UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

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DATE JUL 27 2009
RECD JUL 29 2009

July 27, 2009

Eldon Heaston, Executive Director
Antelope Valley AQMD
43301 Division St., Ste. 206
Lancaster, CA 93535-4649

Re: EPA Comments on the Revised PDOC for Palmdale Hybrid Power Project

Dear Mr. Heaston:

Thank you for the opportunity to comment on Antelope Valley Air Quality Management District's (AVAQMD) Preliminary Determination of Compliance (PDOC) for the Palmdale Hybrid Power Project (PHPP), a proposed 570 MW hybrid power plant consisting of two natural gas-fired combined cycle combustion turbines and a solar thermal generator. We appreciate your acceptance of our comments on July 28, 2009.

Our comments are made in reference to the June 22, 2009 PDOC forwarded for public comment on June 27, 2009, and focus on federal New Source Review program requirements, as well as suggested permit condition improvements. Our comments address the PDOC evaluation, proposed permit conditions, and compliance demonstration requirements. Based on a review of recent information from the California Energy Commission's (CEC's) PHPP licensing site, it has come to our attention that emission reduction credit (ERC) information submitted as part of the CEC's licensing efforts were not discussed or referenced in the PDOC. Therefore, our comments also include concerns about the proposed inter-basin, inter-district offset proposal. Sufficient information has not been provided to demonstrate that the PHPP's offset requirements will be met. We are requesting that the AVAQMD demonstrate that the proposed ERCs meet the federal requirements for offsetting the proposed project increases. Our concerns are explained in detail in the enclosure.

We look forward to working with you to address our comments prior to the issuance of the Final Determination of Compliance (FDOC). Please contact Manny Aquitania at (415) 972-3977 or Shirley Rivera at (415) 972-3966 of my staff if you have any questions.

Sincerely,

Gerardo C. Rios
Chief, Permits Office

Enclosure

cc: Bret Banks, Antelope Valley Air Quality Management District
Alan De Salvio, Mojave Desert Air Quality Management District
Felicia Miller, California Energy Commission
Matthew Layton, California Energy Commission
Michael Tollstrup, California Air Resources Board

EPA Comments on the
Antelope Valley Air Quality Management District (AVAQMD, District)
Revised Preliminary Determination of Compliance (PDOC)[1] for
the Palmdale Hybrid Power Project (PHPP)

NO_x and VOC Emissions Reductions Credits (ERCs) / Emission Offsets for Federal NSR Requirements

The following comments address the proposed ERCs for offsetting proposed project increases in NO_x and VOC emissions. We understand the offsets requirements are 150 tons per year (tpy) for NOx emissions and 52 tpy for VOC emissions. The information we have appears only to address NO_x ERCs. There is no reference to securing VOC ERCs.

Specific source(s) and their quantities of ERCs are not identified in the Revised PHPP PDOC submitted to EPA electronically on June 23, 2009. The District generally states in its Revised PDOC,

> "[a]s an alternative offset strategy, the Applicant has identified sufficient quantities of NOx and VOC ERCs to meet the PHPP requirements with the SJVAPCD. The Applicant also continues to investigate the availability of NOx ERCs from the TXI Riverside Cement upgrade project in the MDAQMD."

EPA requests that a complete ERC package, including the specific sources of offsets and their respective quantities, be presented prior to issuing the Final DOC (FDOC) in order to assess the validity and sufficiency of proposed sources of ERCs for offsetting project emissions. The District must demonstrate that the proposed ERCs are real, permanent, quantifiable, surplus and enforceable as a practical matter. Further detail is required on the surplus nature of the proposed NOx ERCs. The District must demonstrate whether the SJV-generated ERCs have been surplus-adjusted at the time of use. This requires an analysis on how the ERCs were created and what rules they were subject to at the time of ERC creation, and what further adjustment may be required due to new requirements that would apply to the source of ERCs.

