

## CALIFORNIA ENERGY COMMISSION

1516 NINTH STREET  
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January 6, 2009

Mr. Steve Moore  
Senior Air Pollution Control Engineer  
San Diego Air Pollution Control District  
10124 Old Grove Road  
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<b>DOCKET</b>	
07-AFC-6	
DATE	JAN 06 2009
RECD.	JAN 06 2009

**Re: Comments on Preliminary Determination of Compliance  
Carlsbad Energy Center Project (07-AFC-6)**

Dear Mr. Moore,

Energy Commission staff has reviewed the San Diego Air Pollution Control District's Preliminary Determination of Compliance (PDOC) and has the following questions and comments for your consideration for inclusion in the Final Determination of Compliance (FDOC).

**Comments on PDOC Conditions**

Conditions 5, 81, 82, 83 and 84

In reviewing Conditions 5, 81, 82, 83 and 84, it appears that the applicant could build just one of the combustion turbine trains, and not build the second one and be allowed to continue operation of the existing boilers for Encina Power Station Units 1, 2 and 3 (Permits to Operate Nos. 791, 792 and 793). Is that the intention of the District? If so, it is inconsistent with how the CECP has been described to the reviewing parties and the public as including two turbine trains and the permanent shutdown of Permit Units 791, 792 and 793.

Conditions 32, 33, and 34 – NOx Emission Concentration Limits

Staff has questions about the high NOx emission concentration limits allowed by the Conditions 32, 33 and 34, and whether these conditions would conflict with the lowest emission requirements of Condition 28 for the gas turbines. What are the explicit operating circumstances under which each of the limits in these conditions would apply and how is BACT not circumvented by these conditions? In addition, are there explicit emission limits in these conditions that govern both the emission concentration (ppm) and the emission rate (lbs/hour) allowed during low load operation?

Conditions 42 and 43 – NOx and CO Hourly Emission Limits

Conditions 42 and 43 should clarify that the hourly emission limits provided for both turbines are allowed only when one turbine is in commissioning or tuning operation and the other is in a startup and shutdown hour mode. Also, please clarify whether the mass emission limits of Condition 42 would conflict with the concentration requirements of Conditions 32 through 34.

#### Condition 5 – Surrender of ERCs

This condition currently allows the surrender of ERCs on a per-turbine basis. Typically districts require, whether a project is defined as a single-turbine or multiple-turbine proposal, that all the ERCs be surrendered prior to the first permit unit commencing operation. The CECP project is a two-combustion turbine project, and thus all of the ERCs for the proposed project should be surrendered once the first of the two turbines commences operation. Condition 5 should be revised as follows:

“Prior to the initial startup date of either of the CECP combustion turbines, the applicant shall surrender to the District Class A Emission Reduction Credits (ERCs) in an amount equivalent to 47.88 tons per year of oxides of nitrogen (NOx) to offset the net maximum allowable increase of 39.9 tons per year of NOx emissions.”

#### Condition 13 – Tuning Definition

Staff recommends that this condition and the engineering analysis specifically describe or limit the purpose and conditions under which a tuning event would be allowed. Staff recommends that the purpose and conditions under which a tuning event is necessary is explained in the engineering evaluation. Additionally, due to the higher emissions allowed during tuning, staff recommends that Condition 13 clearly state the conditions under which combustion or emission system adjustments defined as a tuning event would be allowed, such as only when turbine operating safety or emission limit compliance is involved.

#### Condition 16 – Commissioning period time frame

This condition limits the commissioning period to no greater than 120 days. However, staff analyzed the project based on information provided by the applicant in the Project Enhancement and Refinement document (Revised Figure 1.4a). “Commissioning is estimated to last for 58 days for Unit 6 (Turbine A) and 61 days for Unit 7 (Turbine B) (PSA p. 4.1-22).” What is the basis for a doubling of the commissioning period?

As a point of reference, the South Coast Air Quality Management District performed an evaluation on a project very similar to CECP, the El Segundo Redevelopment Project. The PDOC issued (March 13, 2008) for that project includes commissioning (actual firing of each turbine) to not exceed 415 hours per turbine. Staff would suggest that a similar number of hours be considered for the commissioning period condition for CECP.

#### Condition 17 – Shakedown time frame

The term “shakedown” has not been proposed by the applicant, nor is it included in any portion of the Staff Assessment. Staff proposes that the period defined as shakedown either be deleted (as it is not a part of the project description) or be clearly defined as to what it is. Currently, it appears to be a period of time between the end of commissioning (as defined in Condition 16) and up to 180 days after first fire. It does not appear to be defined in any engineering or operational scenario.

Conditions 5, 44, 82 and 83 – Phased Initial Startup and Total NOx Emissions

It is unclear how the phased initial startup will be administered and annual NOx emissions limited, considering what appears to be a conflict between Condition 44 and Conditions 5, 82 and 83. Staff suggests editing Condition 44 to clarify that the emission limit for that condition is only in effect after both turbines are in operation and existing Boilers 1 through 3 cease operation and all required NOx ERCs have been surrendered; or alternatively note that Condition 44 is not in effect while Conditions 82 and 83 apply.

