DOCKETED

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DATE: June 3, 2015

TO: Interested Parties

FROM: Mary Dyas, Compliance Project Manager

SUBJECT: **Blythe Energy Project (99-AFC-8C)**
Revised Staff Analysis of Amendment Proposal

On February 12, 2015, Blythe Energy, Inc (Blythe Energy) filed a petition with the California Energy Commission (Energy Commission) requesting to modify the Final Decision for the Blythe Energy Project (BEP) to reduce allowable annual NOx, CO, and PM10 emissions. Supplemental information was received on May 6, 2015 and May 7, 2015. Staff prepared a revised analysis of the proposed changes that can be reviewed on the Energy Commission website for this facility (see below).

This proposed amendment involves several permit changes to reduce facility-wide annual mass emissions limits in the Energy Commission's Final Decision made on March 26, 2001, the Order Approving a Petition to Modify Air Quality Conditions in 2005, and the January 7, 2015 Letter Approving the Addition of a Turndown Upgrade Package to the Two Existing Gas Turbines at Blythe Energy Center. All changes have been reviewed and approved by the Mojave Desert Air Quality Management District (District) in a Final Decision/Final Determination for New Source Review Action & Title V Federal Operating Permit issued on May 7, 2015.

The combined-cycle, natural gas-fired, 520-megawatt facility was certified by the Energy Commission in its Decision on March 21, 2001, and began commercial operation in July 2003. The facility is located in the City of Blythe, in Riverside County.

Energy Commission staff (staff) reviewed the petition and supplemental information, and assessed the impacts of the information provided on environmental quality and on public health and safety. This Revised Staff Analysis addresses changes to the District's Federal Operating Permit, which incorporates the proposed changes made to Air Quality Conditions of Certification **AQ-5** and **AQ-7** in the Staff Assessment published on April 8, 2015, and the proposed deletion of Condition of Certification **AQ-17** because BEP has already satisfied the offset requirement stated within this condition. Staff is proposing to renumber the Air Quality Conditions of Certification in the Energy Commission's Final Decision to ease cross reference to District documents.

It is staff's opinion that, with the implementation of these revised and deleted conditions, the facility would remain in compliance with applicable laws, ordinances, regulations, and standards, and the proposed changes to conditions of certification would not result in any significant, adverse, direct, indirect, or cumulative impacts to the environment (20

Cal. Code of Regs., § 1769). Staff intends to recommend approval of the petition at the July 8, 2015 Business Meeting of the Energy Commission.

The Energy Commission's webpage for this facility, http://www.energy.ca.gov/sitingcases/blythe/, has a link to the petition and the Staff Analysis on the right side of the webpage in the box labeled "Compliance Proceeding." Click on the "Documents for this Proceeding (Docket Log)" option. After the Business Meeting, the Energy Commission's Order regarding this petition will also be available from the same webpage.

This notice has been mailed to the Commission's list of interested parties and property owners adjacent to the facility site. It has also been e-mailed to the facility listserv. The listserv is an automated Energy Commission e-mail system by which information about this facility is e-mailed to parties who have subscribed. To subscribe, go to the Commission's webpage for this facility, cited above, scroll down the right side of the project webpage to the box labeled "Subscribe," and provide the requested contact information.

Any person may comment on the Staff Analysis. Those who wish to comment on the analysis are asked to submit their comments by 5:00 p.m., July 3, 2015. To use the Energy Commission's electronic commenting feature, go to the Energy Commission's webpage for this facility, cited above, click on the "Submit e-Comment" link, and follow the instructions in the on-line form. Be sure to include the facility name in your comments. Once submitted, the Energy Commission Dockets Unit reviews and approves your comments, and you will receive an e-mail with a link to them.

Written comments may also be mailed or hand-delivered to:

California Energy Commission
Dockets Unit, MS-4
Docket No. 99-AFC-8C
1516 Ninth Street
Sacramento, CA 95814-5512

All comments and materials filed with and approved by the Dockets Unit will be added to the facility Docket Log and become publicly accessible on the Energy Commission's webpage for the facility.

If you have questions about this notice, please contact Mary Dyas, Compliance Project Manager, at (916) 651-8891, or by fax to (916) 654-3882, or via e-mail to mary.dyas@energy.ca.gov.

For information on participating in the Energy Commission's review of the petition, please call the Public Adviser at (800) 822-6228 (toll-free in California) or send your e-mail to publicadviser@energy.ca.gov. News media inquiries should be directed to the Energy Commission Media Office at (916) 654-4989, or by e-mail to mediaoffice@energy.ca.gov.

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BLYTHE ENERGY PROJECT (99-AFC-8C)
Petition to Amend the Final Decision
Executive Summary
Mary Dyas

INTRODUCTION

On February 12, 2015, Blythe Energy, Inc (Blythe Energy) filed a petition with the California Energy Commission (Energy Commission) requesting to modify the Final Decision for the Blythe Energy Project (BEP) to reduce allowable annual NOx, CO, and PM10 emissions. Supplemental information was docketed on May 6, 2015 and May 7, 2015. Staff prepared a revised analysis of the proposed changes that can be reviewed on the Energy Commission website for this facility (see below).

The February 2015 Petition to Amend (PTA) proposed: 1) the addition of an annual average NOx concentration limit of 2.0 ppmvd @ 15% O2 to the permitted emission limits; and 2) a reduction in the annual limits for NOx, CO, and PM10 to 97 tons, with compliance to be determined on a rolling 12-month total basis.

Additional information was provided to the Energy Commission staff, the District and the U.S. EPA on April 28, 2015. Clarifications requested by staff on the PTA and the April 28 submittal were provided to staff on March 20, 2015 (Data Responses) and April 29, 2015 (via email).

On May 6, 2015, Blythe Energy filed supplemental information to the original February 2015 Petition to Amend (PTA). This information proposes several supplementary changes in addition to those included in the PTA. The requested changes are in response to comments submitted to the District by the U.S. EPA on April 9, 2015. The proposed changes include: additional emission limits; additional monitoring, recordkeeping, and reporting conditions; and clarifying amendments. All of these changes are intended to provide assurance that the annual emissions limits that were the subject of the PTA will be enforceable as a practical matter.

The changes proposed by the May 6, 2015 supplement would modify additional Conditions of Certification, beyond those affected by the original PTA, to make them consistent with the additional changes that are finalized in the District permits, provided by Blythe Energy on May 7, 2015. The additional changes proposed in the May 6 supplement would not result in any environmental impacts or inconsistency with any Laws, Ordinances, Regulations, or Standards (LORS). Approval of the amendment will ensure that emissions from the BEP project remain below those evaluated in the original licensing proceeding.

This amendment involves several permit changes to reduce facility-wide annual mass emissions limits in the Energy Commission's 2001 Final Decision, the Order Approving a Petition to Modify Air Quality Conditions in 2005, and the 2015 Letter Approving the

Addition of a Turndown Upgrade Package to the Two Existing Gas Turbines at Blythe Energy Center. All changes have been reviewed and approved by the Mojave Desert Air Quality Management District (District) in a Final Decision/Final Determination for New Source Review Action & Title V Federal Operating Permit (Final Decision) issued on May 7, 2015. The proposed amendment would not result in any environmental impacts or inconsistency with any LORS.

This Revised Staff Analysis addresses changes to the District's Federal Operating Permit, which incorporates the proposed changes made to Air Quality Conditions of Certification **AQ-5** and **AQ-7** in the original Staff Assessment published on April 8, 2015 and the proposed deletion of Condition of Certification **AQ-17** because BEP has already satisfied the offset requirement stated within this condition. Staff is proposing to renumber the Air Quality Conditions of Certification in the Energy Commission's Final Decision to ease cross reference to District documents.

The purpose of the Energy Commission's review process is to assess any impacts the proposed modifications would have on environmental quality and on public health and safety. The process includes an evaluation of the consistency of the proposed changes with the Energy Commission's Final Decision and an assessment of whether the project, as modified, would remain in compliance with applicable laws, ordinances, regulations, and standards (LORS) (20 Cal. Code Regs., § 1769).

PROJECT LOCATION AND DESCRIPTION

The combined-cycle, natural gas-fired, 520-megawatt facility was certified by the Energy Commission in its Decision on March 21, 2001, and began commercial operation in July 2003. The facility is located in the City of Blythe, in Riverside County.

DESCRIPTION OF PROPOSED MODIFICATIONS

The purpose of the original PTA is to reduce allowable annual NOx, CO, and PM10 emissions from BEP so that the potentials to emit for all criteria pollutants from the facility are below 100 tons per year, consistent with actual facility performance. In addition, a new annual average NOx emission concentration limit is being proposed for the gas turbines, making the short-term limit more consistent with the new annual limit as well as making the new annual limit more enforceable. With the reductions in annual emissions limits, the site will no longer be considered a major stationary source under federal Prevention of Significant Deterioration (PSD) regulations. While no changes to the gas turbines will be required to comply with the proposed new long-term limits for CO and PM10, BEP may need to increase ammonia injection slightly under some ambient conditions (the plant would still remain in compliance with the ammonia slip limit specified in original Condition of Certification **AQ-5,** renumbered **AQ-4T**) and, if necessary, add additional catalyst material to the selective catalytic reduction systems to ensure compliance with the new, lower NOx limits.

This proposed amendment involves several permit changes to reduce facility-wide annual mass emissions limits in the Energy Commission's Final Decision made on

March 26, 2001, the Order Approving a Petition to Modify Air Quality Conditions in 2005, and the January 7, 2015 Letter Approving the Addition of a Turndown Upgrade Package to the Two Existing Gas Turbines at Blythe Energy Center. All changes have been reviewed and approved by the Mojave Desert Air Quality Management District (District) in a Final Decision/Final Determination for New Source Review Action & Title V Federal Operating Permit issued on May 7, 2015.

The current amendment requests to reduce facility-wide annual mass emissions limits for oxides of nitrogen (NOx), carbon monoxide (CO) and particulate matter less than 10 micrometers (PM10) to more closely reflect the current actual lower emissions from the facility. The petition also proposes to add a new annual average NOx concentration limit, new annual average CO mass limits, and an annual fuel use limit in order to ensure compliance with the new annual mass limits for NOx, CO and PM10. In addition, the permit condition in the original Commission Decision which required surrender of emission reduction credits is also removed as BEP has satisfied the offset requirement. The amendment proposes to modify several Conditions of Certification. However, the amendment does not involve significant modifications to any plant equipment, facility design or operating parameters. While these permit limits reduce the Potential to Emit (PTE), they are not expected to reduce actual emissions.

NECESSITY FOR THE PROPOSED MODIFICATIONS

Blythe Energy is requesting this change because the emission limits in the BEP license were based on conservative emission limit guarantees provided by the turbine manufacturer, Siemens—Blythe Energy did not have actual emission test results information during the certification proceeding. It has since been determined that the turbine manufacturer's emissions guarantees were overly conservative. In addition, BEP installed oxidation catalysts on both gas turbines in 2010. Although the addition of the oxidation catalyst was expected to reduce CO emissions from the gas turbines, no emissions limits were changed at that time. Blythe Energy now has sufficient operating experience and source test data to propose the new, lower NOx, CO, and PM10 limits. These proposed new, lower limits are based on actual operating experience and source test results and will limit facility potential to emit below major source thresholds to more accurately reflect the actual emissions from the gas turbines.

