

AUTHORITY TO CONSTRUCT ISSUED PURSUANT TO PREVENTION OF SIGNIFICANT DETERIORATION (PSD) REQUIREMENTS AT 40 CFR 52.21

PSD PERMIT NUMBER: SE 07-02 U.S. EVIRONMENTAL PROTECTION AGENCY, REGION IX

PERMITTEE: City of Victorville

FACILITY LOCATION: Victorville, San Bernardino County, CA

This Permit is issued pursuant to the Prevention of Significant Deterioration (PSD) requirements of the Clean Air Act, as amended, 42 U.S.C. §§ 7401 - 7671, et seq. City of Victorville is granted approval to construct the hybrid solar and combined cycle natural gas-fired power plant, as described herein, in accordance with the permit application (and plans submitted with the permit application), federal regulations governing the Prevention of Significant Deterioration of air quality (40 CFR § 52.21), and other terms and conditions set forth in this PSD Permit.

Failure to comply with any condition or term set forth in this PSD Permit is subject to enforcement action pursuant to Section 113 of the Clean Air Act.

This PSD Permit does not relieve the Permittee from the responsibility to comply with any other applicable provisions of the Clean Air Act (including 40 CFR Parts 51, 52, 60, 61, 63, and 72 through 75), other federal, or Mojave Desert Air Quality Management District requirements.

This PSD Permit becomes effective immediately on the date of issuance pursuant to 40 CFR § 124.15(b)(3).

Deborah Jordan

Director, Air Division

Date

VICTORVILLE 2 HYBRID POWER PROJECT (SE 07-02) PREVENTION OF SIGNIFICANT DETERIORATION PERMIT FINAL PERMIT CONDITIONS

PROJECT DESCRIPTION

The proposed facility is a combined-cycle power plant capable of generating up to 563 megawatts (MW, nominal) of net power. Electrical power will be generated from the combustion of natural gas in two 154 MW combustion turbine generators (CTG). Exhaust from each gas turbine will flow through a dedicated Heat Recovery Steam Generator (HRSG) to produce steam to power a shared 267 MW Steam Turbine Generator (STG). Each HRSG will be equipped with natural gas-fired duct burners to augment steam production during peaking operation. The facility will include a field of parabolic trough solar collectors to produce additional high pressure steam for the HRSG. Solar thermal energy can displace up to 50 MW of duct burning, with the same total overall capacity.

The facility is subject to the Prevention of Significant Deterioration (PSD) Program for emissions of Carbon Monoxide (CO), Nitrogen Dioxide (NO₂), Particulate Matter (PM), and Particulate Matter under 2.5 micrometers (µm) in diameter (PM_{2.5}).

The following devices are subject to this PSD permit:

Device ID	Description
D1	 154 MW Combustion Turbine Generator (CTG) Natural gas-fired GE 7FA Rapid Start Process Vented to a dedicated Heat Recovery Steam Generator (HRSG) and a 267 MW Steam Turbine Generator (STG) shared with D2 Emissions of NO₂ and CO controlled by Selective Catalytic Reduction (SCR) and an Oxidation Catalyst (Ox-Cat)
D2	 154 MW Combustion Turbine Generator (CTG) Natural gas-fired GE 7FA Rapid Start Process Vented to a dedicated HRSG and a 267 MW STG shared with D1 Emissions of NO₂ and CO controlled by SCR and an Ox-Cat
D3	• 424.3 MMBtu/hr (HHV) Duct Burner for D1, fired on natural gas
D4	• 424.3 MMBtu/hr (HHV) Duct Burner for D2, fired on natural gas
D5	• 40 MMBtu/hr (HHV) Auxiliary Heater with ultra low-NO _x burner
D6	• 35 MMBtu/hr (HHV) Auxiliary Boiler with ultra low-NO _x burner
D7	• 2000 KW (2,683 hp) Internal Combustion (IC) Diesel-fired Emergency Engine
D8	• 135 KW (182 hp) IC Diesel-fired Emergency Firewater Pump Engine
D9	• 130,000 gallons per minute (maximum circulation rate) Cooling Tower

I. PERMIT EXPIRATION

As provided in 40 CFR 52.21(r), this PSD Permit shall become invalid if construction:

- A. is not commenced (as defined in 40 CFR 52.21(b)(9)) within 18 months after the approval takes effect; or
- B. is discontinued for a period of 18 months or more; or
- C. is not completed within a reasonable time.

