

CALIFORNIA ENERGY COMMISSION

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SACRAMENTO, CA 95814-5512



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

In the Matter of:)	Docket No. 97-AFC-1C
)	Order No. 04-1020-01(b)
High Desert Power Project, LLP's)	ORDER APPROVING a Petition
High Desert Power Project)	to Modify Air Quality Conditions Regarding
_____)	Startup and Other Requirements

High Desert Power Project, LLP (HDPP, LLC), the owner/operator of the High Desert Power Project (HDPP), has requested to modify the Air Quality Conditions of Certification as follows:

- Eliminate the time duration limits of start-up episodes (AQ-29),
- Replace the individual turbine's emission limits with new limits for the entire power block, defined as three gas turbinegenerators and a steam turbine generator (AQ-29),
- Revise oxides of sulfur (SO₂) emission limits by adding limits based on the higher heating value of natural gas fuel (AQ-28, AQ-30 and AQ-31), and
- Revise Conditions AQ-14, 16, 19, 25, and 26 to maintain consistency with Mojave Air Quality Management District (MDAQMD) and federal protocols and requirements.

HDPP, LLC proposes to maintain the facility's combined hourly, daily and annual emission limits at the previously permitted level. Therefore, HDPP, LLC does not propose any additional mitigation. The modifications will allow HDPP, LLC to operate the facility in a manner that will increase reliability and ensure that the Conditions of Certification will be consistent with the Mojave Desert Air Quality Management District's protocols and applicable federal requirements.

The modifications supported by the Mojave Desert Air Quality Management District and a revised Permit to Operate will be issued in the near future.

STAFF RECOMMENDATION

The Energy Commission staff reviewed the petition and finds that it complies with the requirements of Title 20, Section 1769(a) of the California Code of Regulations and recommends approval of HDPP's petition to modify the Commission Decision for the HDPP Project.

COMMISSION FINDINGS

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

- The petition meets all the filing criteria of Title 20, section 1769(a) concerning post-certification project modifications;
- The modification will not change the findings in the Energy Commission's Final Decision pursuant to Title 20, section 1755;
- The project will remain in compliance with all applicable laws, ordinances, regulations, and standards, subject to the provisions of Public Resources Code section 25525;
- The change will be beneficial to the project owner, because it will ensure that the facility can be started with sufficient time to ensure that the equipment will not be damaged by uneven heating. It will be beneficial to the public because it will increase the reliability of the facility without increasing the facility's combined hourly, daily, and annual emission limits.
- The change is based on information that was not available to the parties prior to Energy Commission certification because it is based on data from actual operational experience that was not available at that time.

CONCLUSION AND ORDER

The California Energy Commission hereby adopts Staff's recommendations and approves the following changes to the High Desert Power Project Decision. New language is shown as **bold** and underlined and deleted language is shown in ~~strikeout~~:

AQ-14 Emissions of NO_x, CO, O₂ and ammonia slip shall be monitored using a Continuous Emissions Monitoring System (CEMS). Turbine fuel consumption shall be monitored using a continuous monitoring system. ~~Stack gas flow rate shall be monitored using a Continuous Emission Rate Monitoring System (CERMS).~~ The project owner shall install, calibrate, maintain, and operate these monitoring systems according to an MDAQMD-approved monitoring plan and MDAQMD Rule 218, and shall be installed prior to initial equipment startup. Six (6) months prior to installation the operator shall submit a monitoring plan for MDAQMD review and approval.

Verification: Unchanged.

AQ-16 The project owner shall perform the following annual compliance tests in accordance with the MDAQMD Compliance Test Procedural Manual. The test report shall be submitted to the MDAQMD no later than six weeks prior to the expiration date of this permit. The following compliance tests are required:

- a. NO_x as NO₂ in ppmvd at 15% O₂ and lb/hr (measured per USEPA Reference Methods 7E, 19₂ and 20).
- b. VOC as CH₄ in ppmvd at 15% O₂ and lb/hr (measured per USEPA Reference Methods 25A and 18).
- c. SO_x as SO₂ in ppmvd at 15% O₂ and lb/hr.
- d. CO in ppmvd at 15% O₂ and lb/hr (measured per USEPA Reference Method 10).
- e. PM₁₀ in mg/m³ at 15% O₂ and lb/hr (measured per USEPA Reference Methods 5 and 202 or CARB Method 5).

- f. Flue gas flow rate in scfmd.
- g. Opacity (measured per USEPA reference Method 9).
- h. Ammonia slip in ppmvd at 15% O₂.

Verification: Unchanged.

AQ-19 Continuous monitoring systems shall meet the following acceptability testing requirements from 40 CFR 60 Appendix B:

- a. For NO_x, Performance Specification 2 **or 40 CFR 75 requirements and procedures.**
- b. For O₂, Performance Specification 3 **or 40 CFR 75 requirements and procedures.**
- c. For CO, Performance Specification 4 **or 4a.**
- d. ~~For stack gas flow rate, Performance Specification 6.~~
- e. For ammonia, a District approved procedure that is to be submitted by the project owner.

Verification: Unchanged.