STAFF'S ASSESSMENT OF THE PROPOSED PROJECT CHANGES

Staff's conclusions in each technical area are summarized in **Executive Summary Table 1**, below.

Executive Summary Table 1
Summary of Impacts for Each Technical Area

TECHNICAL AREAS REVIEWED	STAFF RESPONSE			Revised Conditions of Certification Recommended
	Technical Area Not Affected	No Significant Environmental Impact*	Process As Amendment	
Air Quality	N/A	N/A	X	X
Biological Resources	X	N/A		
Cultural Resources	X	N/A		
Efficiency	X	N/A		
Facility Design	X	N/A		
Geological & Paleontological Resources	X	N/A		
Hazardous Materials Management	X	N/A		
Land Use	X	N/A		
Noise & Vibration	X	N/A		
Public Health	N/A	N/A	X	N/A
Reliability	X	N/A		
Socioeconomics	X	N/A		
Soil & Water Resources	X	N/A		
Traffic & Transportation	X	N/A		
Transmission Line Safety & Nuisance	X	N/A		
Transmission System Engineering	X	N/A		
Visual Resources	X	N/A		
Waste Management	X	N/A		
Worker Safety & Fire Protection	X	N/A		

***There is no possibility that the proposed modifications may have a significant effect on the environment, and the modifications will not result in a change in or deletion of a condition adopted by the Commission in the Final Decision, or make changes that would cause project noncompliance with any applicable laws, ordinances, regulations, or standards (20 Cal. Code Regs., § 1769 (a)(2)).

Energy Commission technical staff reviewed the petition for potential environmental effects and consistency with applicable LORS. Staff has determined that the technical or environmental areas of Biological Resources, Cultural Resources, Efficiency, Facility Design, Geological and Paleontological Resources, Hazardous Materials Management, Land Use, Noise and Vibration, Reliability, Socioeconomics, Soil and Water Resources,

Traffic and Transportation, Transmission Line Safety and Nuisance, Transmission System Engineering, Visual Resources, Waste Management and Worker Safety and Fire Protection are not affected by the proposed changes, and no revisions or new conditions of certification are needed to ensure the project remains in compliance with all applicable LORS for these areas.

Public Health staff found that the proposed changes would not increase the impacts of the noted criteria pollutants and selected non-criteria pollutants of specific concern in terms of public health cancer or non-cancer risks.

Staff determined, however, that the technical area of Air Quality would be affected by the proposed project changes. Staff is recommending the revision and deletion of a number of conditions of certification approved in the Energy Commission's 2001 Final Decision and the 2005 Order approving a petition to Modify Air Quality Conditions. Since the project has been in commercial operation, some Energy Commission staff conditions that only apply to project construction, commissioning and initial source testing are obsolete and therefore staff recommends deletion of these conditions. In addition to the conditions reflecting the project changes discussed above, staff also proposes administrative changes in conditions of certification to make the Energy Commission and District air quality conditions consistent, including renumbering all conditions of certification. These changes are also reflect the May 7, 2015 District Final Determination.

STAFF RECOMMENDATIONS AND CONCLUSIONS

Staff concludes that the following required findings, mandated by Title 20, California Code of Regulations, section 1769 (a)(3), can be made, and staff recommends approval of the petition by the Energy Commission:

- The proposed modification(s) would not change the findings in the Energy Commission's Decision pursuant to Title 20, California Code of Regulations, section 1755;
- There would be no new or additional unmitigated, significant environmental impacts associated with the proposed modification(s);
- The facility would remain in compliance with all applicable laws, ordinances, regulations, and standards;
- The modifications proposed in the petition would have no additional impacts beyond those identified in the Commission Decision for the BEP. The proposed changes will ensure that NOx, CO, and PM10 emissions from the plant are maintained at levels lower than originally licensed and will require the plant to continuously comply with the new lower limits. No change in annual fuel consumption will result from this amendment, and therefore there would be no change in greenhouse gas emissions as a result of the proposed amendment;
- The proposed modifications would be beneficial to the project owner and the public because emissions from the BEP project will remain below those

evaluated in the original licensing proceeding, and the project will no longer be considered a major stationary source under federal Prevention of Significant Deterioration (PSD) regulations; and

- The proposed modifications are justified because there has been a substantial change in circumstances since the Energy Commission certification. Since BEP commenced commercial operation in 2003, the facility has collected substantial continuous emissions monitoring data (for NOx and CO) and source test data (for PM10). In addition, oxidation catalysts have been installed on both gas turbines. Further, there have been major advances in PM10 emissions testing procedures, significantly improving the accuracy of PM10 testing in reflecting the extremely low PM10 emission rates from natural gas fired gas turbines.

BLYTHE ENERGY PROJECT (99-AFC-08C)

Petition to Amend the Final Decision

Air Quality

Tao Jiang, Ph.D., P.E.

INTRODUCTION

On February 12, 2015, Blythe Energy Inc. filed a Petition to Amend with the California Energy Commission (Energy Commission) requesting to change certain conditions of certification for the Blythe Energy Project (BEP) (BEP 2015a). A Supplement to this Petition to Amend was submitted on May 6, 2015 (BEP 2015b). This amendment involves several permit changes to reduce facility-wide annual mass emissions limits in the Energy Commission's Final Decision made on March 26, 2001 (CEC 2001), the Order Approving a Petition to Modify Air Quality Conditions in 2005 (CEC 2005), and the Letter Approving the Addition of a Turndown Upgrade Package to the Two Existing Gas Turbines at Blythe Energy Center (CEC 2015). All changes have been reviewed and approved by the Mojave Desert Air Quality Management District (MDAQMD or District) in a Final Decision/Final Determination for New Source Review Action & Title V Federal Operating Permit (Final Decision) (MDAQMD 2015) issued on May 7, 2015. Staff is also proposing renumbering the conditions in the Decision to ease cross reference to District documents.

BACKGROUND

BEP was certified by the Energy Commission on March 21, 2001 and began commercial operations in July 2003. The facility is a nominal 520 megawatt (MW) natural gas-fired combined-cycle power plant located in the City of Blythe. The current amendments request to reduce facility-wide annual mass emissions limits for oxides of nitrogen (NOx), carbon monoxide (CO) and particulate matter less than 10 micrometers (PM10) to more closely reflect the current actual lower emissions from the facility. The petition also proposes to add a new annual average NOx concentration limit, new annual average CO mass limits, and an annual fuel use limit in order to ensure compliance with the new annual mass limits for NOx, CO and PM10. All annual average emissions limits and annual fuel use limit are effective beginning May 7, 2016, 12 months after the District issued it's Final Decision; see conditions of certification AQ-T4, AQ-T5 and AQ-T18. In addition, the permit condition in the original Commission Decision which required surrender of emission reduction credits is also removed as BEP has satisfied the offset requirement. The amendment proposes to modify several Conditions of Certification. However, the amendment does not involve significant modifications to any plant equipment, facility design or operating parameters. While these permit limits reduce the Potential To Emit (PTE), they are not expected to reduce actual emissions.

LAWS, ORDINANCES, REGULATIONS, AND STANDARDS - COMPLIANCE

Since the issuance of the original permit, there have been some new ambient air quality standards (AAQS), such as Federal 1-hour NO_2 standard which became effective in 2010. These new adopted AAQS are more stringent than those in force during the original certification. However, the requested project amendment results in net emission reductions in PTE and additional offsets are not required. Furthermore, the facility owners are not requesting return of offsets they originally surrendered in excess of those actually needed based upon recent data. The requested project changes are exempt from the modeling analysis required by District Rule 1302(C)(2)(b) and evaluation for compliance with current AAQS. The proposed changes are consistent with all applicable laws, ordinances, regulations and standards (LORS) and the proposed changes do not result in any significant adverse air quality impacts.

ANALYSIS OF AMENDMENT REQUESTS

New Annual Average NOx Concentration Limit

The current best available control technology (BACT) requirement for short-term NOx emissions from gas turbines is 2.5 parts per million by volume, dry (ppmvd) corrected to 15% oxygen (O_2) and averaged over one hour. The project owner proposes to add an annual NOx concentration limit of 2 ppmvd @ 15% O_2 averaged over a rolling 12 month period. This lower NOx concentration limit will reduce the overall annual NOx emissions expressed in tons per year. Therefore, the lower annual average NOx concentration limit that staff proposes to add to **AQ-T4** will ensure compliance with the new annual NOx mass limit as described below.

New Annual Average CO Mass Limits

The current hourly CO emissions limit from the gas turbines during normal operation is 17.5 lbs/hr. The project owner proposes to add an annual average CO mass emissions limit of 10 lb/hr for the gas turbines during normal operation, applicable on a rolling 12-month average basis. The project owner also proposes the addition of a new annual average CO mass limit of 750 lbs per startup/shutdown event, applicable on a rolling 12-month average basis. These lower CO mass limits will reduce the overall annual CO emissions expressed in tons per year. Therefore, the lower annual average CO mass limits staff proposes to add to **AQ-T4** and **AQ-T5** will ensure compliance with the new annual CO mass limit as described below.

Facility Wide Annual Emission Limits

The annual emissions limits in the BEP license were approved based in part on conservative emissions guarantees provided by the gas turbine manufacturer. Based on operating experience and recent source test reports, BEP determined that the annual mass emission rates used to establish emissions limits for NOx, CO and PM10 in the original license were overly conservative (they were too high), and they now propose to lower these limits.

The annual mass emissions of NOx and CO are calculated from the concentrations in the exhaust, which is directly measured by the Continuous Emissions Monitoring System (CEMS). The minute-by-minute emission concentrations are then averaged every hour and converted to mass emissions by the Data Acquisition and Handling System (DAHS). The annual mass emissions of PM10 are calculated based on the annual fuel use and an emissions factor derived from annual source tests. Both the CEMS data and annual mass emissions are included in the quarterly and annual emission reports to Energy Commission and the District.

Air Quality Table 1 summarizes the annual emissions from the gas turbines based on annual emission reports for years 2012 to 2014. As shown in **Air Quality Table 1**, the actual annual measured emissions are significantly below the current permit limits, which are shown in **Air Quality Table 2**.

Air Quality Table 1
2012-2014 Annual Emissions from BEP Gas Turbines (tons/year or tpy)

Pollutant	2012	2013	2014	Maximum
NOx	60.6	61.8	57.5	61.8
CO	40.2	44.3	28.8	44.3
PM10[a]	45.9	46.2	42.2	46.2

Source: BEP 2015a, BEP2015b and independent staff assessment.
Note: [a] PM10 emissions also include those from the cooling towers.

BEP is proposing to reduce the annual mass emissions limits for NOx, CO and PM10 to 97 tons per year determined on a 12-month rolling average basis. The reductions from the current annual permitted emission limits are summarized in **Air Quality Table 2**.

Air Quality Table 2
Current and Proposed BEP Annual Emissions (tpy)

	NOx	CO	PM10[a]
Current Limit	202	621	103
Proposed Limit	97	97	97
Net Change	(105)	(524)	(6)

Source: BEP 2015a, BEP 2015b and independent staff assessment.
Note: [a] PM10 emissions also include those from the cooling towers.

