

CALIFORNIA ENERGY COMMISSION1516 NINTH STREET
SACRAMENTO, CA 95814-5512

February 4, 2009

Mr. Ken Speer, Assistant General Manager
Northern California Power Agency
108 Cirby Way
Roseville, CA 95678**RE: Lodi Energy Center Project (08-AFC-10)
Data Request Set 2 (#s 56-74)**

DOCKET	
08-AFC-10	
DATE	FEB 04 2009
RECD.	FEB 04 2009

Dear Mr. Speer:

Pursuant to Title 20, California Code of Regulations, Section 1716, the California Energy Commission staff seeks the information specified in the enclosed data requests. The information requested is necessary to: 1) more fully understand the project, 2) assess whether the facility will be constructed and operated in compliance with applicable regulations, 3) assess whether the project will result in significant environmental impacts, 4) assess whether the facilities will be constructed and operated in a safe, efficient and reliable manner, and 5) assess potential mitigation measures.

This set of data requests (#s 56-74) is being made in the areas of air quality (#s 56-64), hazardous materials management (#s 65-70) and visual resources (#s 71-74). If possible, we would appreciate written responses to the enclosed data requests on or before February 16, 2009, or at such later date as may be mutually agreeable. In the event we receive your responses in sufficient time for CEC staff to review, they will be included for discussion at the February 23, 2009 Data Response and Issue Resolution Workshop.

If you are unable to provide the specific information requested, need additional time, or object to providing requested/specific information, please send a written notice to both Commissioner Karen Douglas, Presiding Committee Member for the Lodi Energy Center Project, and to me, within 20 days of receipt of this letter. If sent, this notification must contain the reason(s) for not providing the information, the need for additional time, and the grounds for any objections (see Title 20, California Code of Regulations, section 1716 (f)).

If you have any questions, please call me at (916) 654-5191 or email me at rjones@energy.state.ca.us.

Sincerely,

Original signed by
Rod Jones
Project Manager

Enclosure
cc: Docket (08-AFC-10) and POS

PROOF OF SERVICE (REVISED 02/02/09) FILED WITH
ORIGINAL MAILED FROM SACRAMENTO ON 02/04/09
AA

LODI ENERGY CENTER (08-AFC-10) DATA REQUESTS

Technical Area: Air Quality

Author: Brewster Birdsall and Keith Golden

BACKGROUND

Greenhouse Gas Emissions

Energy Commission staff plans to describe the quantity of greenhouse gas (GHG) emissions created during construction of the project, based on the construction equipment activity estimates and fuel use projections in AFC Appendix 5.1E. These include carbon dioxide, nitrous oxide, and methane (unburned natural gas). The GHG emissions estimates should consider activity related to construction of linear facilities, worker travel, and material deliveries using diesel trucks during construction. AFC Table 5.1-22 shows the GHG emissions from primary stationary sources related to operation of the Lodi Energy Center. However, staff also seeks to quantify emissions from worker commutes and material deliveries during operation of the proposed project.

DATA REQUEST

56. Please show the total and annual GHG emissions for the construction phase of the proposed project including all activities at the construction site and any construction activities for linear facilities (gas and water pipelines and transmission lines), worker travel, and trucked material deliveries.
57. Please quantify emissions of criteria pollutants and GHGs from worker commutes and material deliveries during operation of the proposed project.

BACKGROUND

Baseline Conditions

The site of the 255 megawatt (MW) Lodi Energy Center project proposed by the Northern California Power Agency (NCPA) includes the existing NCPA Combustion Turbine Project (CTP #2) facility that consists of one 49 MW GE LM-5000 natural gas-fired, steam-injected (STIG) combustion gas turbine and one 240 HP Cummins diesel fire pump engine. The existing sources and the proposed project would both be owned and operated by NCPA (AFC p. 2-1). Though the existing potential to emit is shown in AFC Table 5.1-14 and the unit is considered in the cumulative impact analysis of AFC Appendix 5.1G, but information is provided to quantify baseline emissions from the existing facility.

