

DOCKETED

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Project Title:	Lodi Energy Center Project
TN #:	200368
Document Title:	Order Approving a Petition to Allow Increased Emissions During Startup or Other Ancillary Modifications
Description:	signed order listing approved modifications to COC's
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CALIFORNIA ENERGY COMMISSION

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**STATE OF CALIFORNIA
 ENERGY RESOURCES CONSERVATION
 AND DEVELOPMENT COMMISSION**

In the Matter of:)	Docket No. 08-AFC-10C
LODI ENERGY CENTER)	Order No.
)	
)	
NORTHERN CALIFORNIA POWER AGENCY)	ORDER APPROVING a Petition to Allow Increased Emissions During Startup and Other Ancillary Modifications

On April 14, 2013, the project owner, Northern California Power Agency (NCPA), filed a revised petition requesting to modify the April 21, 2010 California Energy Commission Final Decision for the Lodi Energy Center (LEC). Subsequent to filing the petition, Energy Commission staff discussions with NCPA and a clarifying letter during staff's review resulted in a request for changes to a total of 12 Air Quality Conditions of Certification.

The requested changes include: allowing increased CO emissions during combustion turbine startup, based on actual, as-measured performance, as opposed to the originally anticipated performance; allowing gas turbine combustor tuning required for periodic maintenance and calibration; ensuring proper record-keeping for tuning events; establishing minimum temperatures at which the Selective Catalytic Reduction system starts ammonia injection; and defining the type of volumetric fuel flow meter that is used to measure the amount of natural gas combusted.

STAFF RECOMMENDATION

Energy Commission staff reviewed the petition, finds that it complies with the requirements of Title 20, section 1769(a) of the California Code of Regulations, concludes that the proposed changes to conditions of certification would not result in any significant adverse direct, indirect, or cumulative impacts to public health or to the environment, and recommends approval of the NCPA petition to modify the LEC Conditions of Certification **AQ-22, AQ-23, AQ-25** through **AQ-29, AQ-32, AQ-33, AQ-52, AQ-65, and AQ-66**.

ENERGY COMMISSION FINDINGS

Based on staff's analysis, the Energy Commission concludes that the proposed changes will not result in any significant impact to public health and safety, or to the environment. The Energy Commission finds that:

- The petition meets all the filing criteria of Title 20, section 1769(a) of the California Code of Regulations, concerning post-certification project modifications;
- The modifications will not change the findings in the Energy Commission's Final Decision, pursuant to Title 20, section 1755, of the California Code of Regulations;
- There will be no new or additional, unmitigated, significant environmental impacts associated with the proposed changes;
- The facility will remain in compliance with all applicable laws, ordinances, regulations, and standards;
- The changes proposed in the petition would remain in compliance with both the mass and concentration emission limits as they currently exist and not result in the violation of any existing air quality standards; and
- There has been a substantial change in circumstances since the Energy Commission certification, thus justifying the changes, and some changes are based on information that was not available to the parties prior to Energy Commission certification because emissions data derived from actual, as-measured performance were not available until the plant began operations.

CONCLUSION AND ORDER

The California Energy Commission hereby adopts staff's recommendations and approves the following changes to the Commission Final Decision for the Lodi Energy Center. New language is shown as **bold and underlined**, and deleted language is shown in ~~strikethrough~~.

CONDITIONS OF CERTIFICATION

AQ-22 During all types of operation, including startup (cold, warm and hot), and shutdown, **and combustor tuning** periods, ammonia injection into the SCR system shall occur once the minimum temperature at the catalyst face has been reached to ensure NOx emission reductions can occur with a reasonable level of ammonia slip. ~~The minimum catalyst face temperature shall be determined during the final design phase of this project and shall be submitted to the District at least 30 days prior to commencement of construction.~~ [District Rule 2201]

Verification: The project owner shall make the site available for inspection by representatives of the District, ARB, and the Commission upon request.

AQ-23 The District shall ~~may~~ administratively add ~~modify~~ the minimum temperature limitation established pursuant to the above condition in the final Permit to Operate **as necessary following any replacement of the SCR catalyst material.** [District Rule 2201]

Verification: The project owner shall make the site available for inspection by representatives of the District, ARB, and the Commission upon request.

AQ-25 During start-up, ~~and shutdown~~ **and combustor tuning** periods, the emissions shall not exceed any of the following limits: NOx (as NO2) - 160.00 lb/hr; CO - ~~900.00~~ **1,500.00** lb/hr; VOC (as methane) - 16.00 lb/hr; PM10 - 9.00 lb/hr; SOx (as SO2) - 6.10 lb/hr; or Ammonia (NH3) - 28.76 lb/hr. [District Rule 2201]

Verification: A summary of significant operation and maintenance events and monitoring records required shall be included in the quarterly operation report (**AQ-SC8**).

AQ-26 Start-up is defined as the period of time during which a unit is brought from a shutdown status to its operating temperature and pressure, including the time required by the unit's emission control system to reach full operation. **Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status ending when the fuel supply to the unit is completely turned off.** [District Rule 4703, **3.26**, 3.29]

Verification: No verification necessary.