Based on the operating data from 2012 to 2014, BEP is expected to meet these proposed new annual limits. The proposed emission reductions will also reduce all criteria pollutant emissions below the federal Prevention of Significant Deterioration

(PSD) major stationary source thresholds for this class of source - 100 tpy. U.S. EPA calls this a “synthetic minor PSD source”.

In addition, the applicant also proposes to add a new annual limit on total heat input to the gas turbines and duct burners, which is 31,852,800 MMBtu in any rolling 12-month period. The heat input limit will also ensure compliance with the new facility-wide annual emission limits, especially for PM10 which is directly proportional to heat input (fuel use).

Remove the Offset Requirement

Condition **AQ-17** in the original commission decision required the surrender of Emission Reduction Credits (ERCs) for NOx and PM10 before the start of project construction. Since BEP has satisfied the offset requirement, staff proposes to delete this condition.

CONCLUSIONS AND RECOMMENDATIONS

The requested project changes would conform with applicable federal, state, and MDAQMD air quality laws, ordinances, regulations and standards (LORS). In fact, the requested changes will reduce the project impacts based upon potential to emit below those identified in the original Energy Commission’s Final Decision (CEC 2001). Therefore the amended project would not cause any significant adverse air quality impacts, provided that the following conditions of certification are included. Staff recommends that the revised and renumbered conditions of certification be approved as shown below.

AMENDED AND DELETED CONDITIONS OF CERTIFICATION

Below is a list of conditions of certification that staff recommends to be revised from those approved in the 2001 Energy Commission Final Decision (CEC 2001) and the 2005 Order Approving a Petition to Modify Air Quality Conditions (CEC 2005). Since the project has been in commercial operation, some Energy Commission staff conditions that only apply to project construction, commissioning and initial source testing are obsolete and therefore staff recommends deletion of these conditions. “Date of deletion” will be replaced by the date when the amendment is approved by the commission. In addition to the conditions reflecting the project changes discussed above, staff also proposes administrative changes in conditions of certification to make the Energy Commission and District air quality conditions consistent, including renumbering all conditions of certification. These changes are also reflect the May 7, 2015 MDAQMD Final Decision. ~~Strikethrough~~ is used to indicate deleted language and **underline and bold** is used for new language. The final clean version of conditions of certification is also attached in Appendix A.

Energy Commission Staff Conditions

AQ-C1 [Deleted, (date of deletion)]~~Prior to breaking ground at the project site, the project owner shall prepare a Fugitive Dust Mitigation Plan that will specifically identify fugitive dust mitigation measures that will be employed for the construction of the Blythe~~

Energy Project and related facilities. The Fugitive Dust Mitigation Plan shall specifically identify measures to limit fugitive dust emissions from construction of the project site and linear facilities. Measures that should be addressed include the following:

1. The identification of the employee parking area(s) and the surface composition of those parking area(s);
2. The frequency of watering of unpaved roads and disturbed areas;
3. The application of chemical dust suppressants;
4. The use of gravel in high traffic areas;
5. The use of paved access aprons;
6. The use of posted speed limit signs;
7. The use of wheel washing areas prior to large trucks leaving the project site; and,
8. The methods that will be used to clean up mud and dirt that has been tracked-out from the project site onto public roads.

Verification: At least thirty (30) days prior to breaking ground at the project site, the project owner shall provide the CEC Compliance Project Manager (CPM) with a copy of the Fugitive Dust Mitigation Plan (FDMP) for approval. Ground breaking shall not commence until the project owner receives written approval of the FDMP from the CPM.

AQ-C2 [Deleted, (date of deletion)] The project owner shall require as a condition of its construction contracts that all contractors/subcontractors ensure that all heavy earthmoving equipment, including but not limited to bulldozers, backhoes, compactors, loaders, motor graders, trenchers, cranes, dump trucks and other heavy duty construction related trucks, have been properly maintained and the engines tuned to the engine manufacturer's specifications. The project owner shall further require as a condition of its construction contracts, that all heavy construction equipment shall not remain running at idle for more than 5 minutes, to the extent practical.

Verification: The project owner shall submit to the CPM, via the Monthly Compliance Report, a list of all heavy equipment used on site during that month including the owner of that equipment responsible for its maintenance and a letter from each owner indicating that the heavy equipment in question is properly maintained and tuned to manufacturer's specifications. The project owner shall maintain construction contracts on-site for six months following the start of commercial operation.

AQ-C3 [Deleted, (date of deletion)] During an initial commissioning period of no more than 120 days, commencing with the first firing of fuel in this equipment, NOx, CO, VOC and ammonia concentration limits shall not apply. The project owner shall minimize emissions of NOx, CO, VOC and ammonia to the maximum extent possible during the initial commissioning period.

Verification: During the initial commissioning period, the project owner shall submit a detailed record of all commissioning activities in the Monthly Compliance Report.

AQ-C4 **[Deleted, (date of deletion)]**~~The project owner shall submit a commissioning plan to the District and the CEC at least four weeks prior to the first firing of fuel in this equipment. The commissioning plan shall describe the procedures to be followed during the commissioning of the CTGs, HRSGs and steam turbine. The commissioning plan shall include a description of each commissioning activity, the anticipated duration of each activity in hours, and the purpose of the activity. The activities described shall include, but not be limited to, the timing of the dry low NOx combustors, the installation and testing of the CEMS, and any activities requiring the firing of the CTGs and HRSGs without abatement by an SCR system.~~

Verification: ~~At least four (4) weeks prior to the first firing of natural gas in either turbine, the project owner shall submit a detailed Initial Commissioning Plan to the District and the CPM. This plan should provide detailed technical information regarding initial commissioning in a format that facilitates technical verification.~~

AQ-C5 **[Deleted, (date of deletion)]**~~The project owner shall tune each CTG and HRSG to minimize emissions of criteria pollutants at the earliest feasible opportunity in accordance with the recommendations of the equipment manufacturers and the construction contractor.~~

Verification: ~~During the initial commissioning period, the project owner shall submit a detailed record of all commissioning activities in the Monthly Compliance Report.~~

AQ-C6 **[Deleted, (date of deletion)]**~~The project owner shall install, adjust and operate each SCR system to minimize emissions of NOx from the CTG and HRSG at the earliest feasible opportunity in accordance with the recommendations of the equipment manufacturers and the construction contractor. The NOx and ammonia concentration limits shall apply coincident with the steady state operation of the SCR systems.~~

Verification: ~~During the initial commissioning period, the project owner shall submit a detailed record of all commissioning activities in the Monthly Compliance Report.~~

AQ-C7 **[Deleted, (date of deletion)]**~~The total number of firing hours of each CTG and HRSG without abatement of NOx by the SCR shall not exceed 350 hours during the initial commissioning period. Such operation without NOx abatement shall be limited to discrete commissioning activities that can only be properly executed without the SCR system in place and operating. Upon completion of these activities, the project owner shall provide written notice to the District and CEC and the unused balance of the unabated firing hours shall expire.~~

Verification: ~~During the initial commissioning period, the project owner shall submit a detailed record of all commissioning activities in the Monthly Compliance Report.~~

AQ-C8 **[Deleted, (date of deletion)]**~~During a period that includes a portion of the initial commissioning period, emissions from this facility shall not exceed the following emission limits (verified by CEMS):~~

a. CO – 421 tons/year (rolling 12 month summary), 44,000 pounds/calendar day and 2000 pounds/hour

Verification: During the initial commissioning period, the project owner shall submit a detailed record of all commissioning activities in the Monthly Compliance Report. In addition, after the end of the initial commissioning period the project owner shall continue to report the above data in the Quarter Operations Report for as long as the monitoring period includes a portion of the initial commissioning period.

AQ-C9 [Deleted, (date of deletion)] During a period that includes a portion of the initial commissioning period, prior to the steady state operation of the SCR system, emissions from this facility shall not exceed the following emission limits (verified by CEMS):

b. NO_x – 273 tons/year (rolling 12 month summary), 22,000 pounds/calendar day and 1000 pounds/hour

Verification: During the initial commissioning period, the project owner shall submit a detailed record of all commissioning activities in the Monthly Compliance Report. In addition, after the end of the initial commissioning period the project owner shall continue to report the above data in the Quarter Operations Report for as long as the monitoring period includes a portion of the initial commissioning period.

AQ-C10 [Deleted, (date of deletion)] Within sixty (60) days after achieving the maximum firing rate at which each turbine will be operated, but not later than 180 days after the first firing of fuel in each turbine, the operator shall perform an initial compliance test. This test shall demonstrate that each turbine is capable of operation at 100% load in compliance with the emission limits in AQ-5. The results of the initial compliance test shall be used to prepare a supplemental health risk analysis. The initial compliance test shall include tests for the following.

a. Formaldehyde;
b. Certification of CEMS and CERMS (or stack gas flow calculation method) at 100% load, startup modes and shutdown mode;
c. Characterization of cold startup VOC emissions;
d. Characterization of warm startup VOC emissions;
e. Characterization of hot startup VOC emissions; and
f. Characterization of shutdown VOC emissions.

Verification: Within sixty (60) days of achieving the maximum firing rate at which the facility will be operated, but not later than 180 days after the first firing of fuel in each turbine, the project owner shall perform an Initial Compliance Test. The results of this test and a supplemental health risk analysis shall be submitted to the District and the CPM within thirty (30) days.

District Final Decision/Final Determination for New Source Review Action & Title V Federal Operating Permit Conditions

The following Conditions of Certification apply to combustion turbine generator power block (CT1) (District Permit Number: B007953) and combustion turbine generator power block (CT2) (District Permit Number: B007954)

AQ-T1 ~~The project owner shall submit to the Mojave Desert Air Pollution Control District (District) Air Pollution Control Officer (APCO), the United States Environmental Protection Agency (EPA) Region IX and the California Energy Commission (CEC) a Quarterly Operations Report for the preceding calendar quarter by January 30, April 30, July 30 and October 30 of each year this permit is in effect. Each January 30 submittal shall include a summary of the reported information for the previous year. This information shall be maintained on site for a minimum of five (5) years and shall be provided to District or CEC personnel on request.~~ **Operation of the turbines shall be conducted in compliance with all data and specifications submitted with the application under which this permit is issued unless otherwise noted below.**

Verification: ~~The project owner shall submit a Quarterly Operations Report for the preceding calendar quarter by January 30, April 30, July 30 and October 30 of each year. The January 30 report shall include an annual summary of the Quarterly Operations Reports for the preceding year. The reports shall be submitted to the Mojave Desert Air Pollution Control District (District), the United States Environmental Protection Agency (EPA) and the California Energy Commission Compliance Project Manager (CPM). The following Conditions of Certification apply to the two individual gas turbine generators (District Permit Numbers: B007953, B007954).~~ **The project owner shall make the site available for inspection by representatives of the District, California Air Resources Board (ARB), the United States Environmental Protection Agency (U.S. EPA) and Energy Commission.**

AQ-T2 The turbines shall be exclusively fueled with pipeline quality natural gas with a sulfur ~~content~~ not exceeding 0.5 grains per 100 dscf on a rolling twelve month average basis. The turbines shall be operated and maintained in strict accord with the recommendations of its manufacturer **or supplier** and/or sound engineering principles.