DATA REQUEST

58. Please quantify the existing actual emissions from the CTP #2 facility for the two year prior to filing the AFC, namely from August 2006 up to and including August 2008.
59. Please provide a copy of the San Joaquin Valley Air Pollution Control District permit to operate for the NCPA sources at the CTP #2 facility.
60. Please describe whether the CTP #2 facility is likely to change its operational patterns as a result of the proposed Lodi Energy Center.

LODI ENERGY CENTER (08-AFC-10) DATA REQUESTS

BACKGROUND

Fire Pump or Emergency Generator

The AFC does not mention whether a new fire pump or an emergency generator would need to be installed for the LEC project.

DATA REQUEST

61. Please confirm whether a new fire pump or an emergency generator would be needed for the project. If so, provide manufacturer's specifications and the anticipated operating schedule and emissions rates.

BACKGROUND

Emission Reduction Credits (ERCs)

Staff would like to demonstrate that the emission reductions proposed as part of the Lodi project would mitigate project impacts to PM10 and PM2.5, as the proposed project would be a source of both. It is not clear how the offset package in AFC Table 5.1F-4 would achieve PM2.5 mitigation, noting that natural gas combustion results primarily in PM2.5 emissions. For example, emission reductions for PM10 would be mainly provided by surrendering ERC Certificate No. S-2479-4, which originated from the shutdown of a feed-mill (AFC Table 5.1F-4). This type of reduction provides PM10 mitigation, but it may not provide notable PM2.5 mitigation.

DATA REQUEST

62. Please provide an analysis of the ERCs that are proposed to be surrendered and identified in AFC Table 5.1F-4 that demonstrates the level of PM2.5 mitigation for the proposed project.

BACKGROUND

Ammonia Slip

The applicant's proposal for ammonia slip emissions is higher than the level that Energy Commission staff believes to be achievable. The applicant's proposal (AFC p. 5.1-28) is to limit ammonia slip emissions to 10 parts per million by volume dry basis (ppmvd), and this higher level of ammonia slip is not consistent with many of the proposed combined cycle projects before the Commission or consistent with the projects (both combined cycle and simple cycle) that have been recently approved by the Commission. The recently approved Victorville 2 and Walnut Creek Energy Center projects proposed an ammonia slip of 5 ppmvd. Current projects before the Commission including the Carlsbad, Palmdale, Marsh Landing, Willow Pass, Tracy Combined Cycle and CPV Vacaville Station, plus all projects in the South Coast AQMD (Canyon Anaheim, Sentinel, Sun Valley, San Gabriel, El Segundo, High Grove and Southeast Region Energy Project), are all proposing an ammonia slip of 5 ppmvd. Staff believes that the Lodi Energy Center should control ammonia emissions to the extent feasible to avoid contributing to violations of the PM10 and PM2.5 standards.

LODI ENERGY CENTER (08-AFC-10) DATA REQUESTS

Considering that it is well known that ammonia emissions are a precursor to PM2.5 formation, and it is technically feasible to design a combined cycle project to meet a 5 ppmvd ammonia slip level, staff needs to understand why the Lodi Energy Center should be allowed an ammonia slip level of 10 ppmvd.

DATA REQUEST

63. a. Please provide a technical discussion as to why the HRSG design that includes the Selective Catalytic Reduction system of the Lodi Energy Center cannot be engineered to meet an ammonia slip specification of 5 ppmvd.
- b. Please identify measures, including increasing catalyst surface area that might allow the project to meet the 5 ppmvd level for ammonia.

BACKGROUND

Combustor Tuning

On some recent projects, most notably the Carlsbad Energy Center Project, language has been included in the local air district's Preliminary Determination of Compliance permit conditions that allow for an operational mode known as "tuning" whereby the normal emission limits for steady-state operation are proposed not to apply. Staff believes that this "tuning" circumstance was proposed by the Carlsbad applicant but was not part of the AFC project description. Staff needs to know whether the Lodi Energy Center would require similar language in its permit conditions, and if so, then a full discussion of the tuning circumstances should be included in the project description.