AQ-27 ~~Shutdown is defined as the period of time during which a unit is taken from an operational to a non-operational status ending when the fuel supply to the unit is completely turned off. [District Rule 4703, 3.26]~~ **Combustor tuning periods are any periods, not to exceed 8 hours in any calendar day or 40 hours in any calendar year, when combustor tuning activities are taking place. Combustor tuning activities are defined as any testing, adjustment, tuning and calibration activities recommended by the gas turbine manufacture to insure safe and reliable steady-state operation of the gas turbines following replacement of the combustor components, during seasonal tuning events, or other times when recommended by the turbine manufacturer or necessary to maintain low emissions performance. This includes, but is not limited to, adjusting the amount of fuel distributed between the combustion turbines staged fuel systems to simultaneously minimize NOx and CO production while minimizing combustor dynamics and ensuring combustor stability.**

Verification: ~~No verification necessary~~ **The owner or operator shall maintain records of the following items on the combustor tuning activities: (1) date and hours on which combustor tuning activity occurs, (2) description of each combustor tuning activity, (3) reason why each combustor tuning activity is required, (4) documentation (such as operating manuals, letters, e-mails, etc.) showing that each combustor tuning activity is necessary. A summary of any combustor tuning activity shall be included in the quarterly operation report (AQ-SC8).**

AQ-28 The emission control systems shall be in operation and emissions shall be minimized insofar as technologically feasible during startup, ~~and shutdown~~ **and combustor tuning periods**. [District Rule 4703, 5.3.2]

Verification: The project owner shall submit to the District and CPM the startup, ~~and shutdown~~ **and combustor tuning** event duration data demonstrating compliance with this condition as part of the quarterly operation report (**AQ-SC8**).

AQ-29 Except during startup, ~~and shutdown~~ **and combustor tuning** periods, emissions from the gas turbine system shall not exceed any of the following limits: NOx (as NO2) - 15.54 lb/hr and 2.0 ppmvd @ 15% O2; CO - 9.46 lb/hr and 2.0 ppmvd @ 15% O2; VOC (as methane) - 3.79 lb/hr and 1.4 ppmvd @ 15% O2; PM10 - 9.0 lb/hr; or SOx (as SO2) - 6.10 lb/hr. NOx (as NO2) emission limits are based on 1-hour rolling average period. All other emission limits are based on 3-hour rolling average period. [District Rules 2201, 4001, and 4703]

Verification: A summary of significant operation and maintenance events and monitoring records required shall be included in the quarterly operation report (**AQ-SC8**).

AQ-32 Emissions from the gas turbine system, on days when a startup, ~~and/or shutdown~~ **and/or combustor tuning activities** occurs, shall not exceed the following limits: NOx (as NO2) - 879.7 lb/day; CO - 5,570.3 lb/day; VOC - 164.2 lb/day; PM10 - 216.0 lb/day; SOx (as SO2) - 146.4 lb/day, or NH3 - 690.3 lb/day. Daily emissions shall be compiled for a twenty-four hour period starting and ending at twelve-midnight. [District Rule 2201]

Verification: A summary of significant operation and maintenance events and monitoring records required shall be included in the quarterly operation report (**AQ-SC8**).

AQ-33 Emissions from the gas turbine system, on days when a startup, ~~and/or shutdown~~ **and/or combustor tuning activities** does not occur, shall not exceed the following: NOx (as NO2) - 373.0 lb/day; CO - 227.0 lb/day; VOC - 91.0 lb/day; PM10 - 216.0 lb/day; SOx (as SO2) - 146.4 lb/day, or NH3 - 690.3 lb/day. Daily emissions shall be compiled for a twenty-four hour period starting and ending at twelve-midnight. [District Rule 2201]

Verification: A summary of significant operation and maintenance events and monitoring records required shall be included in the quarterly operation report (**AQ-SC8**).

AQ-52 A ~~non-resettable, totalizing~~ mass or volumetric fuel flow meter **that meets the requirements of 40 CFR part 75** ~~to measure the amount of natural gas combusted in the unit~~ shall be installed, utilized and maintained **to measure the amount of natural gas combusted in the unit**. [District Rules 2201 and 4703]

Verification: The project owner shall make the site available for inspection by representatives of the District, ARB, and the Commission upon request.

AQ-65 The owner or operator shall maintain records of the following items: 1) hourly and daily emissions, in pounds, for each pollutant listed in this permit on the days startup, ~~and or shutdown~~ **and/or combustor tuning** of the gas turbine system occurs, 2) hourly and daily emissions, in pounds, for each pollutant in this permit on the days startup, ~~and or shutdown~~ **and/or combustor tuning activities** of the gas turbine system does not occur, 3) quarterly emissions, in pounds, for each pollutant listed in this permit, and 4) the combined CO emissions (12 consecutive month rolling total) in pounds, for permit unit N-2697-5 and N-2697-7. [District Rule 2201]

Verification: A summary of significant operation and maintenance events and monitoring records required shall be included in the quarterly operation report (**AQ-SC8**).

AQ-66 The owner or operator shall maintain a stationary gas turbine system operating log that includes, on a daily basis, the actual local startup and stop time, total hours of operation, the type and quantity of fuel used, mode of start-up (cold, warm, or hot), duration of each start-up, ~~and duration of each shutdown,~~ **and duration of each combustor tuning event.** [District Rules 2201 and 4703, 6.26, 6.28, 6.2.11]

Verification: A summary of significant operation and maintenance events and monitoring records required shall be included in the quarterly operation report (**AQ-SC8**).

IT IS SO ORDERED.

CERTIFICATION

The undersigned Secretariat to the Commission does hereby certify that the foregoing is a full, true, and correct copy of an Order duly and regularly adopted at a meeting of the California Energy Commission held on August 27, 2013.

AYE: Douglas, Hochschild, McAllister, Scott

NAY:

ABSENT: Weisenmiller,

ABSTAIN:

Harriet Kallemeyn,
Secretariat