Verification: The project owner shall incorporate into the Quarterly Operations Report either a monthly laboratory analysis showing the fuel sulfur content, a monthly fuel sulfur content report from the fuel supplier(s), or the results from a custom fuel monitoring schedule approved by ~~US~~**U.S.** EPA for compliance with the fuel monitoring provisions of 40 CFR 60 Subpart GG.

AQ-T3 The ~~turbines~~ are subject to the federal NSPS codified at 40 CFR Part 60, Subparts A (General Provisions) and GG (Standards of Performance for

Stationary Gas Turbines). ~~This equipment is~~ **The turbines are** also subject to the Prevention of Significant Deterioration (40 CFR 51.166) and Federal Acid Rain (Title IV) programs. Compliance with all applicable provisions of these regulations is required.

Verification: At least ninety (90) days prior to the first firing of fuel in either turbine, the project owner shall provide the District, the ARB and the CPM copies of the federal PSD and Acid Rain permits.

AQ-T4 ~~Emissions of NOx, CO, oxygen 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 either a Continuous Emission Rate Monitoring System (CERMS) meeting the requirements of 40 CFR Part 75 Appendix A or a stack flow rate calculation method. The operator shall install, calibrate, maintain, and operate these monitoring systems according to a District approved monitoring plan and MDAQMD Rule 218, and they shall be installed prior to initial equipment startup.~~ **Emissions from the turbines (including the associated duct burners) 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 rate, computed every 15 minutes, verified by CEMS and annual compliance tests:

i. NOx as NO_2 — the most stringent of 19.80 lb/hr or 2.5 ppmvd corrected to 15% O_2 and averaged over one hour~~).~~

ii. NOx as NO_2 — effective May 7, 2016, 2.0 ppmvd corrected to 15% O_2 and averaged over a rolling 12 month period.

iii. CO — the most stringent of 17.5 lb/hr or 4.0 ppmvd corrected to 15% O_2 and averaged over 3 hours.

iv. CO – 10 lb/hr averaged over a rolling 12-month period

b. Hourly rates, verified by annual compliance tests or other compliance methods in the case of SOx:

i. VOC as CH_4 — 2.9 lb/hr (based on 1 ppmvd corrected to 15% O_2).

ii. SOx as SO_2 — 2.7 lb/hr (based on 0.5 grains/100 dscf fuel sulfur).

iii. PM10 — 11.5 lb/hr.

Verification: ~~The project owner shall make the site available for inspection by representatives of the District, ARB, EPA and CEC.~~ **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, monthly, total quarterly, total calendar year, and rolling 12-month emissions of NO_x, CO, PM10, VOC and SO_x (including calculation protocol); total monthly and rolling 12-month fuel use in the gas turbines and duct burners; average NO_2 concentration and average CO mass emission rate, for all operating periods except during startup, shutdown and malfunction, for each gas turbine and associated duct burner, calculated on a rolling 12-month basis; 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, NO_x emission rate and ammonia slip; any maintenance to any air pollutant control system (recorded on an as-performed basis); and any permanent changes made in the plant process or production that could affect air pollutant emissions, and when the changes were made.

AQ-T5 ~~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. NOx as NO2 — 19.80 lb/hr (based on 2.5 ppmvd corrected to 15% O2 and averaged over one hour).~~

~~ii. CO — 17.5 lb/hr (based on 4.0 ppmvd corrected to 15% O2 and averaged over 3 hours).~~

~~iii. Ammonia Slip — 10 ppmvd (corrected to 15% O2 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% O2).~~

~~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 NO_x, CO, PM_{10}, VOC and SO_x (including calculation protocol); 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, NO_x emission rate and ammonia slip; any maintenance to any air pollutant control system (recorded on an as-performed basis); and any permanent changes made in the plant process or production that could affect air pollutant emissions, and when the changes were made.~~

Emissions of CO and NO_x from the turbines shall only exceed the limits contained in AQ-T4 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 condition AQ-T4 operating permit limits for two consecutive 15-minute averaging periods or four hours after ignition, whichever occurs first. 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. The emissions from each startup ~~or~~ and shutdown event shall not exceed the following, verified by CEMS:

i. NOx — 376 lb.

ii. CO — 3600 lb.

c. Effective May 7, 2016, the CO emissions from all startup and shutdown events at both power blocks, averaged over a rolling 12-month period, shall not exceed 750 lb/event, verified by CEMS.

Verification: The emission limits defined in this condition apply to one combined startup/shutdown event (one cycle). 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; average CO emissions from all startups and shutdowns of the gas turbines on a per event basis calculated on a rolling 12-month basis; 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 startup and shutdown, and average plant operation schedule (hours per day, days per week, weeks per year).

AQ-T6 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 — 8004 lb/day, verified by CEMS.

c. VOC as CH4 — 239 lb/day, verified by compliance tests and hours of operation in **steady-state, pre-mix** mode.

d. SOx as SO_2 — 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 NO_x, CO, PM_{10}, VOC and SO_x (including calculation protocol); 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, NO_x emission rate and ammonia slip; any maintenance to any air pollutant control system (recorded on an as-performed basis); and any permanent changes made in the plant process or production that could affect air pollutant emissions, and when the changes were made.

AQ-T7 Emissions from **all units at** this facility, including the cooling towers, shall not exceed the following emission limits, based on a rolling 12 month summary:

a. NOx — ~~202~~**97** tons/year, verified by CEMS.

b. CO — ~~621~~**97** tons/year, verified by CEMS.

c. VOC as CH_4 — 24 tons/year, verified by compliance tests and hours of operation in **steady-state, pre-mix** mode.

d. SOx as SO_2 — 24 tons/year, verified by fuel sulfur content and fuel use data.

e. PM10 — ~~103~~**97** tons/year, verified by compliance tests and hours of operation.

These limits shall apply to all emissions from all units at this facility, and shall include emissions during all modes of operation, including startup, shutdown and malfunction.

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, **monthly,** total quarterly, ~~and~~ total calendar year, **and rolling 12-month** emissions of NO_x, CO, PM**10**~~10~~, VOC and SO_x (including calculation protocol); **total monthly and rolling 12-month fuel use in the gas turbines and duct burners; average NO_2 concentration and average CO mass emission rate for all operating periods except during startup, shutdown and malfunction for each gas turbine and associated duct burner, calculated on a rolling 12-month basis;** 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, NO_x emission rate and ammonia slip; any maintenance to any air pollutant control system (recorded on an as-performed basis); and any permanent changes made in the plant process or production that could affect air pollutant emissions, and when the changes were made.

AQ-T8 ~~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 fourhours after ignition, whichever occurs first. 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. ~~The emissions from each startup or shutdown event shall not exceed the following, verified by CEMS:~~

~~i. NOx 376 lb.~~

~~ii. CO 3600 lb.~~

Particulate emissions from this equipment shall not exceed opacity equal to or greater than twenty percent (20%) for a period aggregating more than three (3) minutes in any one (1) hour, excluding uncombined water vapor.

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 startup and shutdown, and average plant operation schedule (hours per day, days per week, weeks per year).~~ **The project owner shall make the site available for inspection by representatives of the District, ARB, U.S. EPA and Energy Commission.**

AQ-T9 ~~Particulate emissions from this equipment shall not exceed an opacity equal to or greater than twenty percent (20%) for a period aggregating more than three (3) minutes in any one (1) hour, excluding uncombined water vapor.~~ **The turbines shall exhaust through a stack at a minimum height of 130 feet.**

Verification: ~~The project owner shall make the site available for inspection by representatives of the District, ARB, EPA and CEC.~~ **Prior to the first firing of natural gas in either turbine the owner/operator shall provide as built drawings of the stack or other suitable proof of the minimum stack height to the District and the Energy Commission CPM.**

AQ-T10 ~~The turbines shall exhaust through a stack at a minimum height of 130 feet.~~ **The project owner shall not operate the turbines after the initial commissioning period without the selective catalytic NOx reduction system with valid District permit, as well as the oxidation catalyst with valid District permit installed and fully functional.**

Verification: ~~Prior to the first firing of natural gas in either turbine the owner/operator shall provide as built drawings of the stack or other suitable proof of the minimum stack~~

~~height to the District and the CEC CPM.~~ **The project owner shall make the site available for inspection by representatives of the District, ARB, U.S. EPA and the Energy Commission.**

AQ-T11 **[Deleted, (date of deletion)]**~~The project owner shall not operate the turbines after the initial commissioning period without the selective catalytic NOx reduction system with valid District permit, installed and fully functional.~~

Verification: ~~The project owner shall make the site available for inspection by representatives of the District, ARB, EPA and the CEC.~~

AQ-T12 ~~The project owner shall provide stack sampling ports and platforms necessary to perform source tests required to verify compliance with District rules, regulations and permit conditions. The location of these ports and platforms shall be subject to District approval.~~ **Emissions of NOx, CO, oxygen and ammonia slip shall be monitored using a Continuous Emissions Monitoring System (CEMS). Each CEMS shall be operational whenever the associated combustion turbine generator is in operation, including during periods of startup, shutdown and malfunction. Turbine fuel consumption shall be monitored using a continuous monitoring system. Stack gas flow rate shall be monitored using either a Continuous Emission Rate Monitoring System (CERMS) meeting the requirements of 40 CFR Part 75 Appendix A or a stack flow rate calculation method. The operator shall install, calibrate, maintain, and operate these monitoring systems according to a District approved monitoring plan and MDAQMD Rule 218, and they shall be installed prior to initial equipment startup. Six (6) months prior to installation the operator shall submit a monitoring plan for District review and approval.**

Verification: ~~Prior to the first firing of natural gas in either turbine the owner/operator shall provide to the District and the CEC CPM as built drawings of the stack or other suitable documentation of the correct and complete installation of all necessary sampling ports and access platforms.~~ **The project owner shall make the site available for inspection by representatives of the District, ARB, U.S. EPA and Energy Commission.**

AQ-T13 The project owner shall conduct all required compliance/certification tests in accordance with a District-approved test plan.

Verification: Thirty (30) days prior to the compliance/certification tests the operator shall provide a written test plan for District review and approval. Written notice of the compliance/certification test shall be provided to the District ten (10) days prior to the tests so that an observer may be present. A written report with the results of such compliance/certification tests shall be submitted to the District within forty-five (45) days after testing.

AQ-T14 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 District no later than six weeks prior to the expiration date of this permit. The following compliance tests are rquried**:

a. NOx as NO_2 in ppmvd at 15% O_2 and lb/hr (measured per ~~US~~**U.S.** EPA Reference Methods 19**,**~~and~~ 20**, or 7E**). **If testing is performed at 90%-100% of rated capacity, then the annual calibration RATA associated with the NOx CEMS in use on these units may be used in lieu of the required annual U.S. EPA Reference Method 20, as long as all of the requirements of prior test notification, proper test result submittal, etc., are followed.**

b. VOC as CH_4 in ppmvd at 15% O_2 and lb/hr (measured per ~~US~~**U.S.** EPA Reference Methods 25A and 18).

c. SOx as SO_2 in ppmvd at 15% O_2 and lb/hr.

d. CO in ppmvd at 15% O_2 and lb/hr (measured per ~~US~~**U.S.** EPA Reference Method 10).

e. PM10 in mg/m3 at 15% O_2 and lb/hr (measured per ~~US~~**U.S.** EPA Reference Methods 5 and 202 or CARB Method 5).

f. Flue gas flow rate in **d**scfm~~d~~.

g. Opacity (measured per ~~US~~ **U.S.** EPA reference Method 9).

h. Ammonia slip in ppmvd at 15% O_2.

