

CALIFORNIA ENERGY COMMISSION

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SACRAMENTO, CA 95814-5512

June 4, 2007

Mr. David Warner
Director of Permit Services
San Joaquin County Air Pollution Control District
1990 East Gettysburg Avenue
Fresno, CA 93726

DOCKET
06-AFC-5
DATE JUN 04 2007
RECD. JUN 04 2007

**Re: Comments on Preliminary Determination of Compliance (PDOC)
Project Number: C1062518 – Panoche Energy Center LLC (06-AFC-5)**

Dear Mr. Warner,

The California Energy Commission staff commends the District on its comprehensive PDOC for the Panoche Energy Center (PEC) project. Staff has reviewed the PDOC and has the following comments for your consideration for inclusion in the Final Determination of Compliance (FDOC).

Hourly Emission Rates

The hourly emission rates provided by the project applicant appear to be internally inconsistent given that the Best Available Control Technology (BACT) emission levels are all based on ppmvd at 15 percent oxygen. This is particularly true with the Volatile Organic Compound (VOC) emission rates. Staff's calculations indicate the maximum hourly steady state emission rate for VOC at 2.0 ppmvd should be 2.23 lbs/hour, rather than 2.67 lbs/hour as given by the project applicant and PDOC. Staff's calculations are based on ideal gas law, where assuming all of the BACT levels are based on ppmvd at 15 percent oxygen the emissions can be calculated based on the (nitrogen oxides) NOx emission limit of 8.03 lb/hour. An example is as follows:

$$\text{VOC lbs/hr} = 8.03 \text{ NOx lb/hour} \times (2.0 \text{ ppmvd VOC BACT} / 2.5 \text{ ppmvd NOx BACT}) \times (16 \text{ (VOC MW as methane)} / 46 \text{ (NO}_2 \text{ MW)}) = 2.23 \text{ lbs/hour}$$

Staff believes this internally consistent calculation leads to the correct BACT emission limit for VOC assuming that the NOx emission limit is correct to three digits as provided by the project applicant. We believe this emission rate provides internally consistent BACT emission rates and that this lower emission rate for VOC should be the BACT emission rate basis for the daily and quarterly emission limits.

Quarterly Emission Limits

The PDOC conditions do provide operating hour limits by quarter, but do not provide quarterly emission limits. Due to the quarterly nature of offset requirements staff suggests that the FDOC contain quarterly emission limits in a permit condition, as was presented in the Starwood Power-Midway project PDOC.

Initial Commissioning Limitation

The project applicant has stipulated to minimizing initial commissioning impacts by only commissioning two turbines at a time. Staff recommends that the District memorialize this stipulation by adding a condition that limits the initial commissioning operation to no more than two turbines operating without a functioning Selective Catalytic Reduction (SCR) system and oxidation catalyst.

Condition 12 Reference

Condition 12 should refer to Condition 28 rather than Condition 36.

Initial Commissioning Emission Limit for VOC

Staff believes that the emission rate for VOC given in Condition 14 should be consistent with the maximum hourly emission rate for VOC, which if shutdown emissions are not revised as recommended in another comment below, then the VOC emission limit in this condition should reflect the worst case shutdown emission rate of 17.14 lbs/hour.

Initial Commissioning Emissions Accrual Condition 18

Condition 18 of the PDOC should refer to Condition 37 rather than Condition 41. Additionally, staff believes that this condition should also state that the emissions from initial commissioning should also accrue against the quarterly emission limits (please also see staff's comment on page 1 of this letter recommending that quarterly emission limits be added as a PDOC condition.).

Emission Reduction Credit Certificates

Staffs' review of the SJVAPCD's website Emission Reduction Credit (ERC) lists, finds all of the listed ERCs necessary for the project except for S-2465-1, which is the only VOC ERC certificate for the project. Staff would appreciate the District providing an update on the status of this ERC certificate.

Startup/Shutdown Emissions

Staff believes that the startup/shutdown emissions presented in the PDOC do not use a reasonable basis and do not reflect the emissions stipulated to by the project applicant in the AFC. The PDOC uses worst-case emissions determined based on one hour of operation in startup or shutdown mode. However, the project applicant has indicated that the startup and shutdowns should take 30 minutes and 10.5 minutes, respectively, with normal emissions the rest of an hour that has a startup or shutdown event (AFC p. 5.2-16). The project applicant, to staff's knowledge, has not specifically requested any other limitations on the startup or shutdown mode time or maximum emissions. Therefore, staff requests that either the FDOC reflect a revision of the startup/shutdown emission limits appropriate to the project applicant's specified unsteady state

timeframes when in startup/shutdown mode. Alternatively, please provide the District's position on why the selection of the hour long startup and shutdown periods was made in the PDOC and why it will be retained in the FDOC. Any changes made to the PDOC's hourly startup/shutdown emissions made will need to be reflected as appropriate in the emission totals and the District DOC conditions, particularly Conditions 30 and 31.

Startup/Shutdown Emission Limit Averaging Periods

Condition 30 allows a three hour averaging period for the startup emission rates. This is inconsistent with the duration of startup/shutdown event timeframes, as described in the comments directly above and below this comment. Staff believes this should be shortened to one hour averaging periods.

Startup/Shutdown Time Limits

PDOC Condition 33 limits startup/shutdown time to two hours per event. However, the startup event unsteady state operation is noted by the project applicant to be 30 minutes in duration and the shutdown unsteady state operation is noted to be 10.5 minutes in duration. Staff has not received any information from the project applicant requesting a startup/shutdown event time of two hours, or anything more than 30/10.5 minute event times that they provided in the AFC. Please either provide notation of the project applicant's request for this duration in the FDOC or reduce the duration limit in Condition 33 to value(s) more consistent with the project applicant's provided startup/shutdown timeframes. For comparison, the Pastoria expansion simple cycle 7F turbine was limited to startup/shutdown durations of one hour.

Condition 35 - PM10 Emission Limit

Staff believes that the PM10 daily emission limit contains a typographical error and should be 144.0, not 144.1 lbs/day (6.0 lbs/hour x 24 hours/day = 144.0 lbs/day).

Firewater Pump Engine Type and Emission Limits

Staff has reviewed the CARB/USEPA nonroad diesel engine emission standards, and the current standard for new engines between 100 and 175 horsepower would be the Tier 3 standard, rather than the Tier 2 standard identified in the PDOC for the firewater pump engine. Staff recommends that this engine be required to meet the Tier 3 standards.

Mr. David Warner
June 4, 2007
Page 4

If you have any questions, please contact Keith Golden of my staff at (916) 653-1643. Thank you for the opportunity to comment on the Panoche Energy Center project Preliminary Determination of Compliance.

Sincerely,

A handwritten signature in black ink that reads "Paul Richins". The signature is written in a cursive style with a large initial "P" and "R".

PAUL RICHINS
Environmental Protection Office Manager

cc: Docket