AQ-25 The project owner shall ~~conduct all required cooling tower water quality tests~~ **calculate PM₁₀ emissions** in accordance with an MDAQMD-approved test and emissions calculation protocol. Thirty (30) days prior to the first such test the operator shall provide a written test and emissions calculation protocol for MDAQMD review and approval.

Verification: Unchanged.

AQ-26 The operator shall ~~perform weekly tests of the blow-down water quality. The operator shall maintain a log, which contains the date and result of each blow-down water quality test, and the resulting~~ **calculated** mass emission rates. This log shall be maintained on site for a minimum of five (5) years and shall be provided to MDAQMD personnel on request.

Verification: Unchanged.

AQ-28 Emissions from this equipment (including its associated duct burner) shall not exceed the following emission limits at any firing rate, except for CO, NO_x ~~and~~ **VOC, and ammonia slip** during periods of startup, shutdown and malfunction:

- a. Hourly rates, computed every 15 minutes, verified by CEMS and annual compliance tests:
 - i. NO_x as NO₂ – 18.00 lb/hr (based on 2.5 ppmvd corrected to 15% O₂)
 - ii. CO – 17.53 lb/hr (based on 4.0 ppmvd corrected to 15% O₂)
 - iii. Ammonia Slip – 10 ppmvd (corrected to 15% O₂)
- b. Hourly rates, verified by annual compliance tests or other compliance methods in the case of SO_x:
 - i. VOC as CH₄ – 2.51 lb/hr (based on 1 ppmvd corrected to 15% O₂)
 - ii. SO_x as SO₂ – 1.11 lb/hr (based on **LHV, 1.2 lb/hr (based on HHV)**~~0.00064 lb/MMBtu (lower heating value)~~)
 - iii. PM₁₀ – 18.14 lb/hr

Verification: Unchanged.

AQ-29 Emissions of CO and NO_x from ~~this equipment~~ **the power block** may exceed the limits contained in Condition AQ-28 during startup and shutdown periods as follows:

- a. Startup shall be defined as the period beginning with ignition and lasting until the ~~equipment~~ **power block** has reached operating permit limits. Cold startup means a startup when the ~~CTG~~ **power block** has not been in operation during the preceding 72 hours. Hot startup means a startup when the ~~CTG~~ **power block** has been in operation during the preceding 8 hours. Warm startup means a startup that is not a hot or cold startup. Shutdown shall be defined as the period beginning with the lowering of ~~equipment~~ **power block** from base **normal operating** load and lasting until fuel flow is completely off and combustion has ceased.
- b. ~~Transient conditions shall not exceed the following durations:~~
 - i. ~~Cold startup – 4.5 hours~~
 - ii. ~~Warm startup – 2.6 hours~~
 - iii. ~~Hot startup – 1.9 hours~~
 - iv. ~~Shutdown – 1 hour~~
- c. During a cold startup emissions shall not exceed the following, verified by CEMS:
 - i. NO_x – ~~549~~**183** lb
 - ii. CO – ~~10,623~~**3541** lb
- d. During a warm startup emissions shall not exceed the following, verified by CEMS:
 - i. NO_x – ~~504~~**168** lb
 - ii. CO – ~~10,788~~**3596** lb
- e. During a hot startup emissions shall not exceed the following, verified by CEMS:
 - i. NO_x – ~~414~~**138** lb
 - ii. CO – ~~11,187~~**3729** lb
- f. During a shutdown emissions shall not exceed the following, verified by CEMS:
 - i. NO_x – ~~291~~**97** lb
 - ii. CO – ~~717~~**239** lb

Verification: Unchanged.

AQ-30 Emissions from ~~this equipment~~ **the power block**, including the duct burner, may not exceed the following emission limits, based on a calendar day summary:

- a. NO_x – 848 lb/day, verified by CEMS
- b. CO – 8072 lb/day, verified by CEMS
- c. VOC as CH₄ – 1448 lb/day, verified by compliance tests and hours of operation

- d. SO_x as SO₂ – 26.7 lb/day **(LHV), 28.8 lb/day (HHV)**, verified by fuel sulfur content and fuel use data
- e. PM₁₀ – 435 lb/day, verified by compliance tests and hours of operation

Verification: Unchanged.

AQ-31 Emissions from this facility, including the cooling towers, may not exceed the following emission limits, based on a rolling 12 month summary:

- a. NO_x – 205 tons/year, verified by CEMS
- b. CO – 750 tons/year, verified by CEMS
- c. VOC as CH₄ – 129 tons/year, verified by compliance tests and hours of operation
- d. SO_x as SO₂ – 14 tons/year **(LHV), 15.8 tons/year (HHV)**, verified by fuel sulfur content and fuel use data
- e. PM₁₀ – 233.2 tons/year, verified by compliance tests and hours of operation

Verification: Unchanged.

IT IS SO ORDERED.

Date: October 20, 2004

STATE OF CALIFORNIA
ENERGY RESOURCES CONSERVATION
AND DEVELOPMENT COMMISSION

[Original Signed By:]

ARTHUR H. ROSENFELD
Acting Chairman