Verification: The annual source test report shall be submitted to the District and CPM no later than six (6) weeks prior to the expiration date of the District permit.

AQ-T15 The project owner shall, at least as often as once every five years (commencing with the initial compliance test), include the following supplemental source tests in the annual compliance testing:

a. Characterization of cold startup VOC emissions;

b. Characterization of warm startup VOC emissions;

c. Characterization of hot startup VOC emissions; and

c. Characterization of shutdown VOC emissions.

Verification: Each annual source test report shall either include the results of these tests for the current year or document the date and results of the last such tests.

AQ-T16 Continuous monitoring systems shall meet the following acceptability testing requirements from 40 CFR 60 Appendix B:

a. For NOx, Performance Specification 2.

b. For O_2, Performance Specification 3.

c. For CO, Performance Specification 4.

d. For stack gas flow rate, Performance Specification 6 (if CERMS is installed.)

e. For ammonia, a District approved procedure that is to be submitted by the project owner.

Verification: The project owner shall discuss compliance with these specifications in each Quarterly Operations Report.

AQ-T17 ~~The project owner must surrender to the District sufficient valid Emission Reduction Credits for the turbines before the start of construction of any part of the project for which this equipment is intended to be used. In accordance with Regulation XIII the operator shall obtain 202 tons of NOx and 103 tons of PM10 offsets (VOC ERCs from SCAQMD may be substituted for NOx ERCs at a rate of 1.6:1).~~ **The project owner shall submit to the Mojave Desert Air Pollution Control District (District) Air Pollution Control Officer (APCO), the United States Environmental Protection Agency (U.S. EPA) Region IX and the California Energy Commission a Quarterly Operations Report for the preceding calendar quarter by January 30, April 30, July 30 and October 30 of each year this permit is in effect. Each January 30 submittal shall include a summary of the reported information for the previous year. This information shall be maintained on site for a minimum of five (5) years and shall be provided to District or Energy Commission personnel on request.**

a. Operating parameters of emission control equipment, including but not limited to ammonia injection rate, NOx emission rate and ammonia slip.

b. Total plant operation time (hours), number of startups, hours in startup, and hours in shutdown period.

c. Date and time of the beginning and end of each startup and shutdown period.

d. Average plant operation schedule (hours per day, days per week, weeks per year).

e. All continuous emissions data reduced and reported in accordance with the District approved CEMS protocol.

f. Maximum hourly, maximum daily, total quarterly, and total calendar year emissions of NOx, CO, PM10, VOC and SOx (including calculation protocol).

g. Total monthly and rolling 12-month emissions of NOx, CO and PM10 from all permit units.

h. Total monthly and rolling 12-month fuel use in the gas turbines and duct burners.

i. Average ~~NOx~~$_2$ concentration and average CO mass emission rate, for all operating periods except during startup, shutdown and malfunction, for each gas turbine and associated duct burner, calculated on a rolling 12-month basis.

j. Average CO emissions from all startups and shutdowns of the gas turbines, on a per event basis, calculated on a rolling 12-month basis.

k. Fuel sulfur content (monthly laboratory analyses, monthly natural gas sulfur content reports from the natural gas supplier(s), or the results of a custom fuel monitoring schedule approved by U.S. EPA for compliance with the fuel monitoring provisions of 40 CFR 60 Subpart GG).

l. A log of all excess emissions, including the information regarding malfunctions/breakdowns required by Rule 430.

m. Any permanent changes made in the plant process or production, which would affect air pollutant emissions, and indicate when changes were made.

n. Any maintenance to any air pollutant control system (recorded on an as-performed basis).

Verification: ~~The project owner must submit all ERC documentation to the District and the CPM prior to the start of construction.~~ **The project owner shall submit a Quarterly Operations Report for the preceding calendar quarter by January 30, April 30, July 30 and October 30 of each year. The January 30 report shall include an annual summary of the Quarterly Operations Reports for the preceding year. The reports shall be submitted to the Mojave Desert Air Pollution Control District (District), the United States Environmental Protection Agency (U.S. EPA) and the California Energy Commission Compliance Project Manager (CPM).**

AQ-T18 ~~The project owner shall provide sufficient space and appurtenances within the Heat Recovery Steam Generator to allow the subsequent installation of a high temperature oxidation catalyst. A high temperature oxidation catalyst shall be installed if any VOC or CO limit specified by the above conditions is violated.~~ **Effective May 7, 2016, total fuel use in the two gas turbines and two duct burners (Permit #B007953 combustion turbine generator power block (CT1), Permit #B007954 combustion turbine generator power block (CT2), Permit #B007955 duct burner unit 1 and Permit #B007956 duct burner unit 2)shall not exceed 31,852,800 MMBtu in any rolling 12-month period.**

Verification: ~~If any VOC or CO limit specified by the above conditions is violated, within six (6) weeks the project owner shall submit a plan to install an oxidation catalyst. The~~

~~catalyst shall be installed and operational within six (6) months of the violation. The following Conditions of Certification apply to the two (2) individual natural gas duct burners (District Permit Numbers: B007954, B007955).~~ **The project owner shall submit the total monthly and rolling 12-month fuel use in the gas turbines and duct burners in each Quarterly Operations Report.**

The following Conditions of Certification apply to duct burner unit 1 (District Permit Number: B007955) and duct burner unit 2 (District Permit Number: B007956)

AQ-DB1 Operation of the duct burners shall be conducted in accordance with all data and specifications submitted with the application under which this permit is issued unless otherwise noted below.

Verification: The project owner shall make the site available for inspection by representatives of the District, ARB, U.S. EPA and Energy Commission.

AQ-~~19~~DB2 The duct burners shall be exclusively fueled with natural gas and shall be operated and maintained in strict accord with the recommendations of its manufacturer or supplier and/or sound engineering principles.

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

AQ-~~20~~DB3 The duct burners shall not be operated unless the combustion turbine generator with valid District permit B007953 (or B007954), selective catalytic ~~NOx~~ reduction system with valid District permit C007959 (or C007960), and oxidation catalyst **C010832 (or C010833)**~~(if installed)~~ are in operation.

Verification: A summary of fuel use and equipment operation for each duct burner shall be included in each Quarterly Operations Report.

AQ-~~21~~DB4 Fuel use by ~~this equipment~~ **duct burners** shall be recorded and maintained on site for a minimum of five (5) years and shall be provided to District**, ARB, Energy Commission or U.S. EPA** personnel on request.

Verification: The above information shall be recorded and maintained on site for a minimum of five (5) years and shall be provided to District or ~~CEC~~ **Energy Commission** personnel on request.

The following Conditions of Certification apply to the two individual selective catalytic NO_x reduction systems (SCR) (District Permit Numbers: C007959, C007960.)

AQ-SCR1 Operation of the SCR units shall be conducted in accordance with all data and specifications submitted with the application under which this permit is issued unless otherwise noted below.

Verification: The project owner shall make the site available for inspection by representatives of the District, ARB, U.S. EPA and Energy Commission.

AQ-~~22~~SCR2 ~~This equipment~~ **The SCR Units** shall be operated and maintained in strict accord with the recommendations of its manufacturer or supplier and/or sound engineering principles.

Verification: A summary of significant operation and maintenance events for each selective catalytic reduction system shall be included in the Quarterly Operations Reports.

AQ-~~23~~SCR3 ~~This equipment~~**The SCR Units** shall be operated concurrently with the combustion turbine generator with valid MDAQMD permit B007953 (or B007954).

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

AQ-~~24~~SCR4 Ammonia shall be injected whenever the selective catalytic reduction system has reached or exceeded 550 ~~deg~~**degrees** Fahrenheit. Except during periods of startup and shutdown, ammonia slip shall not exceed 10 ppmvd (corrected to 15% O_2), averaged over three hours.

Verification: The project owner shall maintain a log of the SCR temperatures and the commencement of ammonia injection times. This information shall be recorded and maintained on site for a minimum of five (5) years and shall be provided to District and ~~CEC~~**Energy Commission** personnel on request.

AQ-~~25~~SCR5 Ammonia injection by ~~this equipment~~ **the SCR units** in pounds per hour shall be recorded and maintained on site for a minimum of five (5) years and shall be provided to District**, ARB, Energy Commission or U.S. EPA** personnel on request.

Verification: The above information shall be recorded and maintained on site for a minimum of five (5) years and shall be provided to District and ~~CEC~~ Energy Commission personnel on request.

The following Conditions of Certification apply to the two oxidation catalyst (OC) units (District Permit Numbers: C010832, C010833.)

AQ-OC1 **Operation of the OC units shall be conducted in compliance with all data and specifications submitted with the application under which this permit is issued unless otherwise noted below.**

Verification: The project owner shall make the site available for inspection by representatives of the District, ARB, U.S. EPA and Energy Commission.

AQ-OC2 **The OC Units shall be operated and maintained in strict accord with the recommendations of its manufacturer or supplier and/or sound engineering principles.**

Verification: A summary of significant operation and maintenance events for each oxidation system unit shall be included in the Quarterly Operations Reports.

AQ-OC3 **The OC Units shall be operated concurrently with the combustion turbine generator with valid MDAQMD permit B007953 (or B007954).**

Verification: The project owner shall make the site available for inspection by representatives of the District, ARB, U.S. EPA and Energy Commission.

The following Conditions of Certification apply to main cooling tower (District Permit Number: B007957) and chiller cooling tower (District Permit Number: B007958)

AQ-CT1 **Operation of the cooling towers shall be conducted in compliance with all data and specifications submitted with the application under which this permit is issued unless otherwise noted below.**

Verification: The project owner shall make the site available for inspection by representatives of the District, ARB, U.S. EPA and Energy Commission.

AQ-~~26~~CT2 The cooling towers shall be operated and maintained in strict accord with the recommendations of their manufacturer or supplier and/or sound engineering principles.

Verification: A summary of significant operation and maintenance events for each cooling tower shall be included in the Quarterly Operations Reports.

AQ-~~27~~CT3 ~~The operator shall conduct all required cooling tower water quality tests in accordance with a District-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 District review and approval.~~

Verification: ~~Thirty (30) days prior to the first such test the operator shall provide a written test and emissions calculation protocol for District and CPM review.~~

~~**AQ-28**~~ The drift rate shall not exceed 0.0006 percent with a maximum circulation rate of 146,000 gallons per minute (gpm) for the Main Cooling Tower and 22,000 gpm for the Chiller Cooling Tower. The maximum hourly PM10 emission rate shall not exceed 0.546 pounds per hour from both cooling towers, as calculated per the written District approved protocol.

Verification: Compliance documentation in accordance with the written District approved protocol shall be submitted to the District and the CPM.