II. PERMIT NOTIFICATION REQUIREMENTS

Permittee shall notify EPA Region 9 in writing or by electronic mail of the:

- A. date construction is commenced, postmarked within 30 days of such date.
- B. actual date of initial startup, as defined in 40 CFR 60.2, postmarked within 15 days of such date.
- C. date upon which initial performance tests will commence, in accordance with the provisions of Condition IX.H, postmarked not less than 30 days prior to such date. Notification may be provided with the submittal of the performance test protocol required pursuant to Condition IX.H.
- D. date upon which initial performance evaluation of the CEMS will commence in accordance with 40 CFR 60.13(c), postmarked not less than 30 days prior to such date. Notification may be provided with the submittal of the CEMS performance test protocol required pursuant to Condition IX.G

III. FACILITY OPERATION

At all times, including periods of startup, shutdown, shakedown, and malfunction, Permittee shall, to the extent practicable, maintain and operate the facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the EPA which may include, but is not limited to, monitoring results, opacity observations, review of operating maintenance procedures and inspection of the source.

IV. MALFUNCTION REPORTING

- A. Permittee shall notify EPA at R9.AEO@epa.gov within two (2) working days following the discovery of any failure of air pollution control equipment, process equipment, or of a process to operate in a normal manner, which results in an increase in emissions above the allowable emission limits stated in Section IX of this permit.
- B. In addition, Permittee shall provide an additional notification to EPA in writing or electronic mail within fifteen (15) days of any such failure described under Condition IV.A. This notification shall include a description of the malfunctioning equipment or abnormal operation, the date of the initial malfunction, the period of time over which emissions were increased due to the failure, the cause of the failure, the estimated resultant emissions in excess of those allowed in Section IX, and the methods utilized to mitigate emissions and restore normal operations.
- C. Compliance with this malfunction notification provision shall not excuse or otherwise constitute a defense to any violation of this permit or any law or regulation such malfunction may cause.

V. RIGHT OF ENTRY

The EPA Regional Administrator, and/or an authorized representative, upon the presentation of credentials, shall be permitted:

- A. to enter the premises where the source is located or where any records are required to be kept under the terms and conditions of this PSD Permit;
- B. during normal business hours, to have access to and to copy any records required to be kept under the terms and conditions of this PSD Permit;
- C. to inspect any equipment, operation, or method subject to requirements in this PSD Permit; and
- D. to sample materials and emissions from the source(s).

VI. TRANSFER OF OWNERSHIP

In the event of any changes in control or ownership of the facilities to be constructed, this PSD Permit shall be binding on all subsequent owners and operators. Permittee shall notify the succeeding owner and operator of the existence of this PSD Permit and its

conditions by letter, a copy of which shall be forwarded to EPA Region IX.

VII. SEVERABILITY

The provisions of this PSD Permit are severable, and, if any provision of the PSD Permit is held invalid, the remainder of this PSD Permit shall not be affected.

VIII. ADHERENCE TO APPLICATION AND COMPLIANCE WITH OTHER ENVIRONMENTAL LAWS

Permittee shall construct this project in compliance with this PSD permit, the application on which this permit is based, the Terms and Conditions of the final Biological Opinion issued on January 23, 2008 pursuant to the Section 7 Consultation with the U.S. Fish and Wildlife Service, and all other applicable federal, state, and local air quality regulations, including, but not limited to, the Standards of Performance for New Stationary Sources (40 CFR Part 60) Subparts A, Dc, KKKK, and IIII of this regulation. This PSD permit does not release the Permittee from any liability for compliance with other applicable federal, state and local environmental laws and regulations, including the Clean Air Act.

