people with asthma. A commenter stated that local wind patterns would blow plant emissions to Mountain House. Commenters questioned how the impacts will be mitigated.

Response:

The District enforces stringent requirements regarding the assessment of health impacts associated with emissions from a proposed project. Such impacts can be assessed by completing a site-specific Air Quality Impact Analysis (AQIA) for criteria air pollutants (pollutants for which air quality standards have been established by State or federal agencies), and/or a Health Risk Screening Analysis (HRSA) for toxic air contaminants (pollutants for which air quality standards have generally not been established). These analyses involve estimating ambient air concentrations of emitted pollutants using air quality dispersion models. The requirements to complete these analyses are established in permit rules, and are based on whether the maximum allowable emissions from a project exceed specified thresholds.

For criteria air pollutants, the maximum allowable emissions of the Mariposa Energy Project are not high enough to trigger an air quality impact analysis under applicable permit rules. The District has therefore identified this as not being an applicable regulatory requirement. In their role in preparing environmental documentation as required by the California Environmental Quality Act (CEQA) for the Mariposa Energy Project, the California Energy Commission staff will complete an AQIA for criteria air pollutants. The CEC is required to provide feasible mitigation for any identified significant health impacts.

For toxic air contaminants, the maximum allowable emissions of the Mariposa Energy Project are above the District's stringent thresholds for an HRSA. As explained in the PDOC and in greater detail below, the District assessed the health risk associated with TAC emissions from the project and determined that the relevant emissions are within acceptable levels established in the District's Regulation 2, Rule 5, and it is unlikely that TAC emissions related to the proposed project would harm the surrounding populations.

The District prepared an HRSA for the proposed operation of a natural gas-fired power plant at Mariposa Energy Center. HRSAs are used to determine if emissions of particular chemicals pose a significant risk to human health, and determine realistic goals for reducing exposure to toxics so that there is no significant health threat to the public. The HRSA estimates the incremental health risk resulting from toxic air contaminant (TAC) emissions from routine operation of the proposed natural gas-fired power plant at this facility. The potential health impacts are expressed in terms of the incremental increase risk of contracting cancer by individuals who live or work near the proposed power plant.

The potential for non-cancer health effects is evaluated by comparing the long-term (chronic or annual), and short-term (acute or hourly) exposure levels to corresponding Reference Exposure Levels (RELs). A REL is a concentration level at or below which no adverse health effects are anticipated. RELs are designed to protect sensitive individuals within the population. Comparisons to RELs are made by determining the hazard quotient (HQ), which is the ratio of the estimated exposure level to the REL. The hazard index (HI) is the sum of the individual HQs for TACs identified as affecting the same target organ or organ systems (including asthma).

In accordance with Cal/EPA's Office of Environmental Health Hazard Assessment (OEHHA) Health Risk Assessment Guidelines, ambient air concentrations of TACs were predicted using the ISCST3 air dispersion computer model. The model uses information about the facility and the emission rates of TACs to estimate air concentrations expected at various locations around the site. The estimated air concentrations of TACs are used to calculate the possible cancer and non-cancer health risk that might be expected to arise from this exposure.

The potential cancer risk was calculated using standard risk assessment methodology. For nearby residents, they include the assumptions that potential exposures occur 24 hours per day, 350 days per year for a 70-year lifetime. Risk estimates for offsite workers assume potential exposure occurs 8 hours per day, 245 days per year, for 40 years. Cancer risk adjustment factors (CRAFs) are used to calculate all cancer risk estimates. The CRAFs are age-specific weighting factors used in calculating cancer risks from exposures of infants, children and adolescents, to reflect their anticipated special sensitivity to carcinogens. The cancer risk is based on the "best estimates" of plausible cancer potencies as determined by Cal/EPA's OEHHA. The actual cancer risk, which cannot be determined, may approach zero. This type of analysis is considered to be health-protective.

Based on results of the HRSA, the proposed operation of the natural gas-fired power plant would result in an increased maximum cancer risk of 0.3 chances in a million, and a non-cancer chronic hazard index of 0.015 for the nearest residences, located 0.5 mile from the facility. For the nearest offsite workers, located less than 0.1 mile from the facility, the maximum increased cancer risk is 1.3 chances in a million, and the maximum non-cancer chronic hazard index is 0.001. The maximum acute hazard index is estimated at 0.026. The maximum estimated health risks for residences living in the town of Mountain House, located more than 2.5 miles from the facility, is a cancer risk of 0.09 in a million, and a non-cancer chronic and acute hazard index of 0.001. The maximum health risk values identified in the HRSA (see Table 1 below) meet the criteria for acceptable levels established in the BAAQMD's Regulation 2, Rule 5. Therefore, it is unlikely that TAC emissions related to the proposed operation of a natural gas-fired power plant at Mariposa Energy Center would cause adverse health effects (including asthma) to the surrounding populations.

Table 1. Summary of HRSA Results

Receptor	*Cancer Risk*	*Non-cancer Hazard Index (HI)*	*Non-cancer Acute HI*
Resident (maximum)	0.3 in a million	0.015	NA
Resident (Mountain House)	0.09 in a million	0.001	0.001
Worker (maximum)	1.3 in a million	0.001	NA
Any (maximum)	NA	NA	0.026

Comment IV.2 – Health Impacts from PM

Comments ask how the health impacts from particulate matter emissions are calculated and represented in the health risk assessment. The District received comments suggesting that the District should consider fine particulate matter in its Health Risk Assessment. Another commenter stated that the short term maximum 1-hour impact for PM from the Tracy Peaker Plant is located 2.2 miles to the Southwest. The commenter stated that based on this information that the maximum 1-hour impact for PM from Mariposa Energy Plant would be near three nearby schools.

Response:

The District has considered adding fine particulate matter in our permitting procedures. In addition, OEHHA is planning to develop new procedures to address fine particulate matter and to incorporate them into its health risk assessment guidelines that are used by air districts. The District intends to participate in the public process to develop future updates to the risk assessment guidelines and procedures. These guidelines have not been developed at this stage, however, and so the Air District does not have the appropriate tools to include fine particulate matter in its formal Health Risk Assessment. The CEC will be required to address fine particulate matter impacts from the project in its staff assessment for the project. The commenters are encouraged to participate in the CEC licensing proceeding for the proposed project. The CEC staff assessment will have an air quality section that will quantify the particulate impacts due to the project.[7]

Comment IV.3 – Health Risk Screening Analysis

Appendix B: The Health Risk Screening Analysis states that meteorological data was not available. However, meteorological data that was used for the air dispersion modeling results was submitted to the District on June 16, 2009.

Response to Comment:

The meteorological data that was submitted to the District was data suitable for the AERMOD modeling program. ISCST3 was used for the Health Risk Screening Analysis. Since AERMOD inputs cannot be used in ISCST3, the District wrote that meteorological

[7] See *Mariposa Energy Project Staff Assessment* CEC 700-2010-017, California Energy Commission, November 2010, at Section 4.1 Air Quality. (Available at: http://energy.ca.gov/2010publications/CEC-700-2010-017/CEC-700-2010-017.PDF)

data was not available. ISCST3 is considered to be a conservative analysis. Since the analysis showed that the risks were acceptable, it was not necessary to use AERMOD.

V. OFFSETS

Comment V.1 – Offsets

Commenters stated the NOx offsets proposed to mitigate the project do not adequately mitigate impacts in the San Joaquin Valley. Commenter used findings by the CEC from the Tesla project to discount the ERCs used for the Mariposa project. Commenter provides estimates of emissions that are not fully mitigated in the San Joaquin Valley for NOx, CO, POC, PM-10, SOx, and ammonia. Another commenter discussed San Joaquin Valley Air Pollution Control District offset requirements that would require a higher offset ratio (1.5 to 1) and particulate offsets for the project. Comments state that emissions from the project would create a public nuisance to the residents of the San Joaquin Valley and violates BAAQMD Regulation 1, Section 301 and the California Health and Safety Code.

