



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

July 23, 2009

**DOCKET
08-AFC-11**

DATE 07/23/09

RECD. 07/28/09

Andrew Welch, Vice President
CPV Vacaville, LLC
8403 Colesville, Road, Suite 915
Silver Spring, MD 20910

Re: Prevention of Significant Deterioration for CPV Vaca Station Power Plant

Dear Mr. Welch:

This is in response to your Prevention of Significant Deterioration (PSD) application for an Environmental Protection Agency (EPA) issued PSD permit for the CPV Vaca Station power plant, dated November 26, 2008, and received by this office on December 11, 2008. The application is for a 660 megawatt natural gas-fired combined cycle base load power plant to be located in Vacaville, California.

Upon our initial application review in accordance with the Code of Federal Regulations 40 § 124.3, additional information is needed to determine completeness for this application; such additional information is enclosed. Information necessary for the completeness determination includes: BACT during transient operating periods such as startup and shutdown, additional impacts analyses and clarification of the CO BACT and PM, PM10 and PM2.5 emission estimates. This information is discussed in more detail in the enclosure. Please be aware that materials submitted for the California Energy Commission's (CEC's) licensing process may not contain all the information necessary for the PSD analysis. The submitted application appears to be excerpts of the Application for Certification (AFC) submittal to CEC's licensing process. If you believe the information that we are requesting is present in the already submitted materials, please provide, at a minimum, a cross reference of your application content (e.g., page number, section(s)) to the specific PSD requirement.

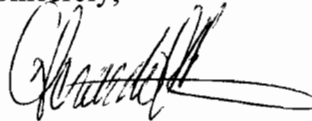
EPA notes that the current submittal of portions of the AFC submitted to the CEC may not comprise a complete Biological Assessment as required for EPA to initiate a Section 7 Endangered Species Act (ESA) consultation with US Fish and Wildlife Service (USFWS). This consultation is a required part of obtaining a PSD permit, therefore, please provide at least two copies of a Biological Assessment that is consistent with the requirements of ESA, Section 7, one of which we can later forward to the USFWS. Information about what the Biological Assessment should include can be found in the ESA Section 7 Consultation Handbook:

(<http://www.fws.gov/endangered/consultations/S7HNDBK/s7hndbk.htm>).

EPA is required to provide public notice of a proposed permit action to all affected State and local air pollution control agencies, the chief executives of the city and county where the project will be located, any comprehensive regional land use planning agency, and any State, Federal Land Manager, or Indian Governing Body whose lands may be affected by emissions from the regulated activity. Please provide the names and addresses of all such entities with respect to this project.

If you should have any questions concerning application completeness, a claim of confidentiality, or any question regarding the review of your application, please contact Katherine Hoag at (415) 972-3970 or Shirley Rivera at (415) 972-3966.

Sincerely,



Gerardo C. Rios
Chief, Permits Office

Enclosures

cc: Susan McLaughlin, Yolo-Solano AQMD
Michael Tollstrup, CARB
Rod Jones, CEC
Steve Hill, Sierra Research
Mike McCorison, U.S. Forest Service
Dee Morse, National Park Service

Enclosure: Additional Information Needed for CPV Vaca Station Power Plant PSD Application Completeness

I. PSD Application Elements

Responsible official – A PSD application should be signed by a responsible official (40 CFR § 124.3(a)(1)). Please submit for our records a document that indicates the responsible official with the appropriate signature.

Applicant updates to YSAQMD – EPA is aware that the applicant has made corrections and updates to the application submitted to the YSAQMD for a non-attainment NSR permit (PDOC). It is the Applicant's responsibility to provide EPA with current, accurate, correct information for our formal permit application records. In addition, any permit issued by EPA only pertains to constructing the project as described in the application. Please provide the necessary updates to any information included in the PSD application to ensure that assumptions shared between the PSD and PDOC processes that contribute to the determination of the potential-to-emit, BACT, and assumptions for the air quality analysis/modeling are consistent.

Also, we encourage the applicant to provide any corrections to references or typographical errors such as the reference on Page 5.1-25 to a BACT discussion in section 5.1.6.3, a subsection that is not present. Please be aware that any significant updates that occur after EPA has determined that the application is complete may be considered a new application and delay permit issuance.

II. Best Available Control Technology (BACT)

BACT – Combustion Sources and Startup/Shutdown Emissions – EPA requires that BACT apply not only during normal, steady-state operations but also during all transient operating periods such as SU/SD periods. Therefore, as part of the BACT evaluation, we expect applicants to consider operating approaches, operating controls, work practices, and equipment performance and design that would minimize startup/shutdown (SU/SD) emissions. References from EPA's Environmental Appeals Board (EAB) that provide context are included below.

- **Rockgen Energy Center (PSD Appeal No. 99-1)**
<http://www.epa.gov/eab/disk11/rockgen.pdf>
- **Tallmadge Generating Station (PSD Appeal No. 02-12)**
<http://www.epa.gov/eab/orders/tallmadge.pdf>

BACT- CO emissions from Combustion Turbine Generators

The emission limits proposed for each combustion turbine generator (CTG) are 3.0 ppmvd @ 15% O₂ on a 3-hour average basis. We note this is discussed in the PSD application's top-down BACT analysis for CO. As part of a BACT analysis, EPA considers achieved in practice emissions as part of the BACT evaluation. It is unclear whether the applicant has included a complete review as part of its analysis. EPA is

aware of CTGs achieving CO emissions less than 3.0 ppmvd @ 15% O₂. Therefore, please provide confirmation whether the applicant's evaluation considered achieved in practice CO ppm levels less than 3.0 ppmvd @ 15% O₂. If so, please provide reasons why a lower level was eliminated from consideration.

BACT- PM/PM10/PM2.5 emissions from Cooling Towers – Please provide more specific information and reference documents about the emissions estimates of particulate matter from the cooling towers, including a the maximum value for total dissolved solids used in the emissions estimates. Also please provide a detailed and quantitative discussion and the references for all other assumptions made in determining the percent of total PM in either the PM10 or PM2.5 size fraction. Please note that the tables provided in Appendix 5.1A do not constitute a discussion of the basis for these calculations.

III. Emission Estimates

PSD Applicability and Pollutant Review of Particulate Matter (PM)- As part of EPA's on-going application review, we have noted that, based on the submitted PSD application information reviewed to date, the applicant has referenced NO₂, CO, ROC, PM₁₀ and PM_{2.5} as subject to PSD review (page 5.1-49). In addition to the pollutants already identified, PM (total particulates), a regulated pollutant, is reviewed by EPA Region 9. The significance threshold for PM is 25 tons per year. There is not a NAAQS for PM; the NAAQS for PM₁₀ has replaced the old NAAQS for PM.

We note, based on Applicant information, an estimated 79.0 tons per year (TPY) of PM10 emissions, as listed in table 5.1-25 on page 5.1-40. Because it appears that PM emissions from CPV-Vaca Station will exceed 25 TPY, PM is subject to PSD review. Given there is neither a NAAQS nor PSD increment for PM, the evaluation process should, at a minimum, include: PM emission estimates (including fugitive emissions, where applicable) and a BACT discussion for the proposed combustion sources, as well as the cooling towers, and an additional impacts analysis. Please provide your assumptions for quantifying PM emissions from the proposed project for each of the affected equipment and processes.

Federal PM_{2.5} Implementation Status – EPA has granted a petition to reconsider aspects of the PM_{2.5} NSR Implementation Rule (73 FR 28321 May 31, 2008). The letter granting the petition and a fact sheet describing the action can be found at the website: <http://www.epa.gov/nsr/actions.html#2009>. In light of this regulatory development, please submit, as part of your application, PM_{2.5} analyses that meet the requirements of PSD. If you have any questions about this or any air quality modeling issues, please feel free to call Carol Bohnenkamp at 415-947-4130.

IV. Additional Impacts Analysis

Soils and Vegetation - In addition to the analysis provided in the PSD application, at a minimum, the applicant should compare impacts against those in "A Screening Procedure

for the Impacts of Air Pollution Sources on Plants, Soils, and Animals," EPA 450/2-81-078, December 1980. This document can be found at the website:

<http://www.air.dnr.state.ga.us/airpermit/downloads/permits/psd/dockets/longleaf/epadocs/EPA-Screening%20Procedure,%20Air.pdf>

Visibility Impairment Analysis - A visibility analysis is required under Additional Impacts Analysis that is separate from the Class I AQRV analysis. Please conduct a VISCREEN analysis, per EPA's "Workbook for Plume Visual Impact Screening and Analysis (Revised)," EPA-454/R-92-023, October 1992. This could be called a "plume blight" analysis. The analysis would be carried out for any nearby "sensitive" Class II locations, such as state or federal parks, or if there are not any of those, then simply locations within 10 km or so.

More information about VISCREEN can be found on the EPA Support Center for Regulatory Atmospheric Modeling (SCRAM) website:

http://www.epa.gov/scram001/dispersion_screening.htm#viscreen

Also, the document: "Workbook for Plume Visual Impact Screening and Analysis (Revised)," EPA-454/R-92-023, October 1992, can be obtained from NTIS (<http://www.ntis.gov/>) - Product Code: PB93223592.

Growth Analysis - The CEC AFC sections submitted for the PSD application do not appear to address growth impacts associated with the proposed facility. Therefore, please provide the additional growth analysis information.

Regulatory citation:

52.21 (o) Additional impact analyses.

(1) The owner or operator shall provide an analysis of the impairment to visibility, soils and vegetation that would occur as a result of the source or modification and general commercial, residential, industrial and other growth associated with the source or modification. The owner or operator need not provide an analysis of the impact on vegetation having no significant commercial or recreational value.

EAB Decision: Indeck-Elwood LLC (PSD Appeal No. 03-04)

The Indeck-Elwood EAB decision (PSD Appeal No. 03-04) also provides further guidance on the type of information that is necessary for the additional impacts analyses. The decision can be found at the website:

[http://yosemite.epa.gov/oa/EAB_Web_Docket.nsf/CAA~Decisions/5B6EB58DEDF35ABC852571F6006865E3/\\$File/Order%20Denying%20Review...105.pdf](http://yosemite.epa.gov/oa/EAB_Web_Docket.nsf/CAA~Decisions/5B6EB58DEDF35ABC852571F6006865E3/$File/Order%20Denying%20Review...105.pdf)