DOCKETED

Docket Number:	15-AFC-01
Project Title:	Puente Power Project
TN #:	213482
Document Title:	Responses to Comments on P3 PDOC Made by City of Oxnard, R. Sarvey/R. Simpson, CA Environ. Justice Alliance, & Sierra Club
Description:	N/A
Filer:	Robert L. Dickson, Jr.
Organization:	Latham & Watkins LLP
Submitter Role:	Applicant Representative
Submission Date:	9/2/2016 5:09:36 PM
Docketed Date:	9/6/2016

NRG Oxnard Energy Center, LLC
5790 Fleet Street, Suite 200
Carlsbad, CA 92008
Phone: 760-710-2156
Fax: 760-710-2158

September 2, 2016

Michael Villegas
Air Pollution Control Officer/Executive Officer
Ventura County APCD
669 County Square Drive
Ventura, CA 93003

Subject: Comments on Preliminary Determination of Compliance for Puente Power Project

Dear Mr. Villegas:

In separate letters to the Ventura County Air Pollution Control District (VCAPCD), the City of Oxnard, Robert Sarvey/Rob Simpson, California Environmental Justice Alliance, and the Sierra Club provided a number of comments on the Preliminary Determination of Compliance (PDOC) issued for the Puente Power Project (P3). NRG Oxnard Energy Center, LLC offers the enclosed responses to several of the comments in these letters.

We greatly appreciate the effort that the VCAPCD and San Joaquin Valley Air Pollution Control District staffs have expended in evaluating the permit application and preparing the PDOC for this Project.

If you have any questions regarding these responses, please do not hesitate to contact me at (760) 710-2156.

Sincerely,

George L. Piantka, PE
Sr. Director, Regulatory Environmental Services
NRG Energy, Inc.

Enclosure

cc: Kerby E. Zozula, VCAPCD
Jon Hilliard, CEC Project Manager
CEC Dockets (15-AFC-01)
Leonard Scandura, SJVAPCD
Leland Villalvazo, SJVAPCD

Responses to Comments on the P3 PDOC Made by the City of Oxnard, Robert Sarvey/Rob Simpson, the California Environmental Justice Alliance, and the Sierra Club

City of Oxnard PDOC Comment Letter

Comment 1: NRG submitted the current version of its application to the Air District on December 10, 2015. *See* NRG Application for an Authority to Construct/Determination of Compliance for the Proposed Puente Power Project (TN# 206918). Thus, even if the EPA is still currently responsible for issuing a PSD permit, the District must evaluate the proposed Project's need for a PSD permit using the District PSD rules that were in effect at that time.[1]

Response: Until such time as the District has a SIP-approved PSD rule, or has otherwise been delegated authority to implement the PSD program, it has no authority regarding PSD permitting. We therefore disagree that the District is required to evaluate the Project's need for a PSD permit using its unapproved rule, as suggested by the comment.

Furthermore, since the District rule incorporates by reference the applicability provisions of the federal regulations, the outcome of any evaluation pursuant to the District rule would be the same as the outcome pursuant to the federal regulations – P3 does not trigger PSD permitting requirements.

The current version of the VCAPCD PSD rule is Rule 26.13, revised on 11/10/15. Per Rule 26.13(B), the provisions of this Rule shall apply to any source and the owner or operator of any source subject to any requirement under Title 40 of the Code of Federal Regulations Section 52.21 (40 CFR 52.21) as incorporated into this Rule. Per TN# 206918, Table 12, revised 12/4/15, the P3 net emission increases are below the PSD trigger thresholds in 40 CFR 52.21. Therefore, the P3 does not trigger PSD review under 40 CFR 52.21, or VCAPCD Rule 26.13 (even if evaluation under this rule was required, which it is not).

Comment 2: PSD regulations require the use of "baseline *actual* emissions" to determine PSD applicability. 40 C.F.R. § 52.21(a)(2)(iv)(c) (emphasis added); *see also* 40 C.F.R. § 52.21(b)(48)(i). In conducting its PSD calculation, NRG did not comply with this regulation. Instead, it employed a generic, decades-old emission factor to calculate assumed emissions from Mandalay Unit 2. As a legal matter, use of this emission factor cannot satisfy the requirement to demonstrate "actual" emissions at the Mandalay Generating Station during this baseline period. The *actual* emissions from the facility must be provided.[2]

[1] TN# 212637, page 2.
[2] TN# 212637, page 4.