Response:

The proposed emissions for the Mariposa Energy Project are about:

POC:	5.7 tpy
NOx:	46.0 tpy
SO2:	2.9 tpy
PM10:	21.1 tpy
CO:	27.5 tpy

The thresholds at which the SJUAPCD would require offsets are:

POC:	10 tpy
NOx:	10 tpy
SO2:	27.37 tpy
PM10:	14.6 tpy
CO:	200 tpy

SJVAPCD would not require offsets for the VOC, SO2, or CO emissions. It would require offsets for particulate matter and NOx. The District acknowledges that the San Joaquin Valley Air Pollution offsetting requirements would be different for the proposed project if the project was located in their jurisdiction.

As discussed in Section 6 of the PDOC the offsets proposed by the applicant for the proposed project meet all BAAQMD regulatory requirements.

As the lead agency under the CEQA equivalent process used for power plant licensing, the CEC will be required to ensure that the mitigation for the proposed project is adequate to mitigate any potential project significant air quality impacts. In the CEC's Staff Assessment, the CEC is proposing that the applicant provide additional mitigation

to address air quality impacts in the San Joaquin Valley. In particular, the CEC is proposing to require offsets of POC, SO2, and PM10.[8]

Based on the District's analysis of the project and the mitigation measures, the District does not believe that the project will be a public nuisance to residents of the San Joaquin Valley or the Bay Area under District regulations or the California Health and Safety Code.

Comment V.2 – Control of Offsets
Section 6.5, Page 68, 2nd Paragraph, 1st Sentence - Diamond Generating Corporation is in possession of the valid emission reduction credits to offset the emission increases from the permitted sources for the Mariposa Energy Project. Please update the text and Tables 35 and 36, accordingly.

Response to Comment 13:
The discussion has been revised.

[8] See *Mariposa Energy Project Staff Assessment* CEC 700-2010-017, California Energy Commission, November 2010, AQ-SC7 at pp. 4.1-44 to 4.1-45. (Available at: http://energy.ca.gov/2010publications/CEC-700-2010-017/CEC-700-2010-017.PDF)

VI. BACT

A. BACT for PM10

Comment VI.A.1 – PM10 Emissions Limit

Comments state that the District chose the highest emission rate as BACT without ever analyzing how and if the facility can achieve the lowest achievable emission rate demonstrated by other facilities. Comments analyze PM10 source test results from PDOC and summarize high tests for each facility. Comments state that facilities use identical equipment, but for some facilities the maximum test result was less than the 2.5 lb per hour PM10 BACT limit. A commenter proposes that BACT should be between 2.0 and 2.3 lb per hour for PM10. A commenter states that District review of comparable permit limit omits two facilities (Hanford and Henrietta) with identical equipment that were permitted at 2.2 lb per hour for PM10. Commenter also states that Marsh Landing Generating Station has a PM10 permit limit that is lower on pound per MMbtu basis. Commenter states that the District needs to establish a lower emission limit for PM10 to comply with BACT requirements of District Regulation 2, Rule 2, Section 301.

Response:

The District has determined that the PM10 hourly numerical emissions limits that were included in the PDOC are not warranted under the BACT requirement. The District's BACT regulations require the District to implement BACT either as a control device or technique (Regulation 2-2-206.1 and 2-2-206.3) or as an emission limitation (Regulation 2-2-206.2 and 2-2-206.4), and do not require both types of BACT limits. The control techniques of using low-sulfur natural gas, good combustion practice, and high efficiency inlet air filters will fulfill the BACT requirement for PM in accordance with Regulations 2-2-206.1 and 2-2-206.3. The District has concluded that imposing a numerical emissions limit, in addition to requiring BACT technologies, would not be warranted given that there are no add-on control devices that the facility can use to control PM emissions. In a facility using good combustion practice, PM emissions will be determined by the amount of sulfur in the fuel and the way that the combustion equipment functions, which are factors that are not within the control of the operator. PM therefore presents a different situation than other pollutants such as NOx or CO where the project owner can design its add-on control systems to achieve the required level of emissions and ensure that it will comply with its emission limits by operating the add-on control systems properly. For these reasons, the District does not intend to include numerical hourly PM10 limits in the FDOC.

This BACT determination is consistent with guidance from the California Air Resources Board in setting BACT for natural gas-fired gas turbines.[9] This BACT determination is also consistent with District BACT Guideline 89.1.6, which specifies BACT for PM10 for combined-cycle gas turbines with rated output of > 40 MW as the exclusive use of

[9] Guidance for Power Plant Siting and Best Available Control Technology, California Air Resources Board, Stationary Source Division, September 1999, pg. 34.

clean-burning natural gas with a maximum sulfur content of < 1.0 grains per 100 scf.[10] These guidance documents do not suggest that a numerical emissions limit should be required as a BACT permit condition.

The District has reviewed the permit limits mentioned by the commenter and source test results for similar aeroderivitive turbines and the District agrees that emissions will most likely be below 2.2 lb/hour on average. The District is therefore proposing to base the annual emissions limit on this lower emission rate. The District will impose an annual limit of 18.6 tons PM10 per year. The facility will ensure compliance with the emissions limit by testing the emission rate for each turbine at least once per year. Given the high variability of the source tests results, the District is basing the emission factor on the average of the emissions rates observed during the 4 most recent source tests on that turbine (or, prior to the completion of 4 source tests on a turbine, on the average of the emission rates observed during all source tests on the turbine) (see Condition Part 20 for details).

Comment VI.A.2 – Inlet Air Filters and Lube Oil Coalescer

A commenter stated that the inlet air filters should be used to remove particulate matter from the combustion air stream, thereby reducing the amount of particulate matter emitted into the atmosphere and that a lube oil coalescer should be required to reduce emissions of oil mist.

Response:

The project will use high-efficiency inlet air filters and a lubrication oil system coalescing filter as required by the manufacturer.

Comment VI.A.3 – PM from Water Injection

A commenter stated that particulate emissions would be lower if a DLE (dry low-NOx) turbine were used instead of a water injection turbine because the dissolved solids in the water will contribute to particulate.

Response:

The CEC staff assessment and the applicant's Application for Certification state that the water that is used for water injection will be demineralized so that the dissolved solids are 5 parts per million. Water injection will not be a significant contributor to particulate emissions (less than 0.14 lb/hr).

B. BACT for NOx

Comment VI.B.1 – NOx Emissions Limit

Commenter states that by utilizing a turbine with a dry low NOx combustor that emissions from the turbine exhaust can be reduced from 25 ppm to 15 ppm. Commenter states that the SCR control efficiency is 90% and that the permit limit should be set at 1.5

[10] *See* Bay Area Air Quality Management District Best Available Control Technology (BACT) Guideline, § 1, Policy and Implementation Procedure, available at: http://hank.baaqmd.gov/pmt/bactworkbook/default.htm

to 2.3 ppm. Commenter states that the Riverside Energy Project has been permitted with a limit of 2.3 ppm.

Response:
As stated below in the response to Comment VI.C.1, "Gas Turbine Selection," there is no data or analysis that demonstrates the LM6000 PF with a turbine outlet emission rate of 15 ppm NOx could reliably meet a lower NOx permit limit.

The Riverside Energy Project does have a permit limit for similar equipment at 2.3 ppm NOx. At this time, this facility has completed construction and is finishing commissioning of the new gas turbine. The facility has not demonstrated compliance over a period of time with the 2.3 ppm NOx limit and this limit is not considered to be achieved in practice. Based on discussions with the SCAQMD permit staff, the 2.3 ppm NOx permit limit for the Riverside Energy Project was not imposed by the SCAQMD as a BACT permit limit[11], but was proposed by the applicant in part to reduce the amount of NOx offsets required for the facility[12].