IX. SPECIAL CONDITIONS

A. Annual Facility Emission Limits

Annual emissions, in tons per year (tpy) on a 12-month rolling average basis, shall not exceed the following:

	NO_x	CO	PM	$PM_{2.5}$
Total Facility	108.4 tpy	254.2 tpy	124.5 tpy	120.9 tpy

B. Air Pollution Control Equipment and Operation

On or before the date of initial start-up of the power plant (as defined in 40 C.F.R. 60.2), and thereafter, except as noted below in section IX.D., the Permittee shall install, continuously operate, and maintain Selective Catalytic Reduction (SCR) systems for control of NO_x and oxidation catalysts for control of CO for Units D1 and D2. Permittee shall also perform any necessary operations to minimize

emissions so that emissions are at or below the emission limits specified in this permit.

C. Combustion Turbine Generator Emission Limits

1. Except as noted below under Condition IX.D, on and after the date of initial start-up, Permittee shall not discharge or cause the discharge of emissions from each combustion turbine generator (CTG) unit (D1 and D2) into the atmosphere in excess of the following:

	Emission Limit (per CTG) (no duct burning)	Emission Limit (per CTG) (with duct burning)	
NO_2	 11.55 lb/hr 1-hr average 2.0 ppmvd @ 15% O₂ 	 14.6 lb/hr 1-hr average 2.0 ppmvd @ 15% O₂ 	
СО	 7.65 lb/hr 1-hr average 2.0 ppmvd @ 15% O₂ 	 13.35 lb/hr 1-hr average 3.0 ppmvd @ 15% O₂ 	
PM and PM _{2.5}	 12.0 lb/hr 12-month rolling average PUC-quality natural gas Sulfur content of no greater than 0.2 grains per 100 dscf 	 18.0 lb/hr 12-month rolling average PUC-quality natural gas Sulfur content of no greater than 0.2 grains per 100 dscf 	

2. Combined hours of operation for both duct burners (D3 and D4) shall not exceed 2000 hours per 12-month rolling average. The Permittee shall ensure that the duct burners are not operated unless the associated turbine units are in operation.

D. Requirements during Gas Turbine (D1 and D2) Startup and Shutdown

- 1. Startup is defined as the period beginning with ignition and lasting until either the equipment complies with all operating permit limits for two consecutive 15-minute averaging periods or the maximum time allowed for the event after ignition, whichever occurs first.
 - a. A cold startup means a startup when the CTG has not been in operation

during the preceding 48 hours.

- b. Warm and hot start-ups include all startups that are not a cold startup.
- c. Shutdown is defined as the period beginning with the lowering of equipment from normal operating load and lasting until fuel flow is completely off and combustion has ceased.
- 2. During startup and shutdown periods emissions from each CTG and associated HRSG unit, verified by the Continuous Emissions Monitoring System (CEMS), shall not exceed the following:

	NO _x	CO	Duration	Annual Event Limit
Cold Startup	52.4 lb/hr 96 lb/event	224 lb/hr 410 lb/event	1.8 hr/event	50 events/yr
Warm and Hot Startup	30 lb/hr 40 lb/event	247 lb/hr 329 lb/event	1.3 hr/event	260 events/yr
Shutdown	114 lb/hr 57 lb/event	674 lb/hr 337 lb/event	0.5 hr/event	310 events/yr

- 3. The Permittee must operate the CEMS during startups and shutdowns.
- 4. The Permittee must record the time, date, and duration of each startup and shutdown event. The records must include calculations of NO_x and CO emissions during each event based on the CEMS data. These records must be kept for five years following the date of such event.
- 5. The SCR system, including ammonia injection, shall be operated as soon as the SCR reaches an operating temperature of 550 degrees Fahrenheit.