…Agencies have subsequently released other emission factors that more closely represent actual PM2.5 emissions from gas-fired boiler units. Dr. Fox's analysis demonstrates that using any of these more accurate emission factors substantially reduces the assumed baseline emissions from Mandalay Unit 2 and shows that NRG must obtain a PSD permit for the Project's PM2.5 emissions.[3]

Response: The Applicant previously justified the determination of baseline emissions for MGS Unit 2 in TN #206458, Response to City of Oxnard Data Request 69. As noted in that response, the baseline $PM_{10}/PM_{2.5}$ emissions for MGS Unit 2 were based on Ventura County Air Pollution Control District (VCAPCD) emission inventory data for the Mandalay Generating Station (MGS). The PM_{10} emission inventory values were calculated based on the actual annual fuel use for each Mandalay boiler and a 1995 EPA AP42 emission factor of 2.5 lbs/mmscf for natural gas combustion.[4] It is appropriate to use the VCAPCD emission inventory data to establish the baseline emissions for MGS Unit 2, because these inventory data are used by both the VCAPCD and California Air Resources Board (CARB) for air quality regulatory planning purposes. Also, the VCAPCD emission inventory conservatively uses natural gas fired boiler emission factors from the 1995 version of AP-42, which are lower than the emission factors in the current (1998) version of AP-42.

With regards to other lower emission factors issued by agencies for natural gas fired boilers, in a 2014 guidance document prepared by the San Joaquin Valley Air Pollution Control District (SJVAPCD) for PM_{10} emission factors for natural gas fired steam generators and boilers,[5] and using a number of compliance stack test results, the SJVAPCD shows an average PM_{10} emission factor of 0.0013 lbs/MMBtu (without a compliance margin) and a factor of 0.003 lbs/MMBtu (with a compliance margin). The above PM_{10} EPA AP-42 factor of 2.5 lbs/mmscf converts to 0.0025 lbs/MMBtu using the EPA AP-42 assumed natural gas heating value of 1,000 Btu/scf.[6] If the two-year average baseline PM_{10} inventory level of 1.62 tons/year for Mandalay Unit 2 shown in the PDOC (PDOC, Table VII-16) were adjusted using the SJVUAPCD factor of 0.0013 lbs/MMBtu, the revised Mandalay Unit 2 baseline PM_{10} would be approximately 0.84 tons/year.[7]

Based on the maximum expected $PM_{10}/PM_{2.5}$ emissions for P3 of 10.68 tons/year shown in the PDOC (PDOC, Table VII-21), subtracting the above Mandalay Unit 2 baseline level of 0.84 tons/year results in a net $PM_{10}/PM_{2.5}$ emission increase of approximately 9.8 tons/year. This net emission

[3] TN# 212637, page 4.
[4] AP-42, Table 1.4-2, natural gas fired utility boilers, 1/95.
[5] PM_{10} Emission Factor for Boilers, Steam Generators and Process Heaters fired on PUC Quality Natural Gas, FYI-328, 6/12/14.
[6] AP-42, Table 1.4-2, natural gas fired utility boilers, note a, 1/95.
[7] Calculated based on 1.62 tons/year PM_{10} x (0.0013/0.0025).

increase is below the PM_{10} PSD trigger threshold of 15 tons/year and the $PM_{2.5}$ PSD trigger threshold of 10 tons/year even when using the more conservative SJVAPCD PM_{10} factor with a compliance margin. Therefore, even with a revised baseline $PM_{10}/PM_{2.5}$ emission level for Mandalay Unit 2, the P3 does not trigger PSD review for these pollutants.

In conclusion, the selected baseline $PM_{10}/PM_{2.5}$ emissions for MGS Unit 2 was appropriate; however, PSD review is not triggered for P3 even if a lower $PM_{10}/PM_{2.5}$ emissions factor is used to calculate baseline emissions for MGS Unit 2.

Comment 3: NRG selected 2012- 2013 as its baseline period within its 2010-2014 lookback window. Evaluation of fuel use data from Mandalay Unit 2 during this period shows that 2012 and 2013 were the years of Unit 2's highest fuel use, and therefore emissions.... NRG and the PDOC attempt to justify using the highest years of emissions for the baseline by asserting that this two-year period "was determined to be the most representative as it best reflects current electricity market." There is no evidence or analysis to support this assertion.[8]

Response: As discussed in TN# 206009, Response to City of Oxnard Data Request 12, federal PSD regulations allow the Applicant to select any consecutive 24-month period during the baseline period to determine the baseline actual emissions for existing units (40 CFR 52.21(b)(48)(i)). While the Applicant believes that the 2012-2013 baseline period is, in fact, the most representative period, there is no requirement that the most representative period be used, and therefore no further justification of this assertion is required to demonstrate compliance with federal requirements.

Comment 4: GE letter does not specify the test methods that would be used to determine the Project's PM emissions. As Dr. Fox notes, this is especially problematic because "GE's particulate matter guarantees are typically based on non-standard PM2.5 test methods that yield lower emissions than standard EPA compliance test methods." Using standard test methods to determine the turbine's PM emissions could consequently show increased PM emissions from the turbine. However, if testing is conducted infrequently, exceedances of the potential to emit would not be detected.[9]

Response: The GE letter regarding emissions for the P3 gas turbine is not relevant to a determination of compliance with VCAPCD rules; compliance with the applicable permit limits will be based on VCAPCD approved test methods. The test methods required by the PDOC are included in PDOC Condition 38.

[8] TN# 212637, page 4.
[9] TN# 212637, page 6.

Comment 5: The GE letter only guarantees emissions during periods when ambient temperatures range from 38.9 F to 82 F. Yet temperatures in Oxnard can exceed the maximum temperature in this range, and these periods of warmer weather are exactly the times when more peaking capacity will be required due to increased electricity demands. The GE letter provides no information on what PM emissions will be like during these periods of warm weather.[10]

Response: The GE letter regarding emissions for the P3 gas turbine is not relevant to a determination of compliance with VCAPCD rules; the applicable permit limits apply under all ambient conditions.

Comment 6: …the letter does not account for increased PM emissions that will occur as the GE turbine ages. "As turbines age, their efficiency declines, requiring the combustion of more fuel to reach the same output. Because emissions depend directly on the amount of fuel that is burned, PM2.5 emissions will increase over the life of the facility." Neither the GE letter nor NRG's PSD analysis account for this increase in the turbine's potential to emit PM2.5 over the Project's lifetime.[11]

Response: The GE letter regarding emissions for the P3 gas turbine is not relevant to a determination of compliance with VCAPCD rules; the applicable permit limits must be met throughout the life of the project.

Comment 7: …the proposed PM2.5 emission limits in the PDOC and PSA are neither federally or practically enforceable and cannot actually be relied on to ensure that the Project's PM emissions do not exceed NRG's asserted 10.68 tons per year. Most troubling, these proposed limits do not require stack testing during startup and shutdown periods, and only require testing during 0.1 percent of normal operating hours in a given year. The District must require more robust testing to confirm that the PM2.5 limits are being met or the Project could easily exceed the 10.1 pound per hour emission levels asserted in the GE letter.[12]

Response: The PDOC requires $PM_{10}/PM_{2.5}$ compliance testing within 90 days of completion of commissioning and on an annual basis thereafter (PDOC, Condition 36). With regards to $PM_{10}/PM_{2.5}$ testing during gas turbine startup/shutdown periods, as shown by the emissions information provided by GE (see TN #206791, Table C-2.2, revised 11/18/15) the $PM_{10}/PM_{2.5}$ emissions are expected to be lower during startup/shutdown periods compared to full load operation. The PDOC contains standard conditions for the enforcement of PM limits from gas-fired gas turbines. These types of conditions have been included in hundreds, if not thousands, of local and federal permits throughout the United States, including permits issued by

[10] TN# 212637, page 6.
[11] TN# 212637, page 6.
[12] TN# 212637, page 6.

U.S. EPA for similar plants. The City has not articulated why these standard conditions are not adequate.

Comment 8: The PDOC claims that the Project satisfies the definition of a "Replacement Emissions Unit", but this is not the case. A replacement unit is a unit that "serves the identical function as the emission unit being replaced." District Rule 26.1(29). The Project will not serve an identical function as the old gas-fired steam boiler that it is purportedly replacing. Indeed, NRG's own press materials for the Project assert that the new turbine's fast ramp time is needed accommodate increasing renewable infiltration into the energy market, not to "replace" the outdated and retiring Mandalay gas-fired boiler.[13]

Response: As indicated in TN #204859, Attachment AQ-1, Applicant's May 15, 2015 letter to VCAPCD, the new CTG will serve the identical function as MGS Units 1 and 2. This function is to provide dispatchable power to the high-voltage 220-kV system.

The advantage of the new CTG is that it can serve this function and provide this dispatchable power more quickly with a faster response time, and more efficiently by burning less fuel on a per-MW basis, compared to MGS Units 1 and 2.

Comment 9: Appendix J was prepared by NRG's consultant as part of NRG's application for certification. That document sets forth NRG's initial position on the required alternatives analysis under the California Environmental Quality Act ("CEQA"), not the District's rules or the Clean Air Act. Notably, as the AFC acknowledges, CEQA's alternative requirement obligates agencies to consider project alternatives "which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives." PDOC, Appendix J at 5-1 (citing CEQA Guidelines § 15126.6(a)). Because it focuses on a CEQA alternatives analysis, this document does not attempt to demonstrate that "benefits of the proposed source *significantly outweigh the environmental and social costs* imposed as a result of its location, construction, or modification.[14]

Response: In addition to Appendix J of the Application for Certification, extensive analysis of project alternatives is contained in the Applicant's Alternatives Analysis docketed with the CEC on 12/21/15 (TN #207096), and in the CEC staff's Revised Preliminary Staff Assessment, Part 1 docketed on June 20, 2016 (TN #211885-1). In addition, before the CEC takes final action on P3, further analysis of alternatives will be contained in the CEC staff's Final Staff Assessment and in the CEC's Final Decision on the project. This robust analysis of alternatives to P3, prepared according to the

[13] TN# 212637, page 7.
[14] TN# 212637, page 7.

requirements of the California Environmental Quality Act (CEQA), is more than adequate to satisfy District Rule 26.2 and section 173(a)(5) of the federal Clean Air Act.