DATA REQUEST

64. Please describe whether the chosen model combustion turbine would require periodic combustor tuning. If so, please provide the following information:
 - a. The proposed frequency of combustor tuning.
 - b. When tuning would take place, for example during the normal annual maintenance inspection, or at some other manufacturer-specified time period.
 - c. A description of what the combustor tuning process entails.
 - d. The criteria pollutant emission rates that would occur (concentrations and mass emission levels), and the duration in which emission rates over those of normal steady-state operation would occur.

LODI ENERGY CENTER (08-AFC-10) DATA REQUESTS

Technical Area: Hazardous Materials Management
Author: Dr. Alvin Greenberg

BACKGROUND

ANHYDROUS AMMONIA STORAGE TANK

Pages 5.5-18, 5.5-24, 5.5-25, and 5.5-26 of the AFC provide narrative discussions of the existing STIG anhydrous ammonia storage tank that will be used for the LEC, the current Risk Management Plan (RMP) and Hazardous Materials Business Plan (HMBP), an upgrade to the ammonia storage system, various safety systems for the storage tank, a Process Safety Management Plan (PSMP) that was prepared and submitted in September 2008 to the San Joaquin County Office of Emergency Services, and a security plan that will be prepared. Furthermore, the AFC states - and the project manager confirmed that the LEC site will be contiguous with the CTP#2 site with no fence between them. Thus, the security perimeter will surround both projects.

Staff needs the additional information contained in the plans referenced above in order to conduct its assessment and consider necessary and appropriate Conditions of Certification to protect workers and the off-site public.

DATA REQUESTS

65. Please provide the current RMP addressing the anhydrous ammonia storage tank at the CTP #2 site.
66. Please provide the current PSMP addressing the anhydrous ammonia storage tank at the CTP#2 site.
67. Please provide the existing HMBP for the CTP #2 site.
68. Please provide a written description and schematic drawing of the proposed upgrades and modifications to the anhydrous ammonia storage tank and piping system. Please be sure to identify all control valves (manual or remote activated) and ammonia sensors located at the tank, loading pad, ammonia skid, and along the piping route from the tank to the LEC.
69. Please identify the person responsible for the CTP #2 and LEC site security by name and phone number so that staff may call and discuss site security measures.
70. Please provide a narrative description, including references to all training manuals, for any joint exercise the CTP #2 facility has conducted with responsible agencies (e.g., Woodbridge Fire Protection District, San Joaquin County Environmental Health Dept., San Joaquin County Office of Emergency Services, San Joaquin County Sheriff's Dept., the California Highway Patrol, the California Office of Homeland Security, the Federal Bureau of Investigation) on emergency response procedures for fire, confined space rescue, hazardous materials releases, terrorist attacks, and/or the need for emergency medical services. Also include dates of these joint training exercises and a list of agencies involved.

**LODI ENERGY CENTER (08-AFC-10)
DATA REQUESTS**

Technical Area: Visual Resources – Visible Plume
Author: William Walters

BACKGROUND

Cooling Tower Operating Data

Staff plans to perform a plume modeling analysis for the cooling tower. Staff requires cooling tower operating information for specific ambient and operating cases, and other cooling tower design data, to complete this analysis.

DATA REQUEST

71. Please summarize for the cooling tower the conditions that affect vapor plume formation including cooling tower heat rejection, exhaust temperature, and exhaust mass flow rate. Please provide values to complete the table (below), and additional data as necessary for staff to be able to determine how the heat rejection load varies with ambient conditions and also determine at what ambient conditions cooling tower cells may be shut down.

