CALIFORNIA ENERGY COMMISSION
1516 NINTH STREET
SACRAMENTO, CA 95814-5512

STATE OF CALIFORNIA
ENERGY RESOURCES CONSERVATION
AND DEVELOPMENT COMMISSION

In the Matter of:	)	**Docket No. 99-AFC-8C**
	)	**Order No. 05-0330-03**
Blythe Energy, LLP's	)	**ORDER APPROVING A PETITION TO**
	)	**MODIFY AIR QUALITY CONDITIONS**
	)	

Blythe Energy, LLP (Blythe Energy), the owner/operator of the Blythe Energy Power Plant Project (BEP), has requested to modify the Air Quality Conditions of Certification as follows:

- Reduce the hourly emission limit for CO during normal operation by about half (from 35.2 lbs/hr to 17.5 lbs/hr) due to a reduction in the federal BACT requirement to 4.0 ppmvd (AQ-5).
- Eliminate the distinction between hot, warm and cold startup requirements with a single set of emission limits for all startups to simplify data requirements (AQ-8).
- Increase the startup and shutdown emission limits for carbon monoxide (from 403 lbs/event to 3600 lbs/event) (AQ-8). Also, increase the daily (from 3808 to 8004 lbs/day), and annual CO emission limits (from 306 to 621 tons/year) for the combustion equipment (AQ-6 & 7).
- Eliminate the duration limits on startups and shutdowns (AQ-8).
- Clarify the definition of startup in order to clearly identify the initial and endpoints for enforcement purposes (AQ-8)

There will be no changes in the emission limits for any other criteria air pollutants. Blythe Energy proposes to maintain the facility's hourly, daily and annual emission limits for all other pollutants at the previously permitted level. Therefore, Blythe Energy does not propose any additional mitigation.

The modifications are supported by the Mojave Desert Air Quality Management District and the U.S. Environmental Protection Agency (USEPA), and a revised Permit to Operate will be issued in the near future.

STAFF RECOMMENDATION

The 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 Blythe Energy's petition to modify the Commission Decision for the BEP 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 within the emission limits in the conditions of certification. It will be beneficial to the public because it will increase the reliability of the facility.
- 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

Changes to the Conditions of Certification

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

AQ-5 Emissions from the turbines (including its associated duct burner) shall not exceed the following emission limits at any firing rate, except for CO, NO_x and VOC 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 NO_2 – 19.80 lb/hr (based on 2.5 ppmvd corrected to 15% O_2 and averaged over one hour)

ii. CO – **17.5** ~~35.20~~ lb/hr (based on **4.0 ppmvd** ~~5.0 ppmvd (8.4 ppmvd with duct firing or when between 70 and 80 percent of full load)~~ corrected to 15% O_2 and averaged over 3 hours)

iii. Ammonia Slip – 10 ppmvd (corrected to 15% O_2 and averaged over three hours)

b. Hourly rates, verified by annual compliance tests or other compliance methods in the case of SOx:
i. VOC as CH4 – 2.9 lb/hr (based on 1 ppmvd corrected to 15% O_2)
ii. SOx as SO2 – 2.7 lb/hr (based on 0.5 grains/100 dscf fuel sulfur)
iii. PM10 – 11.5 lb/hr

Verification: The project owner shall submit the following in each Quarterly Operations Report: All continuous emissions data reduced and reported in accordance with the District approved CEMS protocol; a list of maximum hourly, maximum daily, total quarterly, and total calendar year emissions of NOx, CO, PM10, VOC and SOx (including calculation protocol); and a log of all excess emissions, including the information regarding malfunctions/breakdowns required by District Rule 430. Operating parameters of emission control equipment, including but not limited to ammonia injection rate, NOx emission rate and ammonia slip. Any maintenance to any air pollutant control system (recorded on an as-performed basis). Any permanent changes made in the plant process or production that could affect air pollutant emissions, and when the changes were made.