Robert Sarvey/Rob Simpson PDOC Comment Letter

Comment 10: The Mandalay Unit 2 which the Puente Project allegedly replaces is a 1,990 MMBTU/Hr, 215 MW net, Babcock and Wilcox Steam Generator natural gas fired electric utility boiler with a permit limit of 8,760 hours per year. The Puente Power Plant is a peaking unit which is defined as a fossil-fueled combustion turbine power generation unit or other power generation unit with an actual annual capacity factor of 25% or less, which is used during peak electricity demand periods, and may operate for short periods, with frequent start-ups and shutdowns. Clearly the Puente Power Plant is not identical or functionally equivalent to the Mandalay unit.[15]

Response: See response to Comment 8.

Comment 11: While the proposed conditions for the Puente Project include a requirement that the Mandalay Unit 2 surrender its air permit there is no language that ensures that the Mandalay 2 unit will be permanently shut down as a new air permit could be acquired for the unit. The Puente Project meets none of the requirements of a replacement unit but is a new unit and is subject to the NSR and PSD rules applied to new emission units.[16]

Response: Once its permit has been surrendered, MGS Unit 2 can no longer operate. The P3 is replacing this unit. If NRG attempted to obtain a new permit for MGS Unit 2, it would be permitted as a new unit and need to undergo a complete air quality regulatory review as a new unit, including a review of the applicable requirements of NSR and PSD.

Comment 12: BACT for ROC's for the Puente Power project is 1 ppm averaged over 1 hour and should be required in the subsequent FDOC to comply with Rule 26.1 (3).[17]

Response: Commenter argues that to meet the requirements of District Rule 26.1(3), the ROC limit for the P3 gas turbine should be 1 ppmvd @ 15% O_2, rather than 2 ppmvd @ 15% O_2 as determined by the District's analysis in the PDOC.

As part of the BACT analysis in the PDOC, the VCAPCD evaluated the SJVAPCD's BACT guideline as well as BACT guidelines for other air districts. In addition, the VCAPCD considered site-specific BACT determinations from

[15] TN# 212634, page 2.
[16] TN# 212634, page 2.
[17] TN# 212634, page 4.

other air districts in making its determination regarding technological feasibility. These site-specific BACT determinations, shown in PDOC Tables VII-26 and VII-27, support the determination that 2.0 ppmc is BACT for ROC for this project.[18] Commenter refers to permit limits for gas turbines in BAAQMD gas turbine permits, but provides no evidence that those emission limits have been achieved in practice.

An in-depth assessment of VOC emissions from simple-cycle gas turbines was performed by the San Diego Air Pollution Control District (SDAPCD) in the determination of compliance for the amended Carlsbad Energy Center Project[19] to determine whether, in fact, 1.0 ppmvd @ 15% O_2 is achieved in practice for simple-cycle gas turbines. The SDAPCD determined that because of variations in source test methods and reporting procedures, it is difficult to compare test results from different sources, especially at the very low concentrations emitted by gas turbines. The SDAPCD stated:

> "The [simple-cycle gas turbine VOC emissions] tests analyzed by the District included data measured using variations of EPA methods 18, TO-12, and 25 such as SCAQMD using a modified method 25.3. ***Emission data measured using method 18 with an FID is known be insensitive to formaldehyde in the results, and formaldehyde may make up a sizeable portion of VOC emissions from gas turbines.*** Emission data measured using method 25 is known to potentially exclude ethylene and acetylene which are also expected to exist in VOC emissions from gas turbines. ***Depending on the specific variation of method 25 used, it may be inaccurate for measuring low concentrations of VOC*** (although SCAQMD modified method 25.3 is specifically designed to measure low VOC concentrations but likely excludes ethylene and acetylene). Additionally, different districts and testing companies have different procedures for presenting VOC data that is below the detection limit. A significant portion of the VOC data examined included data that was measured below the detection limits. This meant that ***sources using less conservative reporting procedures may report VOC values below 1.0 ppm or even 0 ppm while other sources using more conservative reporting procedures might report the same data as above 1.0 ppm***. The District typically follows more conservative reporting procedures to ensure that emission estimates do not omit any VOC emissions because they are below detection limits."[20] [emphasis added]

---

[18] In fact, the site-specific ROC BACT determination in Table VII-26 of the PDOC shows a 3-hour averaging period, making the ROC BACT determination for P3, which is 2.0 ppmc on a 1-hour average basis, more stringent than the achieved-in-practice ROC limit shown in Table VII-26.

[19] SDAPCD, Final Determination of Compliance for the Amended Carlsbad Energy Center Project, April 17, 2015.

[20] SDAPCD 2015, p. 25.

The SDAPCD also presented an analysis of initial source test results for LMS100 turbines installed at CPV Sentinel and Walnut Creek Energy Park in 2013. Both sets of turbines were permitted with VOC emission limits of 2.0 ppmc, and were tested using the same test method, SCAQMD Method 25.3. Based on this statistical analysis, the SDAPCD determined that 1.0 ppmc was not achieved in practice for these turbines. The SDAPCD's statistical analysis of the test results found that,

> "[t]he random variation in the measured VOC concentrations (same turbine model, test methods, test procedure, testing company and approximate testing timeframe) would be expected to exceed 1.0 ppm VOC up to 8% of the time. When operating at 50% load, an exceedance of the limit is predicted over 10% of the time assuming a normal distribution. Violations are also predicted if a log-normal distribution is assumed with an 8% probability of exceeding at 50% load and 4% probability at 100% load. In addition, since no turbine has been tested more than once (the initial source test) it is not clear how VOC exhaust concentrations will behave over time."[21]

Finally, the SDAPCD considered whether additional VOC emissions reductions would be feasible by installing additional oxidation catalyst volume, and concluded that additional catalyst volume would not be expected to result in lower VOC emissions.

> "However, inspection of the engineering evaluations/FDOCs issued by SCAQMD for each of these projects (available under the CEC docket for each applicable project) shows that the CPV Sentinel turbines were installed with more than double the catalyst volume of the Walnut Creek turbines (150 cubic feet vs. 72 cubic feet) yet had higher emissions, so it is not expected that addition of catalyst would achieve any emission reductions. ***There are, therefore, no additional techniques available to reduce emissions, and the limit proposed in the PDOC of 2.0 ppm VOC as methane corrected to 15% oxygen averaged over one hour is considered BACT***."[22] [emphasis added]

The SDAPCD's analysis in the Carlsbad Energy Center FDOC is consistent with the VCAPCD's determination in the PDOC for P3 that "emission levels of … 2.0 ppmvd ROC @ 15% O2 have been achieved in practice for a simple cycle turbine. These levels have been achieved using …an oxidation catalyst. ***No lower emission levels for …ROC have been identified as being technologically feasible***."[23] [emphasis added]

[21] SDAPCD 2015, p. 25.
[22] SDAPCD 2015, p. 26.
[23] P3 PDOC, TN# 211570, page 26.

Comment 13: The BACT analysis in the PDOC fails to discuss alternative technologies and fails to discuss the impacts of the technologies chosen.[24]

Response: There is no VCAPCD NSR regulatory requirement to "discuss alternative technologies" as part of the BACT analysis. Alternative technologies have been analyzed in the alternatives analysis for P3 (see, AFC Appendix J). Air quality impacts of the proposed technologies are discussed in the BACT analysis.

Comment 14: The PDOC needs to provide a discussion of the implications of the MGS Units 1 and 2 required shutdown and how that affects the analysis in the PDOC should both units be required to be shutdown before Puente ever commences commercial operation.[25]

Response: There is no regulatory requirement in the VCAPCD NSR rules to perform an analysis of this theoretical scenario; such an analysis would not inform the VCAPCD's decision as to whether to issue a Final Determination of Compliance for the project.

Comment 15: For this application the applicant has not provided an analysis that that the benefits of the proposed source significantly outweigh the environmental and social costs imposed as a result of its location, construction, or modification.[26]

Response: See the response to Comment 9.

Comment 16: The applicant has not provided a determination from USEPA that PSD is not applicable to the Puente Project.[27]

Response: Such a determination from EPA is not required by federal PSD regulations nor the VCAPCD NSR regulations. As shown in TN206918, Table 12, revised 12/4/15, the P3 net emission increases are below the PSD trigger thresholds in 40 CFR 52.21. Therefore, the P3 does not trigger PSD review.

Comment 17: Whether the Puente Power Project can meet a 10.1 pounds per hour emission limit is speculative as the turbine has no operating history.[28]

Response: The estimated worst-case $PM_{10}/PM_{2.5}$ emission rate of 10.1 lbs/hr for the P3 is based on information provided by the gas turbine vendor and represents the best information currently available for this unit. Similar turbine models have been operated and tested, and demonstrated emission levels below the limit proposed for this unit. The commenter has submitted no data to indicate that this limit is infeasible or speculative.

---

[24] TN# 212634, page 5.
[25] TN# 212634, page 5.
[26] TN# 212634, page 6.
[27] TN# 212634, page 7.
[28] TN# 212634, page 7.