Parameter	Cooling Tower Exhausts					
Number of Cells	7 cells (1 by 7)					
Cell Height*	13.9 meters (45.8 feet)					
Cell Diameter	4.3 meters (14 feet)					
Tower Housing Length*	102.6 meters (336.7 feet)					
Tower Housing Width*	13 meters (42.7 feet)					
Ambient Temperature*	32.6°F		61.2°F		94.0°F	
Ambient Relative Humidity						
Duct Firing	Yes	No	Yes	No	Yes	No
Number of Cells in Operation						
Heat Rejection (MW/hr)*		163.5	191.6	159.1	189.9	157.3
Exhaust Temperature (°F)						
Exhaust Flow Rate (lb/hr)						

*Ambient temperatures and an estimate of the heat rejection are based on three of the ambient cases presented in Figure 2.1-4B in the AFC. The available cooling tower dimensions data are from Tables 5.13-3 and 5.1B-4 in the AFC.

Additional combinations of temperature and relative humidity or curves showing heat rejection vs. ambient condition and solar condition, if provided by the applicant, will be used to more accurately represent the cooling tower exhaust conditions.

72. Please include appropriate design safety margins for the heat rejection, exhaust flow rate and exhaust temperature in consideration that the air flow per heat rejection ratio is often used as Condition of Certification confirmation of design limit.

**LODI ENERGY CENTER (08-AFC-10)
DATA REQUESTS**

73. Please provide the cooling tower manufacturer and model number information and a fogging frequency curve from the cooling tower vendor, if available, that corresponds to the altitude of the project site.
74. Please confirm that the cooling tower fan motors will not have variable speed/flow controllers.



**BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT
COMMISSION OF THE STATE OF CALIFORNIA
1516 NINTH STREET, SACRAMENTO, CA 95814
1-800-822-6228 – WWW.ENERGY.CA.GOV**

**APPLICATION FOR CERTIFICATION
FOR THE *Lodi Energy Center***

DOCKET No. 08-AFC-10

**PROOF OF SERVICE
(Revised 2/2/09)**

INSTRUCTIONS: All parties shall 1) send an original signed document plus 12 copies OR 2) mail one original signed copy AND e-mail the document to the web address below, AND 3) all parties shall also send a printed OR electronic copy of the documents that shall include a proof of service declaration to each of the individuals on the proof of service:

CALIFORNIA ENERGY COMMISSION
Attn: Docket No. 08-AFC-03
1516 Ninth Street, MS-4
Sacramento, CA 95814-5512
docket@energy.state.ca.us

APPLICANT

Ken Speer
Assistant General Manager
Northern California Power Agency
651 Commerce Drive
Roseville, CA 95678
ken.speer@ncpagen.com

Sarah Madams
CH2MHILL
2485 Natomas Park Drive, Ste. 600
Sacramento, CA 95833
smadams@ch2m.com

COUNSEL FOR APPLICANT

Ed Warner
Project Manager
Northern California Power Agency
P.O. Box 1478
Lodi, CA 95241
ed.warner@ncpagen.com

***Scott Galati
Galati Blek
455 Capitol Avenue, Ste. 350
Sacramento CA 95814
sgalati@gb-llp.com**

APPLICANT'S CONSULTANTS

Andrea Grenier
Grenier & Associates, Inc.
1420 E. Roseville Pkwy, Ste. 140-377
Roseville, CA 95661
andrea@agrenier.com

APPLICANTS ENGINEER

Steven Blue
Project Manager
Worley Parsons
2330 E. Bidwell, Ste. 150
Folsom, CA 95630
Steven.Blue@WorleyParsons.com

INTERESTED AGENCIES

California ISO
e-recipient@caiso.com

Kenneth Celli
Hearing Officer
kcelli@energy.state.ca.us

INTERVENORS

Rod Jones
Project Manager
rjones@energy.state.ca.us

ENERGY COMMISSION

Karen Douglas
Commissioner and Presiding Member
kldougla@energy.state.ca.us

Deborah Dyer
Staff Counsel
ddyer@energy.state.ca.us

Jeffrey D. Byron
Commissioner and Associate Member
jbyron@energy.state.ca.us

Elena Miller
Public Adviser
publicadviser@energy.state.ca.us

DECLARATION OF SERVICE

I, April Albright, declare that on February 4, 2009, I deposited copies of the attached Lodi Energy Center Project (08-AFC-10) Data Request Set 2 (#s 56-74) 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 signed by _____
April Albright

Attachments