

## DOCKETED

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<b>Filer:</b>	Deric Wittenborn
<b>Organization:</b>	Ellison Schneider Harris & Donlan LLP
<b>Submitter Role:</b>	Applicant
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Via Email ([kerby@vcapcd.org](mailto:kerby@vcapcd.org))

December 7, 2017

Mr. Kerby E. Zozula, Manager, Engineering Division  
Ventura County Air Pollution Control District  
669 County Square Drive  
Ventura, CA 93003

Subject: Comments on Preliminary Determination of Compliance for Mission Rock Energy Center (15-AFC-02)

Dear Mr. Zozula:

On behalf of Mission Rock Energy Center, LLC (“MREC”), Calpine Corporation is writing to provide comments on the Preliminary Determination of Compliance (“PDOC”) for the Mission Rock Energy Center prepared by the Ventura County Air Pollution Control District (“VCAPCD”). The following comments address proposed “DOC Conditions” contained in Appendix K, and specifically pertain to proposed conditions for the Five (5) GE LM6000-PG-Sprint Combustion Turbine Generators (“CTGs”).

Condition 18. This condition requires each ammonia injection grid to be equipped with an operational ammonia flowmeter and injection pressure indicator. It is not possible for the ammonia injection grid itself to be equipped with a flowmeter; rather, a flowmeter is installed on the ammonia injection line. MREC therefore proposes instead to monitor ammonia flow *to* the ammonia injection grids, and offers the following edits:

Ammonia flow to ~~Each ammonia injection grid shall be monitored. equipped with operational ammonia flowmeter and injection pressure indicator.~~ All data shall be reduced to hourly averages. (Rule 74.23 and 40 CFR Part 60 Subpart KKKK)

Condition 22. This condition defines “Startup” and “Shutdown” and limits the duration of each period. By defining the startup period to end when the turbine meets the limits established by Condition 29, Condition 22 could be misconstrued to require the Gas Turbine to demonstrate compliance with the *hourly* average emission limits set forth by Condition 29, which will not occur until well after the emissions controls are achieving the required control efficiencies and the CEMS data indicate concentrations below the relevant limit, as an instantaneous, rather than hourly, measurement. To clarify this condition, the startup period should instead be defined to end when two consecutive CEM data points indicate concentrations for each recorded pollutant

below the levels required by Condition 29. Condition 22 also includes extraneous definitions and durational limits pertaining to unplanned load changes. Accordingly, MREC proposes that Condition 22 be deleted and replaced with the following:

“Startup” shall be defined as the time beginning with the introduction of continuous fuel flow to the Gas Turbine until the Gas Turbine achieves two consecutive CEM data points less than or equal to the concentration-based limits listed in Condition 29, but not to exceed 30 minutes. “Shutdown” shall be defined as the lesser of the 30 minute period prior to the termination of fuel flow to the Gas Turbine, or the period of time from non-compliance with any requirement listed in Condition 29 until termination of fuel flow to the Gas Turbine.

Condition 24. Condition 24 would require MREC to submit information correlating the NOx control system operating parameters to the monitored NOx output, sufficient to allow VCAPCD to determine compliance with the NOx limits during periods when the CEMS is not operating properly. In our experience, establishing such operating parameters can prove challenging and their application to quantify emissions can produce erroneous and unreliable results. Instead of submitting the information suggested by Condition 24, MREC proposes to develop a parametric monitoring system as part of the CEMS protocol required by Condition 50, which VCAPCD and MREC would agree be used to quantify NOx emissions during periods of CEMS non-operation. Accordingly, MREC proposes that this condition be deleted and replaced with the following:

A parametric monitoring system will be developed in conjunction with the VCAPCD to determine compliance when the NOx CEMS is non-operational. The parametric system will be submitted in the CEMS protocol required by Condition 50.

Condition 26. Condition 26 provides that, “ammonia shall be injected when the selective catalytic reduction system catalyst temperature exceeds 300 degrees F.” Specification of the appropriate temperature for ammonia injection in this manner would appear to be inconsistent with Condition 49, which provides that, no later than 90 days prior to installation of the SCR system, MREC shall submit to VCAPCD design parameters for the system, including “the minimum ammonia injection temperature for the SCR.” Rather than include a specific temperature value in the condition, which may or may not be representative of the actual SCR system design parameters to be established in association with the vendor, MREC proposes that Condition 26 be amended as follows:

When a CTG is operating, ammonia shall be injected when the selective catalytic reduction system catalyst temperature exceeds ~~300 degrees F~~ the minimum operating temperature specified pursuant to Condition 49. Permittee shall monitor and record catalyst temperature during periods of startup

Condition 27. Conditions 27 and 28 respectively provide that, during startup and shutdown, “[c]ompliance with the ROC and PM10 emission limits shall be verified by CTG manufacturer’s emission data.” While use of manufacturer’s emissions data may be acceptable in the absence of more reliable information, as a general proposition, emissions should be quantified using the most representative and accurate information available. This may include source test data, for

example. To accommodate use of such information in the event it is demonstrated to be more representative and accurate than manufacturer's emissions data, MREC proposes to amend these conditions to allow it to propose the basis for quantifying ROC and PM emissions during startup and shutdown as part of the CEMS protocol required by Condition 50. Accordingly, the final paragraph of Condition 27 should be amended as follows:

Compliance with the ROC and PM10 emission limits shall be verified as indicated in the VCAPCD-approved CEMS protocol ~~by CTG manufacturer's emission data~~. Compliance with the SOx emission limit shall be verified by complying with the natural gas sulfur content limit of this permit. Compliance with the NOx and CO emission limits shall be verified by continuous emissions monitors (CEMS) as required by this permit. If the CEMS is not operating properly, as required below, the CEMS missing data procedures required by Permit Condition No. 55 shall be implemented. (Rules 26.2, 29, and 74.23)

Condition 28. Consistent with Condition 27, the final paragraph of Condition 28 should be amended as follows:

Compliance with the ROC and PM10 emission limits shall be verified as indicated in the VCAPCD-approved CEMS protocol ~~by CTG manufacturer's emission data~~. Compliance with the SOx emission limit shall be verified by complying with the natural gas sulfur content limit of this permit. Compliance with the NOx and CO emission limits shall be verified by continuous emissions monitors (CEMS) as required by this permit. If the CEMS is not operating properly, as required below, the CEMS missing data procedures required by Permit Condition No. 55 shall be implemented. (Rules 26.2, 29, and 74.23)

Condition 32. For clarity, Condition 32 should be amended as follows:

Each one-hour period in a one-hour rolling average, three-hour rolling average, or four-hour rolling average shall commence on the clock hour. (Rules 26.2 and 29)

Condition 36. In our experience, 45 days may not be sufficient time from initial source testing to complete all required laboratory analyses and quality assurance/quality control procedures and produce a final source test report. MREC therefore proposes a slightly longer period of time for submission of a final report, viz., 60 days from completion of source testing. Accordingly, the final sentence of the first paragraph of this condition should be modified as follows:

The permittee shall submit the source test results to the VCAPCD within ~~60~~45 days of conducting tests.

Condition 37. Consistent with the comment above addressing Condition 36, this condition should also be modified as follows:

The VCAPCD must be notified 30 days prior to any source test, and a source test plan must be submitted for approval no later than 30 days prior to testing. Unless otherwise specified in this permit or authorized in writing by the VCAPCD, within ~~60~~45 days after

completion of a source test or RATA performed by an independent source test contractor, a final test report shall be submitted to the VCAPCD for review and approval. (Rule 102)

Condition 38. This condition specifies source test methods for the initial and annual compliance verification. While it also allows use of “EPA approved alternative test methods as approved by the VCAPCD” in lieu of the specified methods, the specified methods for ROC—Methods 18 and 25—are not appropriate for measuring ROC at the low concentrations present in Gas Turbine exhaust. Accordingly, MREC proposes to specify in this condition that, for ROC, EPA Methods 18 or 25 should be replaced with EPA Method TO-12.

Condition 48. Condition 48 would limit both the number of startup events and the total duration that the Gas Turbines are operated in startup or shutdown mode. Because annual emission limits, offset requirements and ambient air quality impacts analyses for MREC are all based on the total emissions and duration, rather than the number, of startup and shutdown events that may occur in any calendar day or year for each Gas Turbine, MREC proposes to eliminate the limitation on the total number of such events. The supported dispersion modeling analysis will not be affected by the modification of this condition. Accordingly, MREC proposes that Condition 48 should be modified as follows:

The number of annual operating hours (including startup and shutdown hours) for each CTG shall not exceed 2,500 hours per year. This limit also includes commissioning hours for each turbine. A year is defined as any twelve (12) month consecutive period.

In addition to the limit above, ~~the number of startup periods occurring shall not exceed 150 startups per year per turbine and the duration of the startup periods shall not exceed 75 hours per year per turbine. The number of shutdown periods occurring shall not exceed 150 shutdowns per year per turbine and the duration of the shutdown periods shall not exceed 22.5 hours per year per turbine.~~ The limits on startups and shutdowns per year do not include startups and shutdowns during commissioning as the commissioning period has separate and independent emission limits.

~~Each CTG shall be equipped with an operating, non-resettable, elapsed hour meter.~~ The permittee shall maintain a log that differentiates normal operation from startup operation, shutdown operation, and commissioning operation. These hours of operation records shall be compiled into a monthly total. The monthly operating hour records shall be summed for the previous twelve (12) months and reported to the VCAPCD on an annual basis. (Rules 26 and 74.23)

Condition 51. This condition as presently drafted would limit the ability to operate the ammonia injection system in manual mode, which on occasion can and should be utilized in circumstances beyond those where manual operation is strictly necessary for compliance with applicable permit conditions, e.g., to develop a parametric monitoring system of the sort suggested by the proposed edits to Condition 24 above. MREC therefore suggests the following revision to provide the necessary flexibility:

Kerby E. Zozula, Manager, Engineering Division

December 7, 2017

Page 5

Except during periods when the ammonia injection system is being tuned or one or more ammonia injection systems is in manual control ~~for compliance with applicable permit conditions~~, the automatic ammonia injection system serving the SCR system shall be in operation in accordance with manufacturer's specifications at all times when ammonia is being injected into the SCR system. Manufacturer specifications shall be maintained on site and made available to VCAPCD personnel upon request. (Rules 26 and 74.23)

\* \* \*

Thank you for the opportunity to submit these comments. Please contact me if you have any questions at 925-557-2238.

Sincerely,

A handwritten signature in black ink, appearing to be 'Barbara McBride', with a long horizontal line extending to the right.

Barbara McBride  
Director, Environmental Services  
Calpine Corporation