The applicant provided information from a catalyst vendor to evaluate the cost effectiveness of a 2.3 ppm NOx limit for the Mariposa Energy Project.[13] The catalyst vendor estimates that the incremental cost difference for an SCR that could meet a 2.3 ppm NOx limit would be an additional $500,000 over a system that could meet a 2.5 ppm NOx limit. The additional catalyst volume would also add an additional back pressure (one inch water).[14] The applicant estimated the annualized costs at $106,000 with a potential NOx emission reduction of 0.7 tons per year. The corresponding incremental cost effectiveness was estimated at $151,000 tons per year. The District does not have a specific incremental cost effectiveness guideline, but the South Coast Air Quality Management District (SCAQMD) uses an average cost effectiveness value of $19,100 per ton of NOx controlled and an incremental cost effectiveness value of $57,200 per ton of NOx controlled.[15] The incremental cost for adding additional catalyst to meet a 2.3 ppm NOx permit limit exceeds the $57,200 cost threshold value used by the SCAQMD.

At this time adding additional catalyst to the SCR may be technologically feasible, but would increase the backpressure on the turbines which would reduce the efficiency and power output of the turbines. In addition, it is more difficult to maintain compliance with a low NOx limit averaged over 1 hour during periods of transient load. Transient load conditions and fast ramp rates are expected to become more common in the coming years as California moves to more renewable power generation. Renewable sources of

[11] South Coast Air Quality Management District Engineering Evaluation for the City of Riverside, Public Utilities Department, Application No. 481647, page 19, Table 16, "BACT Requirements for Simple Cycle Turbines".
[12] Id, page 22, Table 19, "NOx RTCs (Reclaim Trading Credits) Required.
[13] Letter dated October 19, 2010 from Jerry Salamy of CH2MHILL to Brenda Cabral of BAAQMD, See page 8.
[14] The turbine would be required to burn more fuel to overcome the additional backpressure, and this would result in lower turbine efficiency.
[15] South Coast Air Quality Management District BACT Guidelines, July 14, 2006, Table 4, pg. 29. The SCAMQD BACT Guidelines are available at: http://www.aqmd.gov/bact.

electrical power such as wind and solar are much more intermittent and uncertain that traditional power plants. Fossil fuel fired plants will be needed to fill in the gaps when the sun is not shining or the wind is not blowing, and they will be required to ramp up quickly when needed and then ramp back down when renewable sources come back on-line.[16] The uncertainty of whether a plant such as Mariposa Energy Project could meet a lower NOx limit and the high incremental cost effectiveness estimates do not justify mandating that the Mariposa Energy Project install additional catalyst to meet a 2.3 ppm NOx limit.

C. BACT for All Emissions

Comment VI.C.1 – Gas Turbine Selection

The District received comments that addressed the applicant's selection of the General Electric LM6000 PC turbine as the turbine model for the Mariposa Energy Project, including some comments that advocated alternatives to the LM6000 PC. One commenter submits information from the GE website regarding other LM6000 gas turbines including the LM6000 PF turbine and the LM6000 PG turbine. Another commenter states that there are numerous advantages to the new LM6000 models using dry low NOx combustors, including LM6000 PH, and that the new turbine technologies are technologically feasible, cost effective, and commercially available. Commenter also states that the LM6000 PF with dry low NOx combustors has a lower heat rate that could significantly reduce fuel consumption, criteria pollutant emissions, and greenhouse gas emissions. Commenter also states the project should have considered using the LM6000 PG which utilizes a high pressure turbine rotor. In addition, the District received comment that the PDOC's BACT analysis must consider turbines using dry low NOx combustors and the superior NOx reduction capability of such combustors. The District also received comments that the use of dry low NOx combustors would save water resources and the costs associated with a water treatment system and that the BACT analysis must consider the collateral impacts of additional water use. Finally, the District also received comment that stated it was contrary to law to allow the applicant to base its choice of turbine model for the project on confidential information in the applicant's power purchase agreement with PG&E, and stated that allowing the applicant to do so precluded comparison to other LM6000 models and negatively affects the PDOC's BACT determinations.

Response:

For the reasons in the PDOC for this project, the LM6000 PC emission rates of NOx, CO, POC, PM10, and SOx meet District BACT requirements, and the turbine models commenters propose as alternatives to the LM6000 PC do not alter the District's conclusion in this regard. Commenters propose as alternatives the LM6000 PF, LM6000 PG, and the LM6000 PH.

There is insufficient evidence to impose the LM6000 PF as BACT in favor of the LM6000 PC.

[16] Integration of Renewable Resources, Operational Requirements and Generation Fleet Capability at 20% RPS, August 31, 2010, California ISO, pg. iii.

The use of a turbine such as the LM6000 PF with a turbine outlet emission rate of 15 ppm NOx coupled with SCR to achieve a NOx emission rate below 2.5 ppm is not achieved in practice, may not be technically feasible, and would not be cost effective here, even if it were technically feasible.

The commenter has not provided any data or analysis that demonstrates the LM6000 PF with a turbine outlet emission rate of 15 ppm NOx could reliably meet a lower NOx permit limit, and if so, whether any additional emission reductions would be cost effective.

The method the commenters suggest of reducing NOx emissions to a rate below 2.5 ppm has not been achieved in practice. The District is unaware of any LM6000 PF gas turbines that have demonstrated compliance with a permit limit below 2.5 ppm NOx or that has CEM data demonstrating an emission rate below 2.5 ppm NOx for an extended period.

Also, the technical feasibility of reducing NOx emissions to a rate below 2.5 ppm using the LM6000 PF is uncertain. The assumption that the SCR will have the same 90% efficiency even though the outlet emission rate is lowered to 15 ppm (from 25 ppm) may not be correct. The SCR efficiency typically increases with a higher inlet concentration and decreases with lower inlet concentrations. At this time, there is no achieved in practice permit limit or emissions data from a LM6000 PF that supports a lower NOx permit limit.

In addition, even if it were technically feasible to do so, it would not be cost effective. The applicant provided information from GE that considered the additional capital costs associated with LM6000 PF. The cost is approximately 1.5 million dollars more for each gas turbine to install the dry low NOx combustors[17]. Even assuming, for the sake of conservatively analyzing cost, that the project's NOx emissions were entirely eliminated as a result, which of course would not happen, this corresponds to an approximate cost per ton of NOx controlled of $25,000/ton without considering any additional costs other than an annualized capital cost. This exceeds the District BACT cost effectiveness guideline of $17,500/ton of NOx controlled. The installation of the LM6000 PF is not considered cost effective for the Mariposa Energy Project.

The LM6000 PF is also capable of achieving the same emissions rates and therefore would be subject to the same BACT requirements. Thus, the BACT determination would be the same for either turbine, notwithstanding that mass emissions from the LM6000 PC will be slightly higher because of a higher heat rate.

Also, the District acknowledges that the heat rate of the LM6000 PC is nominally higher than the LM6000 PF gas turbine, at approximately 3.4% at ISO conditions (59 deg. F). This difference in heat rates means the LM6000 PC will burn slightly more fuel and will

[17] Letter dated October 19, 2010 from Jerry Salamy of CH2MHILL to Brenda Cabral of BAAQMD, See page 7.

have slightly higher greenhouse gas emission rates than the LM6000 PF. However, the nominal difference in efficiency and heat rate is not sufficient to eliminate the LM6000 PC from consideration for the Mariposa Energy Project. Moreover, as discussed in the PDOC, the LM6000 PF turbine does not meet the power requirements of the MEP.