AQ-~~29~~CT4 ~~The operator shall perform weekly tests of the blow-down water quality.~~ **Whenever the power plant is in operation, the operator shall perform tests of the blow-down water quality once in every seven day period at a minimum; to clarify, if at any time during that same seven day period the power plant has run, then the owner operator shall perform blow-down water quality tests.** The operator shall maintain a log that contains the date and result of each blow-down water quality test, and the resulting mass emission rate. This log shall be maintained on site for a minimum of five (5) years and shall be provided to District**, ARB, Energy Commission or U.S. EPA** personnel on request.

Verification: A summary of the results of the weekly blow-down water quality tests and the results of the mass emission rate calculations shall be submitted in the Quarterly Operations Report.

AQ-CT5 **The operator shall conduct all required cooling tower water quality tests in accordance with a District-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 District review and approval.**

Verification: Thirty (30) days prior to the first such test the operator shall provide a written test and emissions calculation protocol for District and CPM review.

AQ-~~30~~CT6 A maintenance procedure shall be established that states how often and what procedures will be used to ensure the integrity of the drift eliminators. This procedure shall be submitted to the District for approval at least thirty (30) days prior to construction and shall be kept on-site and available to District personnel on request.

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

The following Conditions of Certification apply to the non-certified diesel IC engine, emergency fire pump (District Permit Number: E007961), portable diesel IC engine, non-certified, emergency fire pump (District Permit Number: E008981), propane IC engine, emergency generator (District Permit Number: E009492)

AQ-~~31~~IC1 ~~This equipment~~ **The IC engines** shall be installed, operated and maintained in strict accord with those recommendations of the manufacturer/supplier and/or sound engineering principles which produce the minimum emissions of contaminants. **Unless otherwise noted, the IC engines shall also be operated in accordance with all data and specifications submitted with the application for this permit.**

Verification: A summary of significant operation and maintenance events for the ~~emergency diesel~~ IC engine**s** shall be included in the Quarterly Operations Reports.

~~**AQ-32** The project owner shall maintain a log for this unit, which, at a minimum, contains the information specified below. This log shall be kept current and onsite for a minimum of five (5) years and shall be provided to District personnel on request. At a minimum, the log shall include:~~

~~a. Date of each use or test;~~

~~b. Duration of each test, in minutes;~~

~~c. Fuel consumed during each calendar year, in gallons; and~~

~~d. Fuel sulfur concentration (the project owner may use the supplier s certification of sulfur content if it is maintained as part of this log).~~

~~**Verification:** The above information shall be maintained on-site for a minimum of five (5) years and shall be provided to District and/or CEC personnel on request.~~

~~**AQ-33** This unit shall be limited to use for emergency fire fighting, and as part of a testing program that does not exceed 60 minutes of testing operation per week.~~

~~**Verification:** The above information shall be maintained on-site for a minimum of five (5) years and shall be provided to District and/or CEC personnel on request.~~

~~**AQ-34** The project owner shall use only diesel fuel whose sulfur concentration is less than or equal to 0.05% on a weight per weight basis in this unit.~~

~~**Verification:** The above information shall be maintained on-site for a minimum of five (5) years and shall be provided to District and/or CEC personnel on request.~~

AQ-IC2 The diesel IC engines shall only be fired on ultra-low sulfur diesel fuel, whose sulfur concentration is less than or equal to 0.0015% (15 ppm) on a weight per weight basis per CARB Diesel or equivalent

requirements. The propane IC engine shall only be fired on propane (LPG).

Verification: The above information shall be maintained on-site for a minimum of five (5) years and shall be provided to District and/or Energy Commission personnel on request.

AQ-IC3 A non-resettable hour meter with a minimum display capacity of 9,999 hours shall be installed and maintained on the IC engines to indicate elapsed engine operating time.

Verification: The above information shall be maintained on-site for a minimum of five (5) years and shall be provided to District and/or Energy Commission personnel on request.

AQ-IC4 The diesel IC engines shall be limited to use for emergency power, defined as in response to a fire or due to low fire water pressure. In addition, the diesel IC engine (permit #E007961) shall be operated no more than 20 hours per year for testing and maintenance, excluding compliance source testing. Time required for source testing will not be counted toward the 20 hour per year limit. The portable diesel IC engine (permit #E008981) shall be operated no more than 50 hours per year for testing and maintenance, excluding compliance source testing. Time required for source testing will not be counted toward the 50 hour per year limit.

The propane IC engine shall be limited to use for emergency power, defined as in response to a fire or when commercially available power has been interrupted. In addition, the propane IC engine shall be operated no more than 100 hours per year for testing and maintenance, excluding compliance source testing. Time required for source testing will not be counted toward the 100 hour per year limit.

Verification: The above information shall be maintained on-site for a minimum of five (5) years and shall be provided to District and/or Energy Commission personnel on request.

AQ-IC5 The requirements of section 93115.6 and 93116 of Airborne Toxic Control Measure for Stationary Compression Ignition Engines (ATCM) (Effective October 18, 2007), the hour limits indicated in AQ-IC4, do not apply to in-use emergency fire pump assemblies that are driven directly by stationary diesel-fueled CI engines and only operated the number of hours necessary to comply with the testing requirements of National Fire Protection Association (NFPA) 25 "Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems," 2002 edition, which is incorporated herein by reference.

Verification: The above information shall be maintained on-site for a minimum of five (5) years and shall be provided to District and/or Energy Commission personnel on request.

AQ-IC6 The project owner shall maintain an operations log for the IC engines current and onsite, either at the engine location or at an on-site location, for a minimum of five (5) years, and provide to District, ARB, Energy Commission or U.S. EPA personnel upon request. The log shall include, at a minimum, the information specified below:

a. Date of each use and duration of each use (in hours), using the engines hour meter;

b. Reason for use (testing & maintenance, emergency, required emission testing);

c. Monthly and calendar year operation in terms of fuel consumption (in gallons) and total hours;

d. Monthly and rolling 12-month total CO, NOx and PM10 emissions, calculated based on monthly fuel use and District-approved emission factors; and

e. For diesel IC engines, fuel sulfur concentration (the project owner may use the supplier's certification of sulfur content if it is maintained as part of this log).

Verification: The above information shall be maintained on-site for a minimum of five (5) years and shall be provided to District and/or Energy Commission personnel on request.

AQ-IC7 The project owner shall conduct inspections in accord with the following schedule. All inspections must occur at least annually regardless of operating hours.

a. Change oil and filter every 500 hours of operation or annually, whichever comes first, or use an oil change analysis program to extend oil change frequencies per the requirements in 40 CFR 63.6625(i);

b. For diesel IC engines, inspect air cleaner every 1,000 hours of operation or annually, whichever comes first. For propane IC engine, inspect spark plugs every 1,000 hours of operation or annually, whichever comes first; and

c. inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.

Verification: The above information shall be maintained on-site for a minimum of five (5) years and shall be provided to District and/or Energy Commission personnel on request.

AQ-IC8 The project owner shall minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes.

Verification: The above information shall be maintained on-site for a minimum of five (5) years and shall be provided to District and/or Energy Commission personnel on request.

AQ-IC9 The diesel IC engine (permit #E007961) is subject to the requirements of the Airborne Toxic Control Measure (ATCM) for Stationary Compression Ignition Engines Title 17 CCR 93115 and 40 CFR 63 Subpart ZZZZ (RICE NESHAPs).

The portable diesel IC engine (permit #E008981) shall be regulated as a stationary diesel CI engine, as clarified in the definition of a portable source in 93115.4(a)(72). As a stationary source, this portable diesel IC engine is subject to the requirements of the Airborne Toxic Control Measure (ATCM) for Portable Compression Ignition Engines Title 17 CCR 93116 and 40 CFR 63 Subpart ZZZZ (RICE NESHAPs).

The propane IC engine is subject to the requirements of 40 CFR 63 Subpart ZZZZ (RICE NESHAPs).

In the event of conflict between conditions and the referenced regulatory citations, the more stringent requirements shall govern.

Verification: The above information shall be maintained on-site for a minimum of five (5) years and shall be provided to District and/or Energy Commission personnel on request.

REFERENCES

BEP 2015a Blythe Energy Inc. *Petition of Amend Blythe Energy Project (99-AFC-08C)*, February 12, 2015

BEP 2015b Blythe Energy Inc. *Supplement to Petition to Amend*, May 6, 2015.

CEC 2000 - California Energy Commission. *Final Staff Assessment/Environmental Assessment Filed Jointly (99-AFC-08)*. November 14, 2000.

CEC 2001 - California Energy Commission. *Commission Decision of Blythe Energy Project (99-AFC-08)*. March 26, 2001.

CEC 2005 - California Energy Commission, *Order Approving a Petition to Modify Air Quality Conditions (99-AFC-08C)*. June 24, 2005.

CEC 2015 – California Energy Commission. *Letter Approving Requested Modification to Add a Turndown Upgrade Package to the Two Existing Gas Turbines at Blythe Energy Center (99-AFC-8C).* January 7, 2015.

MDAQMD 2015 - Mojave Desert Air Quality Management District. *Final Decision/ Final Determination for New Source Review Action & Title V Federal Operating Permit*. May 7, 2015.

Appendix A

BLYTHE ENEGY CENTER
AIR QUALITY CONDITIONS OF CERTIFICATION

District Final Decision/Final Determination for New Source Review Action & Title V Federal Operating Permit Conditions

The following Conditions of Certification apply to combustion turbine generator power block (CT1) (District Permit Number: B007953) and combustion turbine generator power block (CT2) (District Permit Number: B007954)

AQ-T1 Operation of the turbines shall be conducted in compliance with all data and specifications submitted with the application under which this permit is issued unless otherwise noted below.

Verification: The project owner shall make the site available for inspection by representatives of the District, California Air Resources Board (ARB), the United States Environmental Protection Agency (U.S. EPA) and Energy Commission.

AQ-T2 The turbines shall be exclusively fueled with pipeline quality natural gas with a sulfur content not exceeding 0.5 grains per 100 dscf on a rolling twelve month average basis. The turbines shall be operated and maintained in strict accord with the recommendations of its manufacturer or supplier and/or sound engineering principles.

Verification: The project owner shall incorporate into the Quarterly Operations Report either a monthly laboratory analysis showing the fuel sulfur content, a monthly fuel sulfur content report from the fuel supplier(s), or the results from a custom fuel monitoring schedule approved by U.S. EPA for compliance with the fuel monitoring provisions of 40 CFR 60 Subpart GG.

AQ-T3 The turbines are subject to the federal NSPS codified at 40 CFR Part 60, Subparts A (General Provisions) and GG (Standards of Performance for Stationary Gas Turbines). The turbines are also subject to the Prevention of Significant Deterioration (40 CFR 51.166) and Federal Acid Rain (Title IV) programs. Compliance with all applicable provisions of these regulations is required.

Verification: At least ninety (90) days prior to the first firing of fuel in either turbine, the project owner shall provide the District, the ARB and the CPM copies of the federal PSD and Acid Rain permits.