Comment 18: It is premature to determine that they are not required to be surplus because VCAPCD Rule 26.11 B (1) (a) Determination of Surplus at the Time of Use requires that, "The District shall conduct the following evaluation of each ROC or NOx emission reduction credit that is: Provided by an applicant pursuant to the provisions of Rule 26.2.B as of the date the Authority to Construct is issued." Since the ATC will not be issued until the CEC has approved this application the appropriate time to evaluate the proposed NOx ERC's is at that time since the ATC will not be issued until after the CEC has approved the AFC.[29]

Response: The commenter's interpretation of District rules is not correct. VCAPCD Rule 26.11(B)(1)(a) does not require that the VCAPCD perform a determination that an ERC is surplus just prior to when an ATC is issued for a project. It requires that the VCAPCD make such a determination during the permitting process if NOx and/or ROC ERCs will be provided prior to the issuance of an ATC for a project. The NOx ERCs that will be provided for the P3 (these ERCs must be provided to VCAPCD prior to the issuance of the ATC for P3) were identified in the DOC/ATC application package. The VCAPCD has reviewed these NOx ERCs as part of the PDOC engineering evaluation and correctly determined that these NOx ERCs are exempt from ERC surplus determination requirement per VCAPCD Rule 26.11(C)(6). Therefore, the proposed NOx ERCs are valid and acceptable for use for P3 and no further/subsequent ERC surplus determination is required under the VCAPCD NSR regulations.

Comment 19: The ERC's proposed for this project largely rely on the conversion of oil well pumping equipment to electric engine conversion in the early 1990's. The district now requires that new oil well pumping units be powered with electric motors in lieu of engines. The use of these 1990 ERC's are no longer appropriate as electric motors are now required as BACT for oil well pumping units.[30]

Response: It is not clear what the commenter means by "appropriate," but the District has determined that the NOx ERCs proposed for P3 meet all applicable regulatory requirements.

Comment 20: Mandalay Unit 1 and the peaking unit at the site will continue to operate after the commissioning of the Puente Project therefore the health risks are significantly understated.[31]

Response: The VCAPCD policy regarding Air Toxic Review of Permit Applications (revised 7/10/02) specifies that if the additional carcinogenic risk associated with proposed new emission units is less than 1 in a million,

[29] TN# 212634, page 8.
[30] TN# 212634, page 8.
[31] TN# 212634, page 9.

and that the acute and chronic hazard indices are less than 0.5, no further action is required. As shown in the PDOC (PDOC, Table 7-1), the P3 impacts are below these thresholds. Therefore, there is no VCAPCD NSR regulatory requirement to analyze the impacts from the continued operation of existing equipment, and no further analysis is required. P3's health impacts have been properly analyzed, and the project satisfies VCAPCD regulatory requirements.

Comment 21: As a recipient of federal funding, they are required to consider environmental justice in their permitting decisions.[32]

Response: There is no VCAPCD or EPA requirement to include an environmental justice analysis as part of the VCAPCD's permitting process. Nonetheless, we believe the District can take notice of the fact that the CEC is completing an extensive environmental justice analysis in connection with its review of P3.

California Environmental Justice Alliance PDOC Comment Letter

Comment 22: The air permit issued to P3 is the air district's DOC – although the CEC is separately engaged in an analysis under the California Environmental Quality Act ("CEQA"), the actual air permitting is conducted here, and environmental justice must be considered when evaluating the PDOC.[33]

Response: See response to Comment 21.

Comment 23: …Mandalay Units 1 and 2 must shut down regardless of whether P3 is built, so to characterize P3 as a replacement for those units is incorrect.[34]

Response: Contrary to the assertion in the comment, it is not the case that there is any existing requirement to shut down MGS Units 1 and 2. The Once-Through Cooling (OTC) policy requires only cessation (or significant curtailment) of the pumping of ocean water for power plant cooling. In fact, MGS Units 1 and 2 could be retrofit to continue operating with alternative cooling technologies. Furthermore, whether a unit may be shut down at some time in the future is not an element of the analysis under VCAPCD rules. The VCAPCD's analysis properly accounted for the reduction in emissions from the shutdown of MGS Units 1 and 2.

Comment 24: To the extent that emission reductions from shutdown of any Mandalay units are used to offset P3's emissions, they must be evaluated as

[32] TN# 212634, page 9.
[33] TN# 212632, page 2.
[34] TN# 212632, page 2.

ERCs, not simply added or subtracted from P3's emissions. Under the federal Clean Air Act, and the Ventura County Air Pollution Control District ("APCD") ERCs must be real, quantifiable, permanent, enforceable and surplus. APCD rule 26.1 defines surplus as a reduction not required by "federal, state, or district law, rule, order, permit or regulation...."[35]

Response: The term "offset" and the requirement that "offsets" be real, quantifiable, permanent, enforceable, and surplus is specific to emission reduction credits (ERCs) issued under VCAPCD Rule 26.4. The emission reductions for the shutdown of MGS Unit 2 are not being analyzed for purposes of offsets/ERCs under Rule 26.4, and therefore are not subject to the requirements of Rule 26.4. The MGS Unit 2 emission reductions are included as part of the net emission increase calculations performed according to VCAPCD Rule 26.6(D)(2) for replacement units. VCAPCD rules do not require that the contemporaneous emission reductions from units being shutdown be evaluated as ERCs.

Comment 25: In the alternative, to the extent the APCD intends to rely on P3 as a replacement source under its Rule 26.6.D.2, APCD should reduce the existing unit's actual emissions to reflect BACT. The BACT analysis set out in the PDOC shows BACT for gas fired generating units. The Mandalay units operated a specific number of hours over the last two years. The BACT level emissions for those hours are the relevant benchmark, if the DOC persists in categorizing P3 as a replacement unit.[36]

Response: With regards to NOx, as discussed in the PDOC (PDOC, page 29), per Rule 26.6(D)(7.0)(a), the NOx emissions increase is equal to the post-project potential to emit minus the pre-project actual emissions. There is no BACT adjustment required for the actual emissions for MGS Unit 2 under Rule 26.6(D)(7). For VOC and PM10, a BACT adjustment would not further reduce the emission reductions as there are no further controls for these pollutants that would represent BACT.

Comment 26: …none of the emission reductions occurred anywhere near the community that will be exposed to the increased NOx emissions. The emissions were reduced in Ojai, Ventura and Fillmore. The local NOx impacts will occur in Oxnard. The DOC should require NRG to offer ERCs from local sources to address local impacts.[37]

Response: There is no VCAPCD NSR regulatory requirement that ERCs be from "local" sources. This is because the VCAPCD's offset requirements are intended to address potential regional air quality impacts, and not localized impacts. Localized impacts are addressed through requirements for Best Available Control Technology, an air quality impact analysis, and a screening

[35] TN# 212632, page 2.
[36] TN# 212632, page 3.
[37] TN# 212632, page 3.

health risk assessment. P3 satisfied all VCAPCD requirements related to potential localized impacts.

It should be noted that the Commenter's statement that "The emissions were reduced in Ojai, Ventura and Fillmore." is not entirely true. As shown in the information provided as part of the response to the City of Oxnard's Data Request Number 72, a large portion of the NOx ERC package proposed for the P3 is associated with ERC Certificate Number 1092 (current NOx ERCs amount of approximately 23 tons/year). These NOx ERCs were issued for NOx emission reductions associated with the replacement of agricultural pump engines in the Pleasant Valley Water District which is located on the Oxnard Plain (not in Ojai, Ventura, or Fillmore).

Comment 27: …while the ERCs represent reductions of NOx emissions, the reductions were due to electrification of natural gas-fired engines. The electric engines are not emitting NOx, but P3 will emit NOx to power the engines.[38]

Response: Replacement of fossil fuel fired equipment with electric equipment results in emission reductions and is a viable mechanism for generating ERCs. In fact, it has been the policy of many air districts throughout California to encourage such conversions, and to provide ERCs as an inducement to these conversions.

Sierra Club PDOC Comment Letter

Comment 28: The PDOC understates Puente's air quality impacts by improperly omitting emissions from nearby pollution sources.[39]

Response: The modeling analysis was performed in accordance with a VCAPCD-approved protocol and is consistent with the accepted approach routinely used by air districts throughout California and by the CEC. In contrast, the analysis performed by the Sierra Club was not performed in accordance with a VCAPCD-approved modeling protocol, and is inconsistent with the accepted approach routinely used by regulatory agencies in California. It is not true that emissions from nearby existing sources were omitted from the modeling analysis; the emissions from these existing sources are reflected in the background conditions used in the modeling analysis.

Comment 29: The PDOC errs in using a non-approved model variation instead of the primary model to determine Puente's air quality impacts.[40]

[38] TN# 212632, page 3.
[39] TN# 212635-1, page 2.
[40] TN# 212635-1, page 4.

Response: The more recent model variation used to assess P3 is generally regarded as providing a more refined and accurate assessment of project impacts. Furthermore, as discussed in the PDOC (Appendix G, pages 19 to 23), the P3 is not expected to contribute to an exceedance of any ambient air quality standard either with or without the use of this model variation.

Comment 30: Corrected modeling demonstrates that Puente will cause violations of both California and National 1-hour NO2 standards.[41]

Response: The Sierra Club's 1-hr NO_2 modeling analysis comes to the above conclusion due to a combination of two factors: (1) using less sophisticated modeling approaches compared to methods used by the Applicant; and (2) including the impacts from the existing MGS Units 1 and 3 along with the McGrath Peaker Plant.