AQ-6 Emissions from the turbines, including the duct burner, shall not exceed the following emission limits, based on a calendar day summary:

a. NOx – 5762 lb/day, verified by CEMS

b. CO – ~~3808~~ **8004** lb/day, verified by CEMS

c. VOC as CH4 – 239 lb/day, verified by compliance tests and hours of operation in mode

d. SOx as SO2 – 130 lb/day, verified by fuel sulfur content and fuel use data

e. PM10 – 565 lb/day, verified by compliance tests and hours of operation

Verification: The project owner shall submit the following in each Quarterly Operations Report: All continuous emissions data reduced and reported in accordance with the District approved CEMS protocol; a list of maximum hourly, maximum daily, total quarterly, and total calendar year emissions of NOx, CO, PM10, VOC and SOx (including calculation protocol); and a log of all excess emissions, including the information regarding malfunctions/breakdowns required by District Rule 430. Operating parameters of emission control equipment, including but not limited to ammonia injection rate, NOx emission rate and ammonia slip. Any maintenance to any air pollutant control system (recorded on an as-performed basis). Any permanent changes made in the plant process or production that could affect air pollutant emissions, and when the changes were made.

AQ-7 Emissions from this facility, including the cooling towers, shall not exceed the following emission limits, based on a rolling 12 month summary:

a. NOx – 202 tons/year, verified by CEMS

b. CO – ~~306~~ **621** tons/year, verified by CEMS

c. VOC as CH4 – 24 tons/year, verified by compliance tests and hours of operation in mode

d. SOx as SO2 – 24 tons/year, verified by fuel sulfur content and fuel use data

e. PM10 – 103 tons/year, verified by compliance tests and hours of operation

Verification: The project owner shall submit the following in each Quarterly Operations Report: All continuous emissions data reduced and reported in accordance with the District approved CEMS protocol; a list of maximum hourly, maximum daily, total quarterly, and total calendar year emissions of NOx, CO, PM10, VOC and SOx (including calculation protocol); and a log of all excess emissions, including the information regarding malfunctions/breakdowns required by District Rule 430. Operating parameters of emission control equipment, including but not limited to ammonia injection rate, NOx emission rate and ammonia slip. Any maintenance to any air pollutant control system (recorded on an as-performed basis). Any permanent changes made in the plant process or production that could affect air pollutant emissions, and when the changes were made.

AQ-8 Emissions of CO and NO_x from the turbines shall only exceed the limits contained in AQ-5 during startup and shutdown periods as follows:

a. Startup is defined as the period beginning with ignition and lasting until **either the equipment complies with all operating permit limits specified in condition AQ-5a for two consecutive 15-minute averaging periods or four hours after ignition, whichever occurs first.** ~~the equipment has reached operating permit limits. Cold startup is defined as a startup when the CTG has not been in operation during the preceding 48 hours. Hot startup is defined as a startup when the CTG has been in operation during the preceding 8 hours. Warm startup is defined as a startup that is not a hot or cold startup.~~ Shutdown is defined as the period beginning with the lowering of equipment from base 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 – 3.7 hours~~

~~ii. Warm startup – 2.0 hours~~

~~iii. Hot startup – 1.2 hours~~
~~iv. Shutdown – 0.5 hour~~

~~b~~c. ~~During a cold startup emissions~~ **The emissions from each startup or shutdown event** shall not exceed the following, verified by CEMS:

i. NOx – 376 lb
ii. CO – ~~403~~ **3600** lb

~~d. During a warm startup emissions shall not exceed the following, verified by CEMS:~~

~~i. NOx – 278 lb~~
~~ii. CO – 253 lb~~

~~e. During a hot startup emissions shall not exceed the following, verified by CEMS:~~

~~i. NOx – 260 lb~~
~~ii. CO – 172 lb~~

~~f. During a shutdown emissions shall not exceed the following, verified by CEMS:~~

~~i. NOx – 170 lb~~
~~ii. CO – 48 lb~~

Verification: The project owner shall include a detailed record of each startup and shutdown event in the Quarterly Operations Report. Each record shall include, but not be limited to, duration, fuel consumption, total emissions of NOx and CO, and the date and time of the beginning and end of each startup and shutdown event. Additionally, the project owner shall report the total plant operation time (hours), number of startups, hours in ~~cold~~ startup~~, hours in warm startup, hours in hot startup, hours in~~ **and** shutdown, and average plant operation schedule (hours per day, days per week, weeks per year).

IT IS SO ORDERED.

Date: March 30, 2005

STATE OF CALIFORNIA
ENERGY RESOURCES CONSERVATION
AND DEVELOPMENT COMMISSION

Jackalyne Pfannenstiel

JACKALYNE PFANNENSTIEL
Vice Chair