The LM6000 PG turbine proposed for use by the Turlock Irrigation District Almond 2 Power Plant has a higher heat rate than the LM6000 PC (8,720 btu/KW-hr vs. 8,566 btu/KW-hr), therefore there is no advantage in efficiency or heat rate. The LM6000 PG turbine will also utilize water injection for NOx control. The permit limits for the Almond 2 Power Plant are equivalent or higher for all pollutants.[18] Thus, there would be no advantage in selecting the LM6000 PG turbine over the LM6000 PC turbine.

GE states in their press release on October 7, 2010,[19] that "The LM6000-PH, which is the dry low emissions equivalent of the PG, will begin first engine to test (FETT) qualifications in late 2010." GE also states that "The initial testing of the LM6000-PH is taking place at the GE facility in Evendale, Ohio." The LM6000-PH has therefore not yet been demonstrated in practice

The environmental impact that results from the proposed project's water use are not an element of BACT analysis. However, the CEC will evaluate any such impacts and the District would encourage the commenter to participate in the CEC licensing process.

Finally, the District disagrees that it is contrary to law to allow to the applicant to choose specific equipment to meet project requirements as specified in the Power Purchase agreement. The commenter does not explain what provision of law the commenter believes is violated by allowing the applicant to do so, and the District is unaware of any such provision.

In summary, the District has determined that the LM6000 PC gas turbine using water injection for NOx control meets the NOx BACT requirement. The consideration of the LM6000 PF, LM6000 PG, and LM6000 PH turbines does not establish a new BACT level for any pollutant and even to the extent the technology may be technologically feasible, it is not cost effective for reducing NOx emissions from the Mariposa Energy Project.

[18] Almond 2 Power Plant Project, Presiding Member's Proposed Decision, California Energy Commission, CEC-800-2010-018-PMPD, November 2010, See Conditions AQ-1 through AQ-95, available at: http://www.energy.ca.gov/sitingcases/almond/index.html

[19] See GE Energy Press Release " Major Milestones Reached for the Newest Versions of GE's LM6000 Aeroderivative Gas Turbines" October 7, 2010. (available at: http://www.gepower.com/about/press/en/2010_press/100710c.htm)

D. BACT for Startup

Comment VI.D.1 – Startup Emissions Limit

A commenter claimed that startup emissions would be lower from a DLE turbine (with dry low NOx combustors) compared with the LM6000 PC turbine proposed for Mariposa Energy Project since the NOx emissions from a DLE turbine (the LM6000 PF) at steady-state are lower than the water-injected LM6000 PC.

Response:

Commentator did not provide any basis to show that the LM6000 PF turbine will have lower startup and shutdown emissions than the LM6000 PC turbine. The turbine manufacturer, General Electric, stated that the emissions for startup and shutdown for both turbines are expected to be approximately equal.[20] Although the outlet emissions of the PF turbine is lower at baseload operating conditions, the PC turbine outlet emissions are generally the same or lower at reduced loads. Based on currently available information, there does not appear to be an advantage in selecting the PF turbine to reduce startup and shutdown emissions.

Comment VI.D.2 – Startup Duration Limit

A commenter stated that the startup duration is inappropriate since a proposed combined-cycle facility, Willow Pass Generating Station, has a shorter proposed startup time than the limit proposed for Mariposa Energy Project. Commenter references an article entitled, "Application of the Latest Aeroderivative Gas Turbine Technology" by Edward Wacekt, Warren Ferguson, *General Electric*, 2009, and states that the startup times can be improved from 10 minutes to 5 by properly maintaining the package purge requirements and by keeping the lube oil warm. Commenter states that these operational enhancements reduce startup and shutdown emissions for all pollutants.

Response:

With respect to the startup time limit, although the application for the Willow Pass Generating Station states startup will take 12 minutes, this facility has not been permitted and may not ultimately have a startup limit of 12 minutes. The District recently permitted another plant, Marsh Landing Generating Station, with the same gas turbines as proposed for Willow Pass, but in a simple-cycle configuration, and concluded a startup time limit of 30 minutes was appropriate to accommodate the emission control devices to reach operating temperature and to fully function.[21] The startup time limit of 30 minutes proposed for the Mariposa Energy Project is consistent with this limit.

The District reviewed the article and agrees that the authors state, "Also to support quick and frequent starts/stops, the LM6000 standard 10 minutes start time can be improved to just 5 minutes. The 10-min start is outlined in Figure 3, and shows the sequence that includes purge time, warm-up time, and finally gas turbine ramp time. By properly maintaining the package purge requirements, and by keeping the lube oil 'warm',

[20] See notes for telephone conversation between Weyman Lee, BAAQMD and Scott Dayer, GE, on November 16, 2010.

[21] See Marsh Landing Generating Station Final Determination of Compliance, June 2010, at p. 52.

approximately 2 minutes can be removed from the 10-min start sequence. Then the gas turbine acceleration rate to full load can be increased from 12MW/min to 50MW/min, reducing the time from sync idle to full load from 4 minutes down to approximately 1 minute. This reduced start time greatly enhances the LM6000's ability to get online quickly to support a reduction in load from the wind farm due to sudden changes in wind conditions."

The District would note that the authors did not make any statements regarding the emission reductions possible by reducing the startup time to full load for the gas turbine. The District would also note that the SCR will still need time to reach operating temperature, start injecting ammonia, saturate the catalyst with ammonia, and stabilize the NOx CEM readings. The District is interested in the approach discussed in this article to reduce the duration of startup time, but would also note that the implementation of the approach would require increasing the ramp rate of the gas turbine dramatically and this can cause additional maintenance requirements and potentially reduce equipment life. In addition, the authors do not provide any operational experience for any facilities consistently meeting a 5 minute start sequence (turbine start to full load).

The District discussed why a 30 minute startup period is appropriate for the Mariposa Energy project on pg. 59 of the PDOC. The District reviewed and considered the discussion contained in the article referenced by the commenter of potentially reducing startup times for LM6000 gas turbines. After considering all of the available information the District has determined that a 30 minute startup time is still an appropriate permit limit for the Mariposa Energy Project.

VII. AMMONIA

Comment VII.1 – Ammonia and Secondary PM

Commenters stated that the District had mistakenly concluded that ammonia emissions would not contribute to formation of secondary particulate in the San Joaquin Valley Air Pollution Control District.

Response:

Ammonia slip occurs as a result of the use of selective catalytic reduction (SCR) that achieves significant reductions of NO_x emissions. This technology has an inherent trade-off between NO_x and ammonia emissions. An optimal level trade-off is sought to balance $PM_{2.5}$ and ozone impacts. District modeling efforts have indicated that allowing 5 ppm ammonia slip provides a reasonable trade-off between NO_x and ammonia emissions.

$PM_{2.5}$ impacts

The BAAQMD draft $PM_{2.5}$ report concludes that ammonia emissions contribute more strongly to $PM_{2.5}$ formation than other types of precursor emissions, including NO_x. Because ammonia is an important $PM_{2.5}$ precursor, the proposed permitted level of ammonia slip is set as low as is reasonably technically achievable (5 ppm) to mitigate significant $PM_{2.5}$ formation. This low permitted level of ammonia slip reflects the District's efforts to control ammonia emissions. For example, the proposed 5 ppm ammonia slip for the Mariposa Energy Center is lower than 10-15 ppm ammonia slip historically permitted for similar gas-fired facilities. District modeling efforts have shown that allowing 5 ppm ammonia slip under worse-case meteorological conditions would not contribute to significant $PM_{2.5}$ buildup within the Bay Area or Central Valley. These modeling efforts have additionally shown that the reductions in NOx emissions associated with the SCR operating at 5 ppm ammonia slip will significantly benefit regional air quality as compared to allowing uncontrolled NO_x emissions from the Mariposa Energy Center.

Seasonality plays a very important role in balancing the trade-offs between $PM_{2.5}$ and ozone information. Ammonium nitrate $PM_{2.5}$ accumulates to elevated levels only during the cooler winter months when the compound is stable as a solid. (Ammonium nitrate $PM_{2.5}$ dissociates at higher temperatures and therefore generally does not accumulate to elevated levels outside of the winter season.) During winter season $PM_{2.5}$ episodes, the Central Valley is almost always upwind of the Bay Area. (Air flows are predominately from east to west through the mountain passes connecting the Bay Area and the Central Valley.) Therefore, during the winter season when $PM_{2.5}$ may accumulate to harmful levels, the Mariposa Energy Center would be downwind of the Central Valley. As such, ammonia emissions from this facility would be unlikely to significantly impact Central Valley air quality.

Ozone impacts

Ozone build up to harmful levels occurs almost exclusively during the summer season. During the summer months, the Central Valley is almost always downwind of the Bay Area. (Air flows are predominately from west to east through the mountain passes connecting the Bay Area and the Central Valley.) It is during these months that the Mariposa Energy Center emissions would be most likely to be transported into the Central Valley. As stated previously, ammonium nitrate $PM_{2.5}$ does not build to high levels during the warm summer season. Therefore, ammonia emissions being transported into the Central Valley during the summer would not likely contribute to significant air pollutant (i.e. ammonium nitrate $PM_{2.5}$) formation. On the other hand, emissions of NOx during the summer months may lead to significant ozone formation. For this reason, the facility is proposed to operate with SCR technology to achieve significant reductions of NO_x emissions. Further increasing the level of ammonia slip beyond 5 ppm to achieve greater levels of NO_x reduction was not determined to be cost-effective. Such excess ammonia slip (e.g. 10-15 ppm) in some cases produced significant amounts of winter $PM_{2.5}$ within the Bay Area without achieving significant further NO_x reductions leading to reduced ozone formation.

Comment VII.2 – Ammonia and Nitrogen Deposition

A commenter stated that the District ignored the potential collateral impact from ammonia slip of nitrogen deposition. The commenter states that nitrogen deposition is the input of nitrogen oxide (NOx) and ammonia (NH3) derived pollutants from the atmosphere to the biosphere, and that mechanisms by which nitrogen deposition can lead to impacts on sensitive species include direct toxicity, changes in species composition among native plants, and enhancement of invasive species. The commenter goes on to state that the project area is home to many endangered species including the red legged frog and tiger salamander among others,[22] and that ammonia emissions from power plants are a larger contributor to nitrogen deposition than the projects NOx emissions.

Response:
A project subject to PSD may require a nitrogen deposition analysis as part of the soil and vegetation impact analysis depending on project location.[23] The District is not required to perform an analysis of nitrogen deposition for the Mariposa Energy Project because the facility is not subject to the Prevention of Significant Deterioration, since it will not be a major stationary source as defined by 40 CFR 52.21(b)(1)(i).

The CEC may consider nitrogen deposition. Commenters are encouraged to submit comments to CEC, the lead agency on this project, on nitrogen deposition.

Comment VII.2 – Ammonia versus Urea
A commenter stated the District should consider the use of a product called NOxOUT ULTRA™ that utilizes urea and converts it to ammonia just prior to injection into the SCR to avoid risks from the transportation and storage of ammonia.

[22] http://www.energy.ca.gov/sitingcases/mariposa/documents/others/2010-04-20_DOD_Letter_to_US_Fish+Wildlife_Services_Re_Consultation._TN-56408.pdf
[23] *See* 40 CFR 52.21(o) (Additional Impact Analyses)

Response:
The CEC will evaluate the risks from the use of ammonia transport and storage in the staff assessment prepared for the project. Ammonia is a chemical widely used in many industries including at power plants abated by SCR. Anhydrous (gaseous) ammonia stored in pressurized tanks is much more of a safety concern than the aqueous ammonia (19% by weight) proposed for use at the Mariposa Energy Project. EPA does not require accidental release plans for aqueous ammonia unless the concentration is more than 20% by weight.[24] Storage of 500 pounds of ammonia in any form is regulated by the State of California in CCR Title 19, Div. 2, Chapter 4.5.

The Air District is aware of the NOxOUT ULTRA™ technology. The CEC will require the facility to adequately address any potential impacts from the use of aqueous ammonia at the facility in the staff assessment for the project. Given the relatively low risk of accidental releases and the additional safeguards provided by the measures required by the CEC, the District has concluded that the potential for impacts from the use of ammonia in the SCR system is not significant enough to reject SCR using aqueous ammonia as a control alternative. For the same reasons, the risk is not significant enough to require the facility to avoid using aqueous ammonia by using NOxOUT ULTRA™ instead.

[24] See 40 CFR 98.130

VIII. POWER GENERATION EQUIPMENT

Comment VIII.1 – Simple-cycle versus Combined-Cycle Turbines

Commenter states that simple cycle turbines are less efficient than fast start combined cycle designs and that this has permitting implications. Commenter states simple cycle turbines emit higher GHG emissions per MW, have higher criteria air pollutants per MW, and use more fuel per MW. Commenter states it is no longer necessary to sacrifice efficiency for shorter startup times.

Response:

The District agrees that combined-cycle plants are more efficient and emit less per MW than simple-cycle plants. However, peaker plants are not operated for long periods so their less-efficient design is not as great a concern. The fast-start plant that the commenter is referring to is the proposed Willow Pass Generating Station which would use large F-Class turbines (190 MW each) with steam turbines (60 MW each).[25] This equipment would be more efficient than a simple-cycle gas turbine when the heat in the gas turbine exhaust is recovered and the steam turbine is utilized. However, the units proposed for Willow Pass are not capable of operating at loads[26] as low as those proposed for the Mariposa Energy Center. The gas turbines proposed for the Mariposa Energy Project are significantly smaller at nominally 50 MW with the ability to operate at a minimum load of 25 MW.

In determining the Best Available Control Technology for a proposed facility, the Air District cannot require modifications that would alter the project's fundamental scope.[27] The design element of a high turndown capability at the proposed Mariposa Energy Project cannot, at this time, be achieved with the use of a fast-start combined-cycle plant. To require the use of a fast-start combined-cycle plant would not satisfy the facility's purpose of supplying a minimum of 25 MW.[28]

Comment VIII.2 – Inlet Air Cooling

Commenter provides information regarding various options available for cooling the inlet air to the turbine to increase power output on hot days. Commenter provides information on a refrigerated inlet chiller available for the LM6000.

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[25] See Willow Pass Application for Certification Table 2.5-2 at p. 2-41 http://www.energy.ca.gov/sitingcases/willowpass/documents/applicant/afc/Volume_01/2.0%20Project%20Description.pdf

[26] See Willow Pass Application for Certification at p. 2-4 (turndown capability of 60% of gas turbine full load, which is approximately 114 MW) http://www.energy.ca.gov/sitingcases/willowpass/documents/applicant/afc/Volume_01/2.0%20Project%20Description.pdf

[27] *See generally* NSR Workshop Manual at p. B.13; *In re Prairie State Generating Co.*, *supra* note 6, slip op. at 32; *In re Kendall New Century Dev.*, *supra* note 6, 11 E.A.D. at pp. 50-52 & n. 14; *In re Hillman Power Co.*, 10 E.A.D. 673, 691-92 (EAB 2002); *In re Knauf Fiber Glass, GmbH*, 8 E.A.D. 121, 136 (EAB 1999); after remand, 9 E.A.D. 1, 31-33 (EAB 2000); *In re SEI Birchwood, Inc.*, 5 E.A.D. 25, 29-30 n.8 (EAB 1994); *In re Hawaii Commercial & Sugar Co.*, 4 E.A.D. 95, 99-100 (EAB 1992); *In re Old Dominion Elec. Coop.*, 3 E.A.D. 779, 793 n. 38 (Adm'r 1992).

[28] See Mariposa Energy Project Application for Certification, Volume 1, Page 2-32, June 28, 2009.

Response:
The comment concerns changes that may or may not improve the power output or efficiency of the facility, considering parasitic loads. The District evaluates compliance with air quality regulations. The efficiency of the facility is not within the District's purview. CEC has provided an analysis of power plant efficiency in Section 5.4 of its Staff Assessment.[29]

[29] See *Mariposa Energy Project Staff Assessment* CEC 700-2010-017, California Energy Commission, November 2010, at Section 4.1 Air Quality. (Available at: http://energy.ca.gov/2010publications/CEC-700-2010-017/CEC-700-2010-017.PDF)

IX. EMISSIONS

Comment IX.1 – Commissioning

Section 4.3.3, Page 17, 1st Paragraph, 2nd Sentence – Mariposa Energy will not be conducting more than one phase of commissioning per day for each of the turbines. Therefore, Mariposa Energy suggests the following change to the text "Because Mariposa Energy will only conduct one phase of commissioning per turbine per day, the following commissioning emission estimates for each turbine are based on the maximum daily emissions from 4 hours of gas turbine testing at 10% load, 8 hours of Pre-Catalyst Initial tuning at 100% load or 8 hours of Post-Catalyst tuning at 100% load."

The hourly and daily estimates of emissions should be calculated assuming that only one turbine will be commissioned on any day, and that only one type of commissioning activity (initial load testing, pre-catalyst tuning, and post-catalyst tuning) will be performed per day.

Response:

The District understands that Mariposa Energy is agreeing to perform commissioning activities on only one turbine per day and that only one of the activities will occur per day. The maximum hourly emissions will be:

NOx	51
CO	45
POC	4.48
SOX	10.8
PM10	2.5

and the turbines will be commissioned for no more than 8 hours per day. The discussion has been revised to show that the hourly and daily emissions will be lower. Part 9 of the condition has also been revised to require lower hourly and daily emissions.

Comment IX.2 – SOx

The District received comment that the emission rates (lb/hr) for SOx on Section 4.1.3, Page 17, Table 6 should be revised to reflect 1.0 grain of sulfur per 100 dry standard cubic feet of natural gas to be consistent with the assumptions used for the steady state operations. This revision should also be incorporated in Tables 7, 33, 34, and Appendix A.

Response:

The corrections have been made.

Comment IX.3 – Fire Pump Diesel Engine

Section 4.1.4, Page 21, Tables 8 and 9 – These tables present the California Air Resources Board (ARB) certified engine emission rates for the fire pump engine but do not reflect the engine manufacturer's lower emission rates (Document 2 of the May 26, 2010 email materials on your website). Furthermore, the project will be mandated to use ARB compliant ultra-low sulfur diesel fuel (i.e., 15 ppm sulfur). Therefore, Mariposa

Energy proposes the use of the engine manufacturer's emission factors for 15 ppm sulfur diesel fuel.

Response:
It is the District's policy to use the emission factors in the CARB certification, unless some refinement is necessary due to the toxic risk. The District has reviewed the manufacturer's lower emission rates and has found the difference to be so small that it is not worthwhile to amend the calculations, especially considering that the engine has passed the risk screen analysis with a slightly higher particulate emission factor.

Comment IX.4 – PM10
Section 5.5, Page 50 - All references to the PM10 emission rate of 0.0052 lb/MMbtu should be removed, including those on pages 52, 53, 55, and Appendix A.

Response:
The District has removed some of the references to PM10 emission rates (in lb/MMbtu basis) from some discussions in the PDOC. However, in some PM10 analyses where it is necessary to compare proposed MEP PM10 emission rates to other power plants, the District still refers to lb/MMbtu emission rates.

X. PERMIT CONDITIONS

Comment X.1 – Correction to Definitions

Commenter requests removal of mention of HRSGs and steam turbine from definition of commissioning activities, since project will not include this equipment. Another commenter stated that no emission calculations were included in the PDOC for tuning and yet the proposed permit conditions contained a definition of tuning and exclusions from emission limits during tuning.

Response:

The references to HRSGs, steam turbine, and tuning have been removed since the proposed plant does not include this equipment and the applicant has not requested separate tuning provisions.

Comment X.2 – Clarification of Emission Limits

Page 86, Condition 9 – The first sentence of the condition indicates the emission limits are for each turbine but the emission limits presented below the text represent the facility limits. Commenter requests revision of the commissioning emission rates in this condition to reflect the limits for each turbine in Table 5.

Response:

In part 9 of the condition, the District originally assumed that the four turbines would be commissioned at the same time, and used this assumption to calculate maximum hourly emissions. The District now understands that only one turbine will be commissioned at a time. To make this clear, the District has split the condition into parts 9 and 9a. Part 9 contains the annual commissioning emission limits for the facility. Part 9a contains the hourly and daily limits for each turbine. In addition, a provision has been added that only allows the applicant to commission one turbine per day.

Comment X.3 – Clarification of Initial Operation

Page 87, Condition 10 – The first sentence of this condition refers to a "startup" when discussing the timing requirements for source testing after the initiation of the commissioning period. Commenter requests the replacement of "Within 90 days after startup,…" with "Within 90 days of initiation of the Commissioning Period,…" as the term Commissioning Period is defined in the permit. This suggested change should also be made in Conditions 25, 26, 28, and 30.

Response:

BAAQMD Regulation 2-1-411, Permit to Operate, Final Action states that:

> "The APCO shall take final action to approve, approve with conditions, or disapprove a permit to operate a facility subject to this rule within 90 days after the initial date of the start-up period of the new or modified source. This time period may be extended upon the written request of the applicant stating the reasons why further start-up time is needed. In no case shall the APCO allow the start-up period to be greater than 180 days."

Start-up is the term used in the regulation. Without restraints, the initiation of the commissioning period might not be within the time period envisioned by the regulation. .

Comment X.4 – Hours of Operation for Each Gas Turbine

Page 87, Condition 15a – This condition specifies an annual operational limit of 4,000 hours for each turbine. The discussion on page 74 states "A permit condition limiting operation of any single turbine for more than 5,200 hours/any consecutive 12 months has been added to part 15b of Condition. Although 15b appears to have been omitted from the PDOC, Mariposa Energy requests the following changes to Condition 15a to incorporate the language on page 74:

> 15a. The owner operator shall not operate any turbine S-1, S-2, S-3, or S-4 such that the hours of operation for any of the four units exceeds ~~4,225~~5,200 hours per year or a combined 16,000 for all four units (excluding operations necessary for maintenance, tuning, testing, startup and shutdown). (Basis: Offsets, Cumulative Increase)

The applicant requests the same correction to Section 3.4, Page 11, 6th Paragraph for discussion of why this plant is not base-loaded.

Response:

The applicant's comment requests 5,200 hours of operation for any turbine. The District understands that a generating unit is not considered to be base-loaded unless it is at 60% capacity, which would be roughly equivalent to 5,260 hours of operation per year. The District agrees with the increased hours of operation for one or more turbines as long as the total of hours of operation does not increase. In this case, any maintenance, startup, and shutdown hours must be included in the 5,200 hours.

Therefore, the discussion will be changed to add: "Since each turbine will be limited to 5,200 hours of operation per year, this plant will not be a base-loaded plant." The regulation is already cited in the paragraph.

The same modification has been made to Section 3.4.

Comment X.5 – Clarification of Emission Limits

Page 88, Condition 17(g) – Commenter suggests revising the sulfur dioxide emission rate from 1.347 pounds per hour to 1.35 pounds per hour consistent with Table 2 of the PDOC.

Response to Comment:

The revision has been made.

Comment X.6 – Correction to Startup/Shutdown Emission Limits

Page 88, Condition 18 – The maximum hourly carbon monoxide (CO) and precursor organic compound (POC) emission rates and the shutdown CO and POC emission rates do not reflect the lower operational BACT emission levels of 2 parts per million by volume at 15 percent oxygen (ppmvdc) [sic] CO and 1 ppmvdc [sic] POC required in the PDOC. Commenter suggests the revised Table 40 below. These changes should also be

reflected in Appendix A, Tables 3, 4, 12, 14, 28, 29, 30, 31, and the discussion of 40 CFR 64, Compliance Assurance Monitoring (CAM) starting on page 76. Another commenter stated the NOx limit Condition 18 (18.5 lb/hr) is inconsistent with page 60 of the PDOC (21.276 lb/hr).

TABLE 40. STARTUP AND SHUTDOWN			
Pollutant	**Maximum Emissions Per Startup (lb/startup)**	**Maximum Emissions During Hour with Startup and/or Shutdown(lb/hr)**	**Maximum Emissions Per Shutdown (lb/shutdown)**
NOx (as NO2)	14.2	18.5	3.2
CO	14.1	17.3~~18.1~~	2.7~~2.9~~
POC (as CH4)	1.1	1.4~~1.7~~	0.12~~0.2~~

Response:
The corrections to Table 40 and Table 29 (page 60 of the PDOC) have been made. Note that rounding the result of the calculation of the maximum emissions of POC during an hour that includes both a startup and shutdown actually yields an answer of 1.5 lb/hr, but 1.4 lb/hr is acceptable.

Comment X.7 – Corrections to Daily Emission Limits
Page 90, Condition 19 – Commenter suggests the following revisions to the daily emission rates in Condition 19 to maintain consistency with the comments on Condition 18 above. These changes should also be reflected in Appendix A and Table 12.

19. The owner/operator shall not allow total combined emissions from the Gas Turbines (S-1, S-2, S-3, and S-4), including emissions generated during gas turbine start-ups, and shutdowns to exceed the following limits during any calendar day:
    (a) 1098~~1129.7~~ pounds of NO_x (as NO_2) per day (Basis: Cumulative Increase)
    (b) 934~~1171.5~~ pounds of CO per day (Basis: Cumulative Increase)
    (c) 95.1~~120.82~~ pounds of POC (as CH_4) per day (Basis: Cumulative Increase)
    (d) 240~~241.44~~ pounds of PM_{10} per day (Basis: Cumulative Increase)
    (e) 130~~178.26~~ pounds of SO_2 per day (Basis: Cumulative Increase)

Response:
The maximum daily emission limits are based on 12 startups/day totaling 6 hours, 12 shutdowns/day totaling 3 hours, and 15 hours at steady state operation. The District's calculates that the maximum daily limit for NOx should be:

NOx: 1100 lb/day

The other corrections are acceptable.

Comment X.8 – Corrections to Annual Emission Limits
Page 90, Condition 20 – Commenter suggests the following revisions to the annual emission rates in Condition 20 to maintain consistency with the comments on Condition 18 above. These changes should also be reflected in Appendix A and Table 14.

20. The owner/operator shall not allow cumulative combined emissions from the Gas Turbines (S-1, S-2, S-3, and S-4), including emissions generated during gas

turbine start-ups, shutdowns, and malfunctions to exceed the following limits during any consecutive twelve-month period:

(a) 45.6 tons of NO_x (as NO_2) per year (Basis: Offsets)
(b) 27.2~~29.98~~ tons of CO per year (Basis: Cumulative Increase)
(c) 5.6~~5.90~~ tons of POC (as CH_4) per year (Basis: Cumulative Increase)
(d) 21.2~~13~~ tons of PM_{10} per year (Basis: Cumulative Increase)
(e) 2.9~~87~~ tons of SO_2 per year (Basis: Cumulative Increase)

Response:
The District agrees with these corrections.

Comment X.9 – Corrections to Annual Emission Limits for NOx
Condition 20: The limit of 45.6 tons per year (tpy) for NOx does not match the total facility emission (of 45.958 tpy and 45.67 tpy) shown in the discussion of offsets on PDOC p. 67 and Table 35.

Response:
The correct number for offsets is 45.9 tons NOx per year. The proposed annual emissions rate for the turbines is 45.6 tons per year. The proposed annual emissions rate for the engine is 0.3 tons NOx per year for a total of 45.9 tons NOx per year. The numbers in Section 6.5 (Offset Package) and Table 35 have been corrected. The number in Condition 20 is correct.

Comment X.10 – Corrections to Annual Emission Limits for POC
Condition 20: The limit of 5.9 tpy for precursor organic compounds (POC) does not match the maximum facility emissions (of 5.7 tpy) shown in PDOC Table 14.

Response:
The applicant has revised the annual POC emissions for the turbines down to 5.6 tons per year. In this case, the POC emissions for the facility are 5.6 tons per year because the POC emissions from the pump are negligible. Table 14 and Condition 20 have been corrected.

Comment X.11 – Toxics Emissions
Page 90, Condition 21 – Commenter stated that the formaldehyde emissions presented in Condition 21 do not appear to be based on a California Air Toxic Emission Factors (CATEF) presented on page 117 of the PDOC. Commenter requested the District provide a reference to the formaldehyde emission factor was used.

Response:
The District adjusted the CATEF emission factor for formaldehyde from the gas turbines during normal operations by assuming a 50% abatement efficiency due to the presence of the oxidation catalyst. The EPA has stated that the abatement efficiency for an oxidation

catalyst may be over 90% for formaldehyde.[30] Assuming a 50% abatement efficiency is a conservative assumption that still provides a conservative estimate of formaldehyde emissions for the health risk screening assessment. In addition, the District has reviewed source test data for identical equipment (LM6000 gas turbine, simple cycle, controlled by an SCR and Oxidation Catalyst) and concluded that emissions are typically well below 0.00045 lb formaldehyde per million Btu of fuel fired.

Comment X.12 – Diesel Fire Pump

Page 96, Diesel Fire Pump Condition 4(e) – The MEP only has one diesel engine so the reference to each engine is inappropriate. Please replace the word "each" with "the" and "engines" with "engine".

Response:

The District uses a standard condition for diesel engines that is suitable for single or multiple engines at a facility.

[30] Memorandum dated April 3, 2002 from Sims Roy of the U.S.E.P.A to Docket A-95-51, Subject: Hazardous Air Pollutant (HAP) Emission Control Technology for New Stationary Combustion Turbines, See Attachment A dated August 19, 1999.

XI. OTHER ISSUES NOT RELATED TO DISTRICT PERMITTING REQUIREMENTS

Comment XI.1 – Power Usage
A commenter stated that benefits from the plant will not be for the nearby area, but instead for people over the Altamont hills to the west.

Response:
The project will supply power to the grid that can deliver power over a wide area. Questions regarding where demand is located and where generating capacity should be sited to meet that demand are addressed by the California Energy Commission, the California ISO, and the California Public Utilities Commission.

These are energy policy issues not directly related to whether the facility would meet applicable air quality-related regulatory requirements, which is the subject of the District's Determination of Compliance.

Comment XI.2 – Water Usage
The District received several comments regarding the water use at the facility.

Response:
The BAAQMD does not regulate the water use of the proposed facility. The commenter is encouraged to provide water related comments to the CEC, the lead agency for this project under CEQA, which is analyzing water resources starting on page 4.12.1 of its Staff Assessment.