Alternatively, the District should consider a more simplified permit approach that considers the project as two turbines and not try to split the project into two emission limit requirements (Conditions 44 and 82). This concern is heightened by the phased surrendering of the offsets as pointed out earlier on Condition 5.

Condition 44 – Post Commissioning CO Emission Limit

Condition 44 provides the commissioning year CO emission limit (339.9 tons/year). Staff recommends that the condition also provide a post commissioning year emission limit for CO that is consistent with the BACT findings (217.3 tons/year).

Condition 57 – Renewal Source Tests

Staff requests that the frequency or the method for determining the frequency of the renewal source tests be explicitly provided in this condition.

Condition 61 – Natural Gas Higher Heat Value Testing Frequency

Staff recommends that this condition, if it continues to allow non-continuous testing of the natural gas higher heat value, provide a frequency requirement (weekly, daily, etc.) for such tests.

Condition 83 - Emission Limits for the Three Utility Boilers

This condition allows for the continued operation of the existing boilers once the first turbine (Turbine A) commences operation but only when Turbine A is not in operation. The engineering analysis (particularly Table 5d), however, is unclear as to the basis of the emission levels in Condition 83. The engineering analysis should discuss the basis of these permit levels and explain how, especially for the PM<sub>2.5</sub> and PM<sub>10</sub> limits, these levels will be enforced.

Additionally, Condition 83 notes it includes aggregate emissions for VOC and SO<sub>x</sub>, but those limits do not appear in the emissions tabulated below the condition text. Staff recommends that VOC and SO<sub>x</sub> emission limits be added to Condition 83 as relevant to the most restrictive regulatory requirement, which could be PSD permit applicability thresholds or other District regulatory thresholds for VOC and SO<sub>x</sub> emissions.

NOx Emission Reduction Credits

Staff requests that a condition be added to the FDOC that specifies the ERCs by certificate number that will be used to offset the project's NOx emissions.

## **Comments on PDOC Engineering Evaluation**

### Page 8 - Table 1a – Maximum Turbine Emission Rates during Normal Operations

Staff believes that the CO and VOC concentration averaging periods in this table were inadvertently noted to be 3-hour averages. Conditions 29 and 30 note a 1-hour average for these two pollutants under normal (non-transient hour) operations.

### Page 13 - Table 4a – Maximum Turbine Hourly Emissions During Commissioning

Staff believes that the maximum allowed combined turbine emissions for VOC should be 164 lbs/hour (one turbine in commissioning) plus 21 lbs/hour (one turbine in a startup and shutdown hour) for a total of 185 lbs/hour versus the 327.5 lbs/hour shown in the table.

### Page 30 and 31 – Magnolia Power Plant

Please note that the Magnolia Power Plant in the City of Burbank has been built and started commercial operation during the third quarter of 2005.

### Page 38/39 – NOx Emission Reduction Credits

Staff requests that the FDOC provide a complete list of NRG's proposed NOx ERCs, which also provides the location, year, and method of the emission reduction that can be cross-referenced with the District's website NOx ERC list.

### Page 39 – Compliance Certification

Staff requests that NRG's compliance certification be published with the FDOC or that the District provide a copy of the NRG compliance certification separately to staff.

## **Staff Assessment Workshop**

We understand that the District will attend the Staff Assessment workshop. The Staff Assessment workshop is scheduled for January 7<sup>th</sup> and 8<sup>th</sup> with the Air Quality subject to be discussed commencing at 5:00 pm on January 7<sup>th</sup>. The workshop will be at the Sheraton Carlsbad, Sunset B Ballroom/Conference Room, 5480 Grand Pacific Drive, Carlsbad.

Mr. Steve Moore  
January 5, 2009  
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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 Carlsbad Energy Center Project Preliminary Determination of Compliance.

Sincerely,

A handwritten signature in black ink, appearing to read "Dale Edwards". The signature is fluid and cursive, with a large loop at the end.

DALE EDWARDS, Manager  
Environmental Protection Office  
Siting, Transmission and Environmental  
Protection Division

cc: Docket  
POS



**BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT  
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**APPLICATION FOR CERTIFICATION  
FOR THE *CARLSBAD ENERGY  
CENTER PROJECT***

**Docket No. 07-AFC-6  
PROOF OF SERVICE  
(Revised 1/5/2009)**

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**DECLARATION OF SERVICE**

I, Teraja` Golston, declare that on January 06, 2009, I deposited copies of the attached Comments of Preliminary Determination of Compliance in the United States mail at Sacramento, Ca with first-class postage thereon fully prepaid and addressed to those identified on the Proof of Service list above.

**OR**

Transmission via electronic mail was consistent with the requirements of California Code of Regulations, title 20, sections 1209, 1209.5, and 1210. All electronic copies were sent to all those identified on the Proof of Service list above.

I declare under penalty of perjury that the foregoing is true and correct.

Original Signature in Dockets.  
**Teraja` Golston**

Attachments