With regards to the use of less sophisticated modeling approaches, nearly all of the modeling results in the Sierra Club modeling analysis do not reflect the use of the ADJ_U* option.[42] As discussed in the Applicant's April 22, 2016 letter to the VCAPCD,[43] the Applicant believes the ADJ_U* option improves model performance, and the District's analysis reflected in the PDOC supports this conclusion (PDOC, Appendix G, page 16). In addition, the results shown in Sierra Club modeling Tables 1 and 2 (TN# 212635-1) and Tables 4, 7, 10, and 14 (TN# 212635-2) are based on modeling that fails to use any type of ozone limiting method to more accurately account for the effect of ambient ozone levels on the modeled conversion of NO to NO_2. The use of ozone limiting for NO_2 impact modeling is supported in air quality modeling guidelines prepared by both the SJVAPCD[44] and California Air Pollution Control Officers Association (CAPCOA).[45] In addition, the Sierra Club modeling fails to account for the temporal variability of ambient NO_2 background concentrations by not using a more refined approach such as the monthly hour-of-day method used in the Applicant's modeling analysis. The use of this more advanced approach to including background NO_2 levels is consistent with the higher-tier methods allowed in air quality modeling guidelines prepared by both the SJVAPCD[46] and CAPCOA.[47] Had the Sierra Club's modeling included these more advanced methods, its 1-hr NO_2 modeling results would have been significantly lower.

---

[41] TN# 212635-1, page 6.
[42] TN# 212635-1, Tables 1 and 2. TN# 212635-2, Tables 4 to 16 (only Table 17 shows results using the ADJ_U* option).
[43] TN# 211252.
[44] APR 1925, Policy for District Rule 2201 AAQA Modeling, SJVAPCD, April 14, 2014, Section IV, Level 2 and Level 3 analyses.
[45] Modeling Compliance of The Federal 1-Hour NO2 NAAQS, CAPCOA Guidance Document, October 27, 2011, Appendix B, page 54.
[46] APR 1925, Policy for District Rule 2201 AAQA Modeling, SJVAPCD, April 14, 2014, Section IV, Level 3 analysis.
[47] Modeling Compliance of The Federal 1-Hour NO2 NAAQS, CAPCOA Guidance Document, October 27, 2011, Appendix A, Section 4.2, Tier 8 analysis.

With regards to including the impacts for existing MGS Units 1 and 3, as shown in the Applicant's most recent modeling for the P3 (which uses the above-described, more refined methods), the maximum 1-hr NO_2 impacts for the P3 are below state and federal ambient air quality standards even when the impacts from the existing MGS Units 1 and 3 are included in the modeling.[48] With regards to the effect of the McGrath Peaker Plant on the P3 1-hr NO_2 modeling results, even with the relatively simplistic modeling performed by the Sierra Club, the impacts from the McGrath Peaker Plant are minor with an overall 1-hr NO_2 impact increase of only approximately 0.6 μ/m^3. [49]

Finally, because MGS Unit 3 is permitted to operate only approximately 80 hrs/year under the current MGS Title V permit,[50] it qualifies as an intermittent source under CAPCOA's federal 1-hr NO_2 modeling guidance.[51] Consequently, there is no need to include the impacts from MGS Unit 3 for purposes of modeling for the federal 1-hr NO_2 standard. If, however, MGS Unit 3 is included in the modeling, the maximum hourly NOx emission rate of 34.8 g/sec (per exhaust vent) used in the Sierra Club's analysis[52] is inappropriate. The correct emission rate for this intermittent source under the CAPCOA guidance is approximately 0.32 g/sec (per exhaust vent), based on the limited amount of operation per year.[53] If the 1-hour NO_2 analysis is properly performed—either without explicit modeling of MGS Unit 3, or with the correct, lower NOx emission rate discussed above—the modeling results for the federal 1-hr NO_2 standard would be considerably lower than those reported by the Sierra Club.

Comment 31: Puente will not serve an "identical function" to MGS Unit 2, as it is expected to operate and be dispatched very differently. Puente should more appropriately be considered a new emissions unit, "an emissions unit that is added to an existing stationary source," and the District should re calculate the expected increase in emissions on this basis.[54]

Response: See the response to Comment 8.

---

[48] TN# 206791, Tables 4.1-29 and 4.1-30.
[49] TN# 212635-2, Table 12 (214.7 µ/m3) vs. Table 16 (215.3 µ/m3).
[50] Part 70 Permit Number 00013, March 12, 2014, Table 3, annual limit on natural gas use of 197.58 MMscf/year converts to a limit of approximately 80 hrs/year for the 2510 MMBtu/hr MGS Unit 3 (197.58 MMscf/year * 1018 Btu/scf * hr/2510 MMBtu)
[51] Modeling Compliance of The Federal 1-Hour NO2 NAAQS, CAPCOA Guidance Document, October 27, 2011, Section 8.6.
[52] TN# 212635-2, Tables 1 and 2.
[53] Based on 34.8 g/sec * (80 hrs/8760 hrs).
[54] TN# 212635-1, page 8.