AQ-T4 Emissions from the turbines (including the associated duct burners) 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 rate, computed every 15 minutes, verified by CEMS and annual compliance tests:

   i. NOx as NO_2 — the most stringent of 19.80 lb/hr or 2.5 ppmvd corrected to 15% O_2 and averaged over one hour~~)~~.

   ii. NOx as NO_2 — effective May 7, 2016, 2.0 ppmvd corrected to 15% O_2 and averaged over a rolling 12 month period.

   iii. CO — the most stringent of 17.5 lb/hr or 4.0 ppmvd corrected to 15% O_2 and averaged over 3 hours.

   iv. CO – 10 lb/hr averaged over a rolling 12-month period

b. Hourly rates, verified by annual compliance tests or other compliance methods in the case of SOx:

   i. VOC as CH_4 — 2.9 lb/hr (based on 1 ppmvd corrected to 15% O_2).

   ii. SOx as SO_2 — 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, monthly, total quarterly, total calendar year, and rolling 12-month emissions of NOx, CO, PM10, VOC and SOx (including calculation protocol); total monthly and rolling 12-month fuel use in the gas turbines and duct burners; average NO_2 concentration and average CO mass emission rate, for all operating periods except during startup, shutdown and malfunction, for each gas turbine and associated duct burner, calculated on a rolling 12-month basis; 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); and any permanent changes made in the plant process or production that could affect air pollutant emissions, and when the changes were made.

AQ-T5 Emissions of CO and NOx from the turbines shall only exceed the limits contained in AQ-T4 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 condition **AQ-T4** operating permit limits for two consecutive 15-minute averaging periods or four hours after ignition, whichever occurs first. 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. The emissions from each startup and shutdown event shall not exceed the following, verified by CEMS:

   i. NOx — 376 lb.

   ii. CO — 3600 lb.

c. Effective May 7, 2016, the CO emissions from all startup and shutdown events at both power blocks, averaged over a rolling 12-month period, shall not exceed 750 lb/event, verified by CEMS.

Verification: The emission limits defined in this condition apply to one combined startup/shutdown event (one cycle). 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; average CO emissions from all startups and shutdowns of the gas turbines on a per event basis calculated on a rolling 12-month basis; 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 startup and shutdown, and average plant operation schedule (hours per day, days per week, weeks per year).

AQ-T6 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 — 8004 lb/day, verified by CEMS.

c. VOC as CH4 — 239 lb/day, verified by compliance tests and hours of operation in steady-state, pre-mix mode.

d. SOx as SO_2 — 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); 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); and any permanent changes made in the plant process or production that could affect air pollutant emissions, and when the changes were made.

AQ-T7 Emissions from all units at this facility, including the cooling towers, shall not exceed the following emission limits, based on a rolling 12 month summary:

a. NOx —97 tons/year, verified by CEMS.

b. CO —97 tons/year, verified by CEMS.

c. VOC as CH_4 — 24 tons/year, verified by compliance tests and hours of operation in steady-state, pre-mix mode.

d. SOx as SO_2 — 24 tons/year, verified by fuel sulfur content and fuel use data.

e. PM10 —97 tons/year, verified by compliance tests and hours of operation.

These limits shall apply to all emissions from all units at this facility, and shall include emissions during all modes of operation, including startup, shutdown and malfunction.

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, monthly, total quarterly, total calendar year, and rolling 12-month emissions of NOx, CO, PM10, VOC and SOx (including calculation protocol); total monthly and rolling 12-month fuel use in the gas turbines and duct burners; average NO_2 concentration and average CO mass emission rate for all operating periods except during startup, shutdown and malfunction for each gas turbine and associated duct burner, calculated on a rolling 12-month basis; 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); and any permanent changes made in the plant process or production that could affect air pollutant emissions, and when the changes were made.

AQ-T8 Particulate emissions from this equipment shall not exceed opacity equal to or greater than twenty percent (20%) for a period aggregating more than three (3) minutes in any one (1) hour, excluding uncombined water vapor.

Verification: The project owner shall make the site available for inspection by representatives of the District, ARB, U.S. EPA and Energy Commission.

AQ-T9 The turbines shall exhaust through a stack at a minimum height of 130 feet.

Verification: Prior to the first firing of natural gas in either turbine the owner/operator shall provide as built drawings of the stack or other suitable proof of the minimum stack height to the District and the Energy Commission CPM.

AQ-T10 The project owner shall not operate the turbines after the initial commissioning period without the selective catalytic NOx reduction system with valid District permit, as well as the oxidation catalyst with valid District permit installed and fully functional.

Verification: The project owner shall make the site available for inspection by representatives of the District, ARB, U.S. EPA and the Energy Commission.

AQ-T11 [Deleted, (date of deletion)]

AQ-T12 Emissions of NOx, CO, oxygen and ammonia slip shall be monitored using a Continuous Emissions Monitoring System (CEMS). Each CEMS shall be operational whenever the associated combustion turbine generator is in operation, including during periods of startup, shutdown and malfunction. Turbine fuel consumption shall be monitored using a continuous monitoring system. Stack gas flow rate shall be monitored using either a Continuous Emission Rate Monitoring System (CERMS) meeting the requirements of 40 CFR Part 75 Appendix A or a stack flow rate calculation method. The operator shall install, calibrate, maintain, and operate these monitoring systems according to a District approved monitoring plan and MDAQMD Rule 218, and they shall be installed prior to initial equipment startup. Six (6) months prior to installation the operator shall submit a monitoring plan for District review and approval.

Verification: The project owner shall make the site available for inspection by representatives of the District, ARB, U.S. EPA and Energy Commission.

AQ-T13 The project owner shall conduct all required compliance/certification tests in accordance with a District-approved test plan.

Verification: Thirty (30) days prior to the compliance/certification tests the operator shall provide a written test plan for District review and approval. Written notice of the compliance/certification test shall be provided to the District ten (10) days prior to the tests so that an observer may be present. A written report with the results of such compliance/certification tests shall be submitted to the District within forty-five (45) days after testing.

AQ-T14 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 District no later than six weeks prior to the expiration date of this permit. The following compliance tests are rquried:

a. NOx as NO_2 in ppmvd at 15% O_2 and lb/hr (measured per U.S. EPA Reference Methods 19, 20, or 7E). If testing is performed at 90%-100% of rated capacity, then the annual calibration RATA associated with the NOx CEMS in use on these units may be used in lieu of the required

annual U.S. EPA Reference Method 20, as long as all of the requirements of prior test notification, proper test result submittal, etc., are followed.

b. VOC as CH4 in ppmvd at 15% O2 and lb/hr (measured per U.S. EPA Reference Methods 25A and 18).

c. SOx as SO2 in ppmvd at 15% O2 and lb/hr.

d. CO in ppmvd at 15% O2 and lb/hr (measured per U.S. EPA Reference Method 10).

e. PM10 in mg/m3 at 15% O2 and lb/hr (measured per U.S. EPA Reference Methods 5 and 202 or CARB Method 5).

f. Flue gas flow rate in dscfm.

g. Opacity (measured per U.S. EPA reference Method 9).

h. Ammonia slip in ppmvd at 15% O2.

Verification: The annual source test report shall be submitted to the District and CPM no later than six (6) weeks prior to the expiration date of the District permit.

AQ-T15 The project owner shall, at least as often as once every five years (commencing with the initial compliance test), include the following supplemental source tests in the annual compliance testing:

a. Characterization of cold startup VOC emissions;

b. Characterization of warm startup VOC emissions;

c. Characterization of hot startup VOC emissions; and

c. Characterization of shutdown VOC emissions.

Verification: Each annual source test report shall either include the results of these tests for the current year or document the date and results of the last such tests.

AQ-T16 Continuous monitoring systems shall meet the following acceptability testing requirements from 40 CFR 60 Appendix B:

a. For NOx, Performance Specification 2.

b. For O_2, Performance Specification 3.

c. For CO, Performance Specification 4.

d. For stack gas flow rate, Performance Specification 6 (if CERMS is installed.)

e. For ammonia, a District approved procedure that is to be submitted by the project owner.

Verification: The project owner shall discuss compliance with these specifications in each Quarterly Operations Report.

AQ-T17 The project owner shall submit to the Mojave Desert Air Pollution Control District (District) Air Pollution Control Officer (APCO), the United States Environmental Protection Agency (U.S. EPA) Region IX and the California Energy Commission a Quarterly Operations Report for the preceding calendar quarter by January 30, April 30, July 30 and October 30 of each year this permit is in effect. Each January 30 submittal shall include a summary of the reported information for the previous year. This information shall be maintained on site for a minimum of five (5) years and shall be provided to District or Energy Commission personnel on request.

a. Operating parameters of emission control equipment, including but not limited to ammonia injection rate, NOx emission rate and ammonia slip.

b. Total plant operation time (hours), number of startups, hours in startup, and hours in shutdown period.

c. Date and time of the beginning and end of each startup and shutdown period.

d. Average plant operation schedule (hours per day, days per week, weeks per year).

e. All continuous emissions data reduced and reported in accordance with the District approved CEMS protocol.

f. Maximum hourly, maximum daily, total quarterly, and total calendar year emissions of NOx, CO, PM10, VOC and SOx (including calculation protocol).

g. Total monthly and rolling 12-month emissions of NOx, CO and PM10 from all permit units.

h. Total monthly and rolling 12-month fuel use in the gas turbines and duct burners.

i. Average NO_2 concentration and average CO mass emission rate, for all operating periods except during startup, shutdown and malfunction, for each gas turbine and associated duct burner, calculated on a rolling 12-month basis.

j. Average CO emissions from all startups and shutdowns of the gas turbines, on a per event basis, calculated on a rolling 12-month basis.

k. Fuel sulfur content (monthly laboratory analyses, monthly natural gas sulfur content reports from the natural gas supplier(s), or the results of a custom fuel monitoring schedule approved by U.S. EPA for compliance with the fuel monitoring provisions of 40 CFR 60 Subpart GG).

l. A log of all excess emissions, including the information regarding malfunctions/breakdowns required by Rule 430.

m. Any permanent changes made in the plant process or production, which would affect air pollutant emissions, and indicate when changes were made.

n. Any maintenance to any air pollutant control system (recorded on an as-performed basis).

Verification: The project owner shall submit a Quarterly Operations Report for the preceding calendar quarter by January 30, April 30, July 30 and October 30 of each year. The January 30 report shall include an annual summary of the Quarterly Operations Reports for the preceding year. The reports shall be submitted to the Mojave Desert Air Pollution Control District (District), the United States Environmental Protection Agency (U.S. EPA) and the California Energy Commission Compliance Project Manager (CPM).

AQ-T18 Effective May 7, 2016, total fuel use in the two gas turbines and two duct burners (Permit #B007953 combustion turbine generator power block (CT1), Permit #B007954 combustion turbine generator power block (CT2), Permit #B007955 duct burner unit 1 and Permit #B007956 duct burner unit 2)shall not exceed 31,852,800 MMBtu in any rolling 12-month period.

Verification: The project owner shall submit the total monthly and rolling 12-month fuel use in the gas turbines and duct burners in each Quarterly Operations Report.

The following Conditions of Certification apply to duct burner unit 1 (District Permit Number: B007955) and duct burner unit 2 (District Permit Number: B007956)

AQ-DB1 Operation of the duct burners shall be conducted in accordance with all data and specifications submitted with the application under which this permit is issued unless otherwise noted below.

Verification: The project owner shall make the site available for inspection by representatives of the District, ARB, U.S. EPA and Energy Commission.

AQ-DB2 The duct burners shall be exclusively fueled with natural gas and shall be operated and maintained in strict accord with the recommendations of its manufacturer or supplier and/or sound engineering principles.

Verification: The project owner shall make the site available for inspection by representatives of the District, ARB, U.S. EPA and Energy Commission.

AQ-DB3 The duct burners shall not be operated unless the combustion turbine generator with valid District permit B007953 (or B007954), selective catalytic reduction system with valid District permit C007959 (or C007960), and oxidation catalyst C010832 (or C010833) are in operation.

Verification: A summary of fuel use and equipment operation for each duct burner shall be included in each Quarterly Operations Report.

AQ-DB4 Fuel use by duct burners shall be recorded and maintained on site for a minimum of five (5) years and shall be provided to District, ARB, Energy Commission or U.S. EPA personnel on request.

Verification: The above information shall be recorded and maintained on site for a minimum of five (5) years and shall be provided to District or Energy Commission personnel on request.

The following Conditions of Certification apply to the two individual selective catalytic NOx reduction systems (SCR) (District Permit Numbers: C007959, C007960.)

AQ-SCR1 Operation of the SCR units shall be conducted in accordance with all data and specifications submitted with the application under which this permit is issued unless otherwise noted below.

Verification: The project owner shall make the site available for inspection by representatives of the District, ARB, U.S. EPA and Energy Commission.

AQ-SCR2 The SCR Units shall be operated and maintained in strict accord with the recommendations of its manufacturer or supplier and/or sound engineering principles.

Verification: A summary of significant operation and maintenance events for each selective catalytic reduction system shall be included in the Quarterly Operations Reports.

AQ-SCR3 The SCR Units shall be operated concurrently with the combustion turbine generator with valid MDAQMD permit B007953 (or B007954).

Verification: The project owner shall make the site available for inspection by representatives of the District, ARB, U.S. EPA and Energy Commission.

AQ-SCR4 Ammonia shall be injected whenever the selective catalytic reduction system has reached or exceeded 550 degree Fahrenheit. Except during periods of startup and shutdown, ammonia slip shall not exceed 10 ppmvd (corrected to 15% O_2), averaged over three hours.

Verification: The project owner shall maintain a log of the SCR temperatures and the commencement of ammonia injection times. This information shall be recorded and maintained on site for a minimum of five (5) years and shall be provided to District and Energy Commission personnel on request.

AQ-SCR5 Ammonia injection by the SCR units in pounds per hour shall be recorded and maintained on site for a minimum of five (5) years and shall be provided to District, ARB, Energy Commission or U.S. EPA personnel on request.

Verification: The above information shall be recorded and maintained on site for a minimum of five (5) years and shall be provided to District and Energy Commission personnel on request.

The following Conditions of Certification apply to the two oxidation catalyst (OC) units (District Permit Numbers: C010832, C010833.)

AQ-OC1 Operation of the OC units shall be conducted in compliance with all data and specifications submitted with the application under which this permit is issued unless otherwise noted below.

Verification: The project owner shall make the site available for inspection by representatives of the District, ARB, U.S. EPA and Energy Commission.

AQ-OC2 The OC Units shall be operated and maintained in strict accord with the recommendations of its manufacturer or supplier and/or sound engineering principles.

Verification: A summary of significant operation and maintenance events for each oxidation system unit shall be included in the Quarterly Operations Reports.

AQ-OC3 The OC Units shall be operated concurrently with the combustion turbine generator with valid MDAQMD permit B007953 (or B007954).

Verification: The project owner shall make the site available for inspection by representatives of the District, ARB, U.S. EPA and Energy Commission.

The following Conditions of Certification apply to main cooling tower (District Permit Number: B007957) and chiller cooling tower (District Permit Number: B007958)

AQ-CT1 Operation of the cooling towers shall be conducted in compliance with all data and specifications submitted with the application under which this permit is issued unless otherwise noted below.

Verification: The project owner shall make the site available for inspection by representatives of the District, ARB, U.S. EPA and Energy Commission.

AQ-CT2 The cooling towers shall be operated and maintained in strict accord with the recommendations of their manufacturer or supplier and/or sound engineering principles.

Verification: A summary of significant operation and maintenance events for each cooling tower shall be included in the Quarterly Operations Reports.

AQ-CT3 The drift rate shall not exceed 0.0006 percent with a maximum circulation rate of 146,000 gallons per minute (gpm) for the Main Cooling Tower and 22,000 gpm for the Chiller Cooling Tower. The maximum hourly PM10 emission rate shall not exceed 0.546 pounds per hour from both cooling towers, as calculated per the written District approved protocol.

Verification: Compliance documentation in accordance with the written District approved protocol shall be submitted to the District and the CPM.

AQ-CT4 Whenever the power plant is in operation, the operator shall perform tests of the blow-down water quality once in every seven day period at a minimum; to clarify, if at any time during that same seven day period the power plant has run, then the owner operator shall perform blow-down water quality tests. The operator shall maintain a log that contains the date and result of each blow-down water quality test, and the resulting mass emission rate. This log shall be maintained on site for a minimum of five (5) years and shall be provided to District, ARB, Energy Commission or U.S. EPA personnel on request.

Verification: A summary of the results of the weekly blow-down water quality tests and the results of the mass emission rate calculations shall be submitted in the Quarterly Operations Report.

AQ-CT5 The operator shall conduct all required cooling tower water quality tests in accordance with a District-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 District review and approval.

Verification: Thirty (30) days prior to the first such test the operator shall provide a written test and emissions calculation protocol for District and CPM review.

AQ-CT6 A maintenance procedure shall be established that states how often and what procedures will be used to ensure the integrity of the drift eliminators. This procedure shall be submitted to the District for approval at least thirty (30) days prior to construction and shall be kept on-site and available to District personnel on request.

Verification: The project owner shall make the site available for inspection by representatives of the District, ARB, U.S. EPA and Energy Commission.

The following Conditions of Certification apply to the non-certified diesel IC engine, emergency fire pump (District Permit Number: E007961), portable diesel IC engine, non-certified, emergency fire pump (District Permit Number: E008981), propane IC engine, emergency generator (District Permit Number: E009492)

AQ-IC1 The IC engines shall be installed, operated and maintained in strict accord with those recommendations of the manufacturer/supplier and/or sound engineering principles which produce the minimum emissions of contaminants. Unless otherwise noted, the IC engines shall also be operated in accordance with all data and specifications submitted with the application for this permit.

Verification: A summary of significant operation and maintenance events for the IC engines shall be included in the Quarterly Operations Reports.

AQ-IC2 The diesel IC engines shall only be fired on ultra-low sulfur diesel fuel, whose sulfur concentration is less than or equal to 0.0015% (15 ppm) on a weight per weight basis per CARB Diesel or equivalent requirements. The propane IC engine shall only be fired on propane (LPG).

Verification: The above information shall be maintained on-site for a minimum of five (5) years and shall be provided to District and/or Energy Commission personnel on request.

AQ-IC3 A non-resettable hour meter with a minimum display capacity of 9,999 hours shall be installed and maintained on the IC engines to indicate elapsed engine operating time.

Verification: The above information shall be maintained on-site for a minimum of five (5) years and shall be provided to District and/or Energy Commission personnel on request.

AQ-IC4 The diesel IC engines shall be limited to use for emergency power, defined as in response to a fire or due to low fire water pressure. In addition, the diesel IC engine (permit #E007961) shall be operated no more than 20 hours per year for testing and maintenance, excluding compliance source testing. Time required for source testing will not be counted toward the 20

hour per year limit. The portable diesel IC engine (permit #E008981) shall be operated no more than 50 hours per year for testing and maintenance, excluding compliance source testing. Time required for source testing will not be counted toward the 50 hour per year limit.

The propane IC engine shall be limited to use for emergency power, defined as in response to a fire or when commercially available power has been interrupted. In addition, the propane IC engine shall be operated no more than 100 hours per year for testing and maintenance, excluding compliance source testing. Time required for source testing will not be counted toward the 100 hour per year limit.

Verification: The above information shall be maintained on-site for a minimum of five (5) years and shall be provided to District and/or Energy Commission personnel on request.

AQ-IC5 The requirements of section 93115.6 and 93116 of Airborne Toxic Control Measure for Stationary Compression Ignition Engines (ATCM) (Effective October 18, 2007), the hour limits indicated in **AQ-IC4**, do not apply to in-use emergency fire pump assemblies that are driven directly by stationary diesel-fueled CI engines and only operated the number of hours necessary to comply with the testing requirements of National Fire Protection Association (NFPA) 25 "Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems," 2002 edition, which is incorporated herein by reference.

Verification: The above information shall be maintained on-site for a minimum of five (5) years and shall be provided to District and/or Energy Commission personnel on request.

AQ-IC6 The project owner shall maintain an operations log for the IC engines current and onsite, either at the engine location or at an on-site location, for a minimum of five (5) years, and provide to District, ARB, Energy Commission or U.S. EPA personnel upon request. The log shall include, at a minimum, the information specified below:

a. Date of each use and duration of each use (in hours), using the engines hour meter;

b. Reason for use (testing & maintenance, emergency, required emission testing);

c. Monthly and calendar year operation in terms of fuel consumption (in gallons) and total hours;

d. Monthly and rolling 12-month total CO, NOx and PM10 emissions, calculated based on monthly fuel use and District-approved emission factors; and

e. For diesel IC engines, fuel sulfur concentration (the project owner may use the supplier's certification of sulfur content if it is maintained as part of this log).

Verification: The above information shall be maintained on-site for a minimum of five (5) years and shall be provided to District and/or Energy Commission personnel on request.

AQ-IC7 The project owner shall conduct inspections in accord with the following schedule. All inspections must occur at least annually regardless of operating hours.

a. Change oil and filter every 500 hours of operation or annually, whichever comes first, or use an oil change analysis program to extend oil change frequencies per the requirements in 40 CFR 63.6625(i);

b. For diesel IC engines, inspect air cleaner every 1,000 hours of operation or annually, whichever comes first. For propane IC engine, inspect spark plugs every 1,000 hours of operation or annually, whichever comes first; and

c. inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.

Verification: The above information shall be maintained on-site for a minimum of five (5) years and shall be provided to District and/or Energy Commission personnel on request.

AQ-IC8 The project owner shall minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes.

Verification: The above information shall be maintained on-site for a minimum of five (5) years and shall be provided to District and/or Energy Commission personnel on request.

AQ-IC9 The diesel IC engine (permit #E007961) is subject to the requirements of the Airborne Toxic Control Measure (ATCM) for Stationary Compression Ignition Engines Title 17 CCR 93115 and 40 CFR 63 Subpart ZZZZ (RICE NESHAPs).

The portable diesel IC engine (permit #E008981) shall be regulated as a stationary diesel CI engine, as clarified in the definition of a portable source in 93115.4(a)(72). As a stationary source, this portable diesel IC engine is subject to the requirements of the Airborne Toxic Control Measure (ATCM) for Portable Compression Ignition Engines Title 17 CCR 93116 and 40 CFR 63 Subpart ZZZZ (RICE NESHAPs).

The propane IC engine is subject to the requirements of 40 CFR 63 Subpart ZZZZ (RICE NESHAPs).

In the event of conflict between conditions and the referenced regulatory citations, the more stringent requirements shall govern.

Verification: The above information shall be maintained on-site for a minimum of five (5) years and shall be provided to District and/or Energy Commission personnel on request.