1. Inter-Pollutant Offsetting

The District states that inter-pollutant offsets will not be used (PDOC, pp. 15). We acknowledge that this is a revision from the initial PDOC which posed an inter-pollutant offset ratio of 1.6:1. for VOC to NO_x. However, if the Applicant chooses at a later date to employ inter-pollutant offsetting, please refer to our previous comments.[2] In short, we emphasized the need for technical justification, at least by air quality modeling, which demonstrates that inter-pollutant offsets will ensure a net benefit to air quality levels in the area of the proposed project. A multi-agency review (i.e., EPA, CEC, California Air Resources Board) of assumptions and proposed methodologies will be necessary.

[1] Revised PDOC dated June 22, 2009 and issued for public comment on June 27, 2009.
[2] EPA comments, "EPA Comments on the PDOC for Palmdale Hybrid Power Project", dated March 19, 2009 to Mr. Eldon Heaston, AntelopeValley AQMD.

2. Inter-District, Inter-Basin Offsetting – NO_x ERCs

For inter-basin offsets, Clean Air Act, Section 173(c) requires that two criteria be met: A) the other area has an equal or higher nonattainment classification than the area in which the source is located; and (B) emissions from such other area contribute to a violation of the national ambient air quality standard in the nonattainment area in which the source is located. The District must demonstrate that proposed inter-basin offsets satisfy the criteria in CAA, Section 173(c). Therefore, we request that the AVAQMD demonstrate that the proposed ERCs meet the federal requirements for offsetting the proposed project increases.

Furthermore, Antelope Valley AQMD's Rule 1305(B)(5)(a)(i) requires that the District consult with the California Air Resources Board and U.S. EPA Region 9 on inter-basin and inter-district ERC transfers. Neither EPA nor ARB has been consulted over these ERC transfers.

The District proposes to use (refer to Revised PDOC, pp.13-15) inter-district and inter-basin offsets from the Mojave Desert AQMD (MDAQMD), San Joaquin Valley APCD (SJVAPCD) or other source for ozone precursor emissions. Meanwhile, with the exception of a reference (which does not include the estimated quantity) to investigating the availability of NO_x ERCs from the TXI Riverside Cement upgrade project in the MDAQMD, the District does not identify the source of any additional NO_x or VOC ERCs in the Revised PDOC.

As published on the California Energy Commission's (CEC's) PHPP licensing site, the District responded to the CEC Staff Status Report No. 4,[3]. However, the ERC information submitted as part of the CEC's licensing efforts were not discussed or referenced in the PDOC sent to EPA. Furthermore, based on an initial review of the District's information submitted to the CEC, it appears that there is insufficient information to conclude that the PHPP's offset requirements will be met. Our comments do not release the District from its obligation to provide a complete ERC package prior to issuing the FDOC.

It is unclear whether the complement of NO_x ERC sources from SJVAPCD has been identified. Please provide more detailed information of the proposed ERCs, demonstrating that they meet the federal requirements for valid inter-basin, inter-district offsets. For instance, the District includes San Joaquin Valley NO_x certificates #S-2990-2, and #S-2553-2. Page 4 of the ERC package, the SJVAPCD letter dated September 30, 2008, identifies the NO_x ERC source as being transferred from Pastoria Energy Facility, LLC and refers to another ERC Certificate #S-2991-2. Moreover, the Mojave Desert letter, dated September 25, 2007, incorrectly identifies the ERCs on page 10 as being PM_{10} ERCs where they should be referenced as NO_x ERCs.

To the extent that the District can clarify NO_x ERC sources above, it appears that there would still be a deficit in the quantity of NO_x ERCs. The District needs to account for an estimated

[3] Antelope Valley AQMD, "Palmdale Hybrid Power Project Project Offsets," dated July 6, 2009 to Ms. Felicia Miller, California Energy Commission.
Web site: http://www.energy.ca.gov/sitingcases/palmdale/documents/others/2009-07-06_AVAQMD_Comments_on_Staff_Status_Report_4_TN-52305.pdf

150 tpy of NO_x PHPP project emissions. San Joaquin Valley NOx certificates #S-2990-2 and #S-2553-2 only account for approximately 5 tons of NOx ERCs, which is significantly less than the 150 tpy of NOx required.

We remain committed to working with the District to ensure that all offsets used in nonattainment areas meet federal offset requirements.

PM_{10} Emissions Reductions Credits (ERC) / Emission Offsets for State Requirements

With respect to PM_{10} ERCs, we acknowledge that the proposed reductions are to meet the State offset requirements. PHPP is located in an area of the District that is designated attainment for all federal National Ambient Air Quality Standards. We understand that there is no federally-required District maintenance plan or other requirement that relies on offsets. Therefore, EPA Region 9 has determined that we will defer to the District and the State to review individual offsets in attainment areas that are required under Antelope Valley AQMD Rule 1305. This letter does not represent EPA concurrence on whether these credits meet federal offset requirements.

BACT – PDOC Evaluation and BACT Demonstration

In accordance with our March 2009 comments, the District has identified, where applicable, LAER/ BACT technologies at the PHPP facility that are at least or more stringent than the New Source Performance Standards (NSPS), National Emissions Standards for Hazardous Air Pollutants (NESHAP), and/or SIP-approved rules for source specific standards, where applicable.

BACT – PDOC Evaluation and Gas Turbine Emissions

PHPP proposes to use gas turbines with the "Rapid Start Process" technology to minimize startup durations. Following EPA's March 2009 comments, the District has provided emissions information (e.g., lbs of pollutant per type of event for each turbine) as part of the engineering evaluation (pp. 6-8). Proposed emission limit conditions for each gas turbine based on hot/warm startup, cold startup and shutdown events are included for NO_x and CO emissions. Although similar information is presented for VOC emissions, the District has not included proposed emission limit conditions.

BACT – Combustion Sources and Startup/Shutdown Emissions

In addition to conditions for the gas turbines, permit conditions, where applicable, should be specified for transient conditions of the following:

1. Auxiliary Boiler
2. Heat Transfer Fluid Heater

3. Emergency Generator
4. Emergency Fire Suppression Water Pump

The District expects the proposed emission limits for the above equipment to be met through equipment operations, e.g., startup, steady-state operations, shutdown, etc.

Federal Prevention of Significant Deterioration (PSD) Requirements and Discussion

As previously commented in EPA's March 2009 letter to the District, the District presents a discussion of select PSD requirements in Section 6 (PSD Class I Area Protection) and Section 7 (Air Quality Impact Analysis). Although we appreciate the District including this information as part of its PDOC, we believe this is intended for information purposes only and does not represent formal concurrence of the Class I impacts or National Ambient Air Quality Standards analysis. EPA has jurisdiction for issuing the PSD permit. Therefore, EPA, and not the District, is responsible for formally determining whether the requirements of Part 52.21 have been met.

Permit and Evaluation Improvements – Suggested Updates and Considerations

PDOC conditions were reviewed to ensure federal enforceability, where applicable, of the corresponding compliance demonstrations. The District has included many of the comments made to the prior version of the PHPP PDOC, resulting in specific permit conditions that enhance federal enforceability. However, the District may want to consider $PM_{2.5}$ emission limits in the following PHPP FDOC conditions:

1) p. 21 Condition 6. $PM_{2.5}$ lb/day limit
2) p. 23 Condition 17(f). $PM_{2.5}$ to be included in summary report
3) p. 27 Condition 4. $PM_{2.5}$ lb/hr limit
4) p. 27 Condition 6(b). $PM_{2.5}$ to be included in summary report
5) p. 28 Condition 3. $PM_{2.5}$ lb/hr limit
6) p. 28 Condition 5. $PM_{2.5}$ to be included in summary report

The following present additional comments for Section 12 (Permit conditions) for the District's consideration in developing the FDOC. (It should be noted that there may be comments on the revised PDOC that we did not make for the previous PDOC.)

General suggestions

- Source test methods – Source test methods (or references to a related permit condition) for each pollutant being tested should be explicitly listed when referenced in a permit condition (e.g., Conditions 14, 15, etc.)
- Equipment subject to PSD – All equipment (not only the combustion turbine generator power block) are subject to the PSD requirements.
- Natural gas-fired equipment – It is assumed that these equipment are fired with pipeline quality natural gas, i.e., as defined by Condition 2 of the *Combustion Turbine Generator Power Block Authority to Construct Conditions*.
- Equipment operating hour limits - We note that recordkeeping of operating hours is required for several equipment. Please include permit condition language that

requires further enforceability of the operating hour limits, e.g., non-resettable hour meter, where applicable.

Combustion Turbine Generator Power Block Authority to Construct Conditions

1. Condition 3 (p. 20)- Correction: Please replace the PSD citation of 40 CFR 51.166 with **40 CFR 52.21**.

2. Condition 5.a. (p. 21) – Clarification: The District refers to an "aborted partial cold start" continuing to be considered a cold start. Please provide further discussion about this operating scenario and the intent of retaining cold startup status rather than "other startup" status (which has reduced durations and emissions requirements).

3. Conditions 6 and 7 (p. 21) – Clarification/correction: These conditions refer to equipment other than the gas turbine-related operations, thus representing facility-wide emissions. The emission limits should be further clarified and corrected. For instance, the emission limits for NO_x and CO incorrectly reference "verified by CEMS" for compliance demonstration. If in fact the intent is for these limits to be facility-wide; other facility equipment should be equipped with CEMS for determining NO_x and CO emissions. Please revise these conditions to properly reflect the District's intent for compliance demonstration with a facility-wide emission limit.

4. Condition 8 (p. 22) – Clarification: Please clarify what federally enforceable monitoring requirements are associated with this permit condition.

5. Condition 10 (p. 22) – Clarification/definition: This condition requires that the control technologies be "installed and fully functional," however, it is unclear what defines "fully functional" within the context of determining, for example, the operating parameters and variables. We suggest the District further define how "fully functional" will be enforced.

6. Condition 12 (p. 22) – Consistency: This condition requires PHPP to notify the APCD and EPA of the dates of first fire and initial commercial operation of each gas turbine. We suggest that the District assure the date of initial commercial operation be consistent with Part 75 requirements.

7. Condition 15 (p. 23) – Observation: Although NO_x and CO startup and shutdown requirements are included as permit conditions the District has not included proposed VOC emission limit conditions for these transient operating scenarios.

8. Condition 21 (p. 24) – Clarification: This condition requires NO_x and NH_3 slip ppm limits to "apply coincident with the steady state operation of the SCR systems." For clarification purposes, EPA suggests the District reference the applicable permit conditions – Condition 4 (of the *Selective Catalytic Reduction System Authority to Construct Conditions*) for the ammonia slip limit and Condition 4 of the *Combustion Turbine Generator Power Block Authority to Construct Conditions*). Furthermore, as

noted above in Comment 5, the intent of the term "fully function" appears to be similar to the intent of this Condition 21. We suggest consistency in terminology.

Selective Catalytic Reduction System Authority to Construct Conditions

9. Condition 4 (p. 26) – Clarification/addition: This condition requires ammonia injection when the SCR temperature is 550 degrees Fahrenheit or greater. To ensure enforceability of this requirement, we suggest a requirement for maintaining records of the monitoring of the temperature.

Emergency Generator Authority to Construct Conditions

10. Condition 3 (p. 29) – Clarification/definition: This condition limits operation of this generator when "commercially available power has been interrupted." This terminology is somewhat vague given that there may be a variety of scenarios when power may be interrupted. Please describe and confirm the intended limited scenarios for operating this generator. Furthermore, it is unclear whether the intent and language of this requirement is consistent with the District's SIP rules governing the operations of this generator strictly under emergency scenarios.

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