E. Auxiliary Combustion Equipment Emission Limits

At all times, including equipment startup and shutdown, Permittee shall not discharge or cause the discharge of emissions from each unit into the atmosphere in excess of the following:

	NO _x	CO	PM and PM _{2.5}	Restrictions on Usage
Unit D5 40 MMBtu/hr (HHV) Heater	9 ppmvd @3% O₂1-hr average	 50 ppmvd @ 3% O₂ 1-hr average 	 0.2 grains per 100 dscf PUC-quality natural gas 	• 1000 hr/yr
Unit D6 35 MMBtu /hr (HHV) Boiler				• 500 hr/yr
Unit D7 2000 KW (2,683 hp) engine	• 6.0 g/KW-hr, (4.5 g/hp-hr) ¹	• 3.5 g/KW-hr, (2.6 g/hp-hr)	0.20 g/KW-hr, (0.15 g/hp-hr)Use of ultra-low	• 50 hr/yr
Unit D8 135 KW (182 hp) firewater pump	• 3.8 g/KW-hr, (2.8 g/hp-hr) ²		sulfur fuel, not to exceed 15 ppmvd fuel sulfur	 As required for fire safety testing Not to exceed 50 hr/yr
Unit D9 130,000 gpm Cooling Tower	n/a	n/a	 1.6 lb/hr (as total PM) < 0.0005% drift < 5000 ppm total dissolved solids 	n/a

F. Cooling Tower Emission Limits

- 1. The cooling tower drift rate shall not exceed 0.0005% with a maximum circulation rate of 130,000 gallons per minute (gpm). The maximum total dissolved solids (TDS) shall not exceed 5000 ppm.
- 2. The maximum hourly total PM emission rate from the cooling tower and the evaporative condenser combined shall not exceed 1.6 lb/hr.

G. Continuous Emissions Monitoring System (CEMS) for Units D1 and D2

 $^{^1}$ Emission standards for NO_x in the New Source Performance Standard for stationary compression ignition internal combustion engines (40 CFR Part 60 Subpart IIII) and the California Tier Emission Standards are based on the sum of NO_x and non-methane hydrocarbons (NMHC). For the NO_x emission limits, the applicant assumes NMHC + NO_x emissions from the engine are 95% NO_x .

- At the earliest feasible opportunity before beginning commercial operation, in accordance with the recommendations of the equipment manufacturer and the construction contractor, Permittee shall install, and thereafter operate, maintain, certify, and quality-assure a continuous emission monitoring system (CEMS) for each combustion turbine generator that measures stack gas NO_x, CO, and O₂ concentrations in ppmv. The concentrations shall be corrected to 15% O₂ on a dry basis.
- 2. The NO_x and O₂ CEMS shall meet the applicable requirements of 40 CFR Part 60 Appendix B, Performance Specifications 2 and 3, and 40 CFR Part 60 Appendix F, Procedure 1. Alternatively, the NO_x CEMS shall meet the installation and certification requirements of 40 CFR Part 75.
- 3. The CO CEMS shall meet the applicable requirements of 40 CFR Part 60 Appendix B, Performance Specification 4, and 40 CFR Part 60 Appendix F, Procedure 1, except the relative accuracy specified in section 13.2 of 40 CFR Part 60 Appendix B, Performance Specification 4 shall not exceed 20 percent.
- 4. Each CEMS shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute clock-hour period.
- 5. The CEMS shall be certified and tested in accordance with Condition IX.G.7.
- 6. The performance evaluation of the CEMS may either be conducted separately, as specified in 40 CFR 60.334(b)(1), or as part of the initial performance test of each emission unit. CEMS must undergo and pass initial performance specification testing on or before the date of the initial performance test.
- 7. CEMS shall meet the requirements of 40 CFR 60.13. Data sampling, analyzing, and recording shall also be adequate to demonstrate compliance with emission limits during startup and shutdown.
- 8. Not less than 90 days prior to the date of initial startup of the Facility, the Permittee shall submit to the EPA a quality assurance project plan for the certification and operation of the continuous emission monitors. Such a plan shall conform to EPA requirements contained in 40 CFR 60, Appendix F for CO, NO_x, and O₂, and 40 CFR 75 Appendix B for stack flow. The plan shall be updated and resubmitted upon request by EPA. The protocol shall specify how emissions during startups and shutdowns will be determined and calculated, including quantifying flow accurately if calculations are used.

- 9. The gas turbine CEMS shall be tested annually and quarterly in accordance with the requirements of 40 CFR Part 60 Appendix F, Procedure 1. Permittee shall perform a full stack traverse during initial run of annual RATA testing of the CEMS, with testing points selected according to 40 CFR Part 60 Appendix A, Method 1.
- 10. Permittee shall submit a CEMS performance test protocol to the EPA no later than 30 days prior to the test date to allow review of the test plan and to arrange for an observer to be present at the test. The performance test shall be conducted in accordance with the submitted protocol, and any changes required by EPA.
- 11. Permittee shall furnish the EPA a written report of the results of performance tests within 60 days of completion.
- 12. The stack gas volumetric flow rates shall be calculated in accordance with the fuel flowmeter requirements of 40 CFR Part 75 Appendix D in combination with the appropriate parts of EPA Method 19.
- 13. Prior to the date of initial start-up Permittee shall install, and thereafter maintain and operate, continuous monitoring and recording systems to measure and record the following operational parameters:
 - a. The ammonia injection rate of the ammonia injection system of the SCR system.
 - b. Exhaust gas temperature at the inlet to the SCR reactor

H. Performance Tests

- 1. Stack Tests
- a. Within 60 days after achieving normal operation, but not later than 180 days after the initial start-up of equipment, and annually thereafter (within 30 days of the initial performance test anniversary), Permittee shall conduct performance tests (as described in 40 CFR 60.8) as follows:
 - i. NO_x , CO, PM, and $PM_{2.5}$ emissions from each gas turbine (Units D1/D3 and D2/D4),

- ii. NO_x, CO, PM, and PM_{2.5} emissions the 40 MMBtu/hr heater (D5), the 35 MMBtu/hr boiler (D6),
- iii. NO_x, CO, PM, and PM_{2.5} emissions from the 2000 KW (2,683 hp) internal combustion engine (D7).
- iv. NO_x , CO, PM, and $PM_{2.5}$ emissions from the 135 KW/hr firewater pump (D8) upon notification by EPA
- v. PM emissions from the cooling tower (D9).
- b. The annual performance tests shall be conducted in accordance with the requirements of 40 CFR Part 60, Appendix F, Procedure 1, Section 5.11.
- c. Permittee shall submit a performance test protocol to EPA no later than 30 days prior to the test to allow review of the test plan and to arrange for an observer to be present at the test. The performance test shall be conducted in accordance with the submitted protocol, and any changes required by EPA.
- d. Performance tests shall be conducted in accordance with the test methods set forth in 40 CFR 60.8 and 40 CFR Appendix A, as modified below. In lieu of the specified test methods, equivalent methods may be used with prior written approval from EPA:
 - i. EPA Methods 1-4 and 7E for NO_x emissions measured in ppmvd,
 - ii. EPA Methods 1-4, 7E, and 19 for NO_x emissions measured on a heat input basis,
 - iii. EPA Methods 1-4 and 10 for CO emissions,
 - iv. EPA Methods 5 and 202 for both PM and PM_{2.5}, in accordance with the test methods set forth in 40 CFR § 60.8 and 40 CFR Part 60, Appendix A. In lieu of Method 202, the Permittee may use EPA Conditional Test Methods for particulate matter: CTM-039 or CTM-040. If Method 202 is used, the test methodology must include:
 - a. one hour nitrogen purge
 - b. the alternative procedure described in section 8.1 to neutralize the sulfuric acid
 - c. evaporation of the last 1 ml of the inorganic fraction by air drying following evaporation of the bulk of the impinger water in a 105 °C

oven as described in the first sentence of section 5.3.2.3.

- v. Modified Method 306 or the Cooling Tower Institute's heated bead test method for PM emissions from the cooling tower, and
- vi. the provisions of 40 CFR Part 60.8 (f).
- e. The initial performance test conducted after initial startup shall use the test procedures for a 'high NO₂ emission site,' as specified in San Diego Test Method 100, to measure NO₂ emissions. The source shall be classified as either a 'low' or 'high' NO₂ emission site based on these test results. If the emission source is classified as a:
 - i. 'high NO₂ emission site,' then each subsequent performance test shall use the test procedures for a 'high NO₂ emission site,' as specified in San Diego Test Method 100.
 - ii. 'low NO₂ emission site,' then the test procedures for a 'high NO₂ emission site,' as specified in San Diego Test Method 100, shall be performed once every five years to verify the source's classification as a 'low NO₂ emission site.'
- f. The performance test methods specified in Condition X.F.3., may be modified as follows:
 - i. Perform a minimum of 9 reference method runs, with a minimum time per run of 21 minutes, at a single load level, between 90 and 100 percent of peak (or the highest physically achievable) load.
 - ii. Use the test data both to demonstrate compliance with the applicable NO_x emission limit and to provide the required reference method data for the RATA of the CEMS.
- g. Upon written request and adequate justification from the Permittee, EPA may waive a specific annual test and/or allow for testing to be done at less than maximum operating capacity.
- h. For performance test purposes, sampling ports, platforms, and access shall be provided on the emission unit exhaust system in accordance with the requirements of 40 CFR 60.8(e).

- i. Permittee shall furnish the EPA a written report of the results of performance tests within 60 days of completion.
- 2. Cooling Tower Total Dissolved Solids Testing
- a. Permittee shall perform weekly tests of the blow-down water quality using a EPA approved method. 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 years and shall be provided to EPA and District personnel on request.
- b. Permittee shall calculate PM and PM_{2.5} emission rate using an EPA-approved calculation based on the TDS and water circulation rate.
- c. The operator shall conduct all required cooling tower water quality tests in accordance with an EPA-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 EPA review and approval, with a copy to the District as specified in Condition XI below.
- d. A maintenance procedure shall be established that states how often and what procedures will be used to ensure the integrity of the drift eliminators, to ensure that the TDS limits are not exceeded, and to ensure compliance with recirculation rates. This procedure is to be kept onsite and available to EPA and District personnel on request. The permittee shall promptly report any deviations from this procedure.

3. Fuel Testing

a. Permittee shall take monthly samples of the natural gas combusted. The samples shall be analyzed for sulfur content using an ASTM method. The sulfur content test results shall be retained on site pursuant to Special Conditions IX.C and IX.E for Units D1 – D6.

I. Monitoring for Auxiliary Combustion Equipment

- 1. Permittee shall install and maintain an operational non-resettable totalizing mass or volumetric flow meter in each fuel line for the 40 MMBtu/hr heater (Unit D5) and the 35 MMBtu /hr boiler (Unit D6).
- 2. Permittee shall install and maintain an operational non-resettable elapsed time meter for the 40 MMBtu/hr heater (Unit D5), the 35 MMBtu/hr boiler (Unit D6), the 2000 KW emergency use engine (Unit D7) and the 135 KW

J. Recordkeeping and Reporting

- 1. Permittee shall maintain a file of all records, data, measurements, reports, and documents related to the operation of the Facility, including, but not limited to, the following: all records or reports pertaining to adjustments and/or maintenance performed on any system or device at the Facility; all records relating to performance tests and monitoring of auxiliary combustion equipment; for each diesel fