CALIFORNIA ENERGY COMMISSION
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DATE: June 9, 2006

TO: Interested Parties

FROM: Donna Stone, Compliance Project Manager

SUBJECT: Mountainview Power Project (00-AFC-2C)
Staff Analysis of Proposed Modifications to the Volatile Organic Compound Emissions Limits within Air Quality Conditions of Certification AQ-11 and AQ-12, as well as a Description Change of the Emergency Generator and the Deletion of Condition AQ-19.

On May 8, 2006, the California Energy Commission received a petition from Mountainview Power Company, L.L.C., to amend the Energy Commission Decision for the Mountainview Power Project.

The Mountainview Power Project is a 1,056 MW combined cycle power plant located in the City of Redlands in San Bernardino County. The project was certified by the Energy Commission on March 21, 2001, and began commercial operation on December 9, 2005.

The proposed modifications will allow Mountainview Power Company, L.L.C. to operate the power plant without exceeding their limits for volatile organic compound emissions. It will also update the equipment description to reflect the actual model of emergency generator currently installed at the plant.

Energy Commission staff reviewed the petition and assessed the impacts of this proposal on environmental quality, public health and safety, and proposes revisions to existing conditions of certification for air quality 11 and 12 as well as the deletion of air quality 19, a condition that limits how the timing of this generator is set and not applicable to this model generator. It is staff's opinion that, with the implementation of revised conditions, the project will remain in compliance with applicable laws, ordinances, regulations, and standards and that the proposed modifications will not result in a significant adverse direct or cumulative impact to the environment (Title 20, California Code of Regulations, Section 1769).

The amendment petition has been posted on the Energy Commission's webpage at www.energy.ca.gov/sitingcases. Staff's analysis is enclosed for your information and review. Staff's analysis and the order (if the amendment is approved) will also be posted on the webpage. Energy Commission staff intends to recommend approval of the petition at the June 29, 2006, Business Meeting of the Energy Commission. If you have comments on this proposed modification, please submit them to me at the address below prior to June 27, 2006.

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Comments may be submitted by fax to (916) 654-3882, or by e-mail to dstone@energy.state.ca.us. If you have any questions, please contact me at (916) 654-4745.

Enclosure

Mountainview Power Plant Project (00-AFC-2C)
Request to Amend the Air Quality Conditions of Certification
Prepared by: Joseph M. Loyer
May 19, 2006

Amendment Request

The Mountainview Power Company, LLC (MVPC) filed a petition on May 8, 2006 with the California Energy Commission (Energy Commission) for modifications to the Air Quality Conditions of Certification of the Mountainview Power Plant Project (Mountainview), located within the South Coast Air Quality Management District (District) in order to become compliant during normal operations.

MVPC is petitioning to modify the Volatile Organic Compounds (VOC) limits within Conditions of Certification (CoC) AQ-11 and -12, as well as the description of the diesel powered emergency generator and the deletion of AQ-19, a condition that limits how the timing of this generator is set.

Background

MVPC was granted a license by the Energy Commission on March 21, 2001 to construct and operate a 1,056 MW combined cycle power plant with four GE Frame 7FA combustion turbines, each equipped with heat recovery stream generators (HRSG) which provide steam for two steam turbines. Emissions are to be controlled by a combination of dry-low NOx combustors (DLN), selective catalytic reduction (SCR), and oxidation catalysis. The project is located in San Bernardino County within the property boundary of an existing decommissioned twin boiler power plant.

On September 10, 2001, the Energy Commission granted MVPC a petition that included, among other things a smaller emergency engine. On January 9, 2002 the Energy Commission granted MVPC a petition that deleted Condition AQ-19 (the emergency engine emission controls) in favor of an engine registration program whose requirements instituted more rigorous controls. However, the District permit to construct (PTC) was never amended for either of these modifications. Subsequently, for purposes of clarity between the District permit and the Energy Commission Decision, MVPC was granted a petition in September 2004, that reinstated Condition AQ-19 and the corresponding equipment description paragraph back to the original Energy Commission Decision. MVPC has now purchased and installed a Caterpillar Model 3512B-LE2200 diesel-fire, internal combustion emergency generator.

Laws Ordinances Regulations and Standards

No laws, ordinances, regulations or standards will be affected by the petitioned amendment requests. MVPC will remain in compliance with all LORS if the petition is approved.

Analysis

Project Emission Changes and Mitigation

The Mountainview project was originally permitted with a VOC limit of 1.4 ppm @15% O_2, which was below the required BACT level at that time (2.0 ppm). The current BACT level for VOC from combustion turbines is still 2.0 ppm. The initial source testing for the Mountainview turbines showed two troubling results. First, a new methodology (modification of EPA Method TO-12) was used and produced results for VOC that were above the limit of 1.4 ppm. Secondly, two separate source samples were drawn at the Mountainview project simultaneously. These samples were sent to two different source testing companies for analysis and were returned with very different results, one of which showed VOC concentrations above the 1.4 ppm limit. These two events have convinced the MVPC that the current state of source testing can not accurately demonstrate compliance with their current limit of 1.4 ppm. Thus MVPC is requesting the Mountainview VOC limit be raised from 1.4 ppm to 2.0 ppm @15% O_2. AIR QUALITY Table 1 shows the proposed increases to the current VOC limits within CoCs AQ-11 and AQ-12. AIR QUALITY Table 1 also shows the new total VOC emission reduction credits (ERCs) required for the Mountainview project due to the increased emission limits. MVPC is currently in possession of 172 lbs/day of VOC ERCs that may be surrendered for the Mountainview project VOC emissions. Since the new VOC emission limits are proposed to be fully offset (with an offset ratio of 1.2:1) and MVPC has demonstrated that they own sufficient VOC ERCs to offset the project emissions, staff concludes that the proposed petition will not cause or contribute to a significant impact on the ambient air quality.

AIR QUALITY Table 1
Proposed Changes to Emission Limits and Required Mitigation

		Current Requirement	Proposed Requirement
CoC AQ-11	VOC limit	3.47 lbs/hr	4.96 lbs/hr
CoC AQ-12	VOC limit	2,498 lbs/month	3,568 lbs/month
Corresponding increase to total ERCs required at an offset ratio of 1.2:1.		100 lbs/day	143 lbs/day

Black Start Engine & Diesel Powered Firewater Pump

In a previous amendment, MVPC petitioned the Energy Commission to approve a smaller diesel powered black-start engine for Mountainview. The original black-start engine was 5,900 bhp in size and had significant emissions that were fully mitigated. The smaller black-start engine was proposed to be 2,200 bhp, would have been newer and have lower emission rates. However, MVPC had determined back in 2004 that they were uncertain as to the eventual size of the black-start engine. Since the modification of the black-start engine was never completed in the District permits, MVPC requested that the Energy Commission Conditions of Certification retain the original size and emission profile of the 5,900 bhp black-start engine. The Energy Commission granted this request on September 16, 2004 and reinstated CoC AQ-19, which requires an old form of emission control for diesel engines (a 4° set retard of the fuel injection timing).

MVPC has now purchased and installed a Caterpillar Model 3512B-LE2200 diesel-fire emergency engine. This model engine includes electronic fuel injection control, a particulate filter and has been certified to meet the current US Environmental Protection Agency diesel engine emission standards. While this model engine is 5,900 bhp in size, it is expected to have significantly lower emissions than the originally proposed engine due to the electronic controlled timing and soot filter. However, the electronic controlled timing, which is a variable timing for fuel injection, precludes the emission control prescribed in CoC AQ-19 (a set 4° retard of fuel injection timing). Thus, it is not technically possible for MVPC to comply with AQ-19. Because this proposal is a more modern control strategy and will result in lower emissions, staff can agree with the petition and recommend the deletion of CoC AQ-19.

Conclusions and Recommendations

Staff has analyzed the proposed changes and concludes that there are no new or additional significant impacts associated with approval of the petition. Staff concludes that the proposed changes are based on information that was not available during the original licensing proceeding. Staff concludes that the proposed language retains the intent of the original Energy Commission Decision and Conditions of Certification. Staff recommends that Condition of Certification AQ-19 be deleted with modifications to the corresponding descriptive paragraph and the following modifications to Conditions of Certification AQ-11 and -12. Staff notes that the District has already altered the Final Determination of Compliance to reflect these changes.

Proposed Modifications to the Air Quality Conditions of Certification
Proposed modifications to the Conditions of Certification are shown below. Proposed additions are shown in underline and proposed deletions are shown in strike-through.

AQ-11 Except during startup, shutdown, Cold-Startup, Combustor-Tuning, ~~and~~ initial commissioning and the exceptions noted below, emission from each gas turbine exhaust stack shall not exceed the following limits:

NOx (measured as NO2):	2.0 ppm at 15% oxygen on a dry basis averaged over one hour and 14.22 lbs/hour.
CO:	6.0 ppm at 15% oxygen on a dry basis averaged over 1 hours and 25.91 lbs/hr.
SOx (measured as SO2):	1.42 lbs/hr
VOC:	4.96 ~~3.47~~ lbs/hr
PM10:	11.0 lbs/hr
Ammonia:	5 ppm at 15% oxygen on a dry basis

Exceptions:
The NOx limit shall not apply to the first fifteen 1-hour average NOx emissions that are above 2.0 ppmv, dry basis at 15% O2, in any rolling 12-month period for each combustion gas turbine provided that it meets all of the following requirements A, B, C and D:

A. This equipment operates under any one of the qualified conditions described below:
   a) Rapid combustion turbine load changes due to the following conditions:
      · Load changes initiated by the California ISO or a successor entity when the plant is operating under Automatic Generation Control; or
      · Activation of a plant automatic safety or equipment protection system which rapidly decreases turbine load
   b) The first two1-hour reporting periods following the initiation/shutdown of an evaporative cooler supply pump
   c) The first two1-hour reporting periods following the initiation of HRSG duct burners.
   d) Events as the result of technological limitation identified by the operator and approved in writing by the AQMD Executive Officer or his designees and the CPM.

B. The 1-hour average NOx emissions above 2.0 ppmv, dry basis at 15% O2, did not occur as a result of operator neglect, improper operation or maintenance, or qualified breakdown under Rule 2004(i).

C. The qualified operating conditions described in (A) above must be recorded in the plant's operating log within 24 hours of the event, and in the CEMS by 5 p.m. the next business day following the qualified operating condition. The notations in the log and CEMS must describe the data and time of entry into the log/CEMS and the plant operating conditions responsible for NOx emissions exceeding the 2.0 ppmv 1-hour average limit.

D. The 1-hour average NOx concentration for periods that result from a qualified operating condition does not exceed 25 ppmv, dry basis at 15 percent O2

All NOx emissions during these events shall be included in all calculations of hourly, daily, and annual mass emission rates as required by this permit.

Verification: The project owner shall submit emission calculations to demonstrate compliance for the NOx and CO limits and source tests, as required in Condition AQ-15, AQ-16 and AQ-17, to demonstrate compliance with SOx, VOC and PM10 emission limits in the Quarterly Operational Reports (see AQ-8). Within 5 working days of the occurrence of an exception as described within this Condition, the owner/operator shall notify the CPM. Within 21 working days, of the occurrence of an exception as described within this Condition, the owner/operator shall submit to the CPM a complete report of the exception event. That report must include, but is not limited to: the date, time, duration and cause of the occurrence, the emissions (in total mass and hourly concentration normalized to 15% O_2) because of the occurrence and the evidence required in element (B) above.

AQ-12 Except for initial commissioning, but including startup, shutdowns, Cold-Startups and Combustor-Tunings the emissions from each gas turbine exhaust stack shall not exceed the following limits:

CO	8,610 lbs per month
CO	694 lbs per day
VOC	3,568 ~~2,498~~ lbs per month
PM10	7,725 lbs per month
SOx	1,005 lbs per month

Protocol: The project owner shall confirm compliance with the monthly limits by using the monthly fuel use data of each gas turbine and duct burner pair and the following emission factors:

VOC	2.51 ~~1.76~~ lbs/mmscf
PM10	5.57 lbs/mmscf
SOx (measured as SO2):	0.71 lbs/mmscf

Compliance with the CO monthly limit shall be confirmed through the valid (per District Rule 218) CO CEMS or, absent valid CO CEMS, by the monthly fuel use data and the following emission factors:

During Commissioning	114.47	lbs/mmscf
Following Commissioning	13.10	lbs/mmscf

Verification: The project owner shall submit the monthly fuel use data and emission calculations to the CPM in the Quarterly Operation Reports (AQ-8).

The following Conditions of Certification pertain to the following equipment:

Internal combustion engine, emergency power, diesel Caterpillar ~~3612, 4° timing retard,~~ 3512B-LE2200, turbocharged, aftercooled, 5900 BHP A/N 366155 (ID. No. D54).

AQ-19 ~~The project owner shall set and maintain the fuel injection timing of the emergency IC engine at 4° retarded relative to standard timing.~~

~~**Verification:** The project owner shall make the site available for inspection by representatives of the District, CARB, EPA and the Energy Commission.~~