Comment XI.3 – Noise
A commenter raised concerns about noise from the proposed project and had recommendations for the type of analysis that should be performed.

Response:
The BAAQMD does not regulate noise impacts from the proposed facility. The commenter is encouraged to provide noise related comments to the CEC. The CEC staff assessment will address potential noise impacts from the proposed facility.

Comment XI.4 –Notification of a Plant Emergency
A commenter raised concerns about informing the community during an incident at the proposed facility such as a "leak" or other problems at the plant.

Response:
The community of Mountain House would likely be warned of any emergency situations at the plant by emergency response personnel such as the firefighters at Station No. 98 and the San Joaquin County Sheriff's Department.

As the lead agency for this project, CEC has prepared an analysis regarding hazardous material management for the project, starting on Page 4.4-1 of the Staff Assessment for Mariposa Energy Center. CEC has identified natural gas and aqueous ammonia as being the most important hazardous materials. CEC states that because a solution of ammonia and water (aqueous) is used instead of gaseous (anhydrous) ammonia, the hazards from ammonia are minimized.

In regards to the natural gas, CEC discusses the possible hazards and the mitigation of these hazards. The commenter is encouraged to submit questions or comments to the CEC regarding emergency situations.

Comment XI.5 –Alternative Energy Sources
Commenter states that more green power is needed like solar and wind and that another natural gas plant is not needed.

Response:
The demand and supply of electricity in California is overseen by other expert agencies such as the California Energy Commission, the California ISO, and the California Public Utilities Commission. The District defers to the judgment of expert agencies such as those in determining how demand will be met and what new generating capacity is needed and how it should be provided. The District therefore does not take a position on the need for this facility, whether this facility is the most appropriate way to meet that need, and what the appropriate mix of fossil fuel and renewable generation capacity is. These issues are not directly related to the District's air quality analysis and whether the facility will meet applicable air quality-related regulatory requirements, which is the subject of the District's Determination of Compliance.

The CEC has discussed the integration of peaking plants like this one with renewable sources of energy in Air Quality Appendix Air-1 to the CEC Staff Assessment, published on November 8, 2010.

Comment XI.6 –Greenhouse Gases
Commenter states that the PDOC does not contain a greenhouse gas BACT analysis.

Response:
Greenhouse gases from this facility are not subject to regulation under any federal, state or District regulatory requirements at this time.[31] There is therefore no regulatory basis for imposing GHG permit conditions at this time. GHG emissions from the proposed project will be reviewed by the CEC in its CEQA-equivalent environmental analysis (please see the CEC staff assessment).

[31] California does have an Emissions Performance Standard (EPS) requirement for procurement of power from combined-cycle, baseload facilities (those with an annual capacity factor of 60% or greater) which provides that such facilities must have greenhouse gas emissions below 1100 lb/MW-hr. But the EPS does not apply to this facility because it is a simple-cycle peaker plant with a maximum annual capacity factor of less than 60%.

Comment XI.7 –Project Location Near the Community of Mountain House

The District received a number of comments regarding the location of the Mariposa Energy Project near the community of Mountain House. Some comments express concern that the project might have an adverse effect on the growth of Mountain House. Many comments simply state the commenters are opposed to the project, and note its proximity to Mountain House.

Response:

The District defers to the Energy Commission regarding at what locations electrical generating capacity should be provided. The Air District therefore refers commenters who are generally unsatisfied with the decision to site a power plant at this location to the Energy Commission. The Air District's role in the approval process for new power plants is to review them to ensure that they will comply with all applicable air quality regulatory requirements if the Energy Commission approves them. The Air District has done so here and has found that this facility will satisfy all such requirements.

The likely effect of a power plant on the growth of Mountain House is beyond the scope of the District's evaluation of the project's compliance with air quality requirements. To the extent that the project will have the potential to negatively impact the growth of Mountain House, such concerns should be addressed to the Energy Commission in the context of siting the project at this location.

As the lead permitting agency, the California Energy Commission (CEC) conducts an in-depth review of environmental and other issues posed by the proposed power plant. This comprehensive environmental review is the equivalent of the review required for major projects under the California Environmental Quality Act (CEQA), and the Energy Commission's license satisfies the requirements of CEQA for these projects. This CEQA-equivalent review encompasses air quality issues within the purview of the District, and also includes all other types of environmental and other issues, including water quality issues, endangered species issues, and land use issues, among others.

The commenter is encouraged to participate in the CEC licensing process. Information regarding the project can be found at the CEC website:

http://energy.ca.gov/sitingcases/mariposa/index.html

Comment XI.8 – Permitting a Source Near the Border of the Bay Area AQMD and the San Joaquin Valley Unified APCD

The District received a number of comments regarding the location of the Mariposa Energy Project near the border of San Joaquin County. Some comments state that emissions from the project would affect the San Joaquin Valley. A commenter stated that San Joaquin Valley already has a severe designation for ozone non-attainment and expressed opposition to allowing a source of air pollution to be built in such an the area. Some comments state that the project should meet SJVAPCD requirements. A commenter mentions Section 70500(c) of the California Health and Safety Code and requirements for attainment plans for ozone adopted pursuant to Part 3, Chapter 10,

Division 26 (commencing with Section 40910), and discusses requirements for upwind air districts.

Response:
The project is within the jurisdiction of the BAAQMD, and as a result, BAAQMD regulations apply.. The SJVAPCD was afforded the opportunity to provide comments on the PDOC and may participate in the CEC licensing process for the project.

The San Joaquin Valley is designated as "non-attainment" for the state and federal ozone standards. The fact that the San Joaquin Valley is designated as "non-attainment" for certain pollutants does not mean that no new projects can be built. Neither BAAQMD nor SJVAPCD prohibit new projects solely as a result of "non-attainment" designations. Instead, the districts require new projects – including the proposed Mariposa Energy project – to incorporate strict air pollution controls to ensure that emissions are minimized, and also require new sources of emissions to be "offset" by shutting down older sources of emissions so that there is no net increase as a result of the new project. This process ensures that regional emissions from stationary sources will continually be reduced in order to bring the regions into "attainment" for all regulated pollutants.

As the lead agency under the CEQA equivalent process used for power plant licensing, the CEC will be required to ensure that the mitigation for the proposed project is adequate to mitigate any potential project significant air quality impacts including impacts in the San Joaquin Valley. The CEC's staff assessment for the project, published on November 8, 2010, and available on CEC's website, proposes that the applicant provide additional offsets if the funds provided are not sufficient to mitigate the project.[32]

The California Health and Safety Code requires the District's Clean Air Plan to address transport issues to neighboring air basins and does not require the District to mitigate individual projects.

The 2010 Clean Air Plan includes all feasible measures to reduce emissions of ozone precursors and to reduce transport of ozone precursors to neighboring air basins as required by state law. The 2010 Clean Air Plan is available at the District website at: www.baaqmd.gov/Divisions/Planning-and-Research/Plans/Clean-Air-Plans.aspx.

California Code of Regulations, Title 17, Sections 70600 and 70601 require district clean air plans, permit programs, and rule development efforts to address transport of pollutants into other air districts. These sections apply to district regulatory programs, not to individual stationary sources. To the knowledge of the District, its programs comply with Sections 70600 and 70601, and the commenter does not state otherwise.

[32] See *Mariposa Energy Project Staff Assessment* CEC 700-2010-017, California Energy Commission, November 2010, AQ-SC7 at pp. 4.1-44 to 4.1-45.

Comment XI.9 – Cost to Ratepayers

Comments were submitted stating that a more efficient plant would reduce cost to ratepayers.

Response:

Cost issues not directly related to whether the facility would meet applicable air quality-related regulatory requirements, which is the subject of the District's Determination of Compliance.

Cost issues may have been addressed by the California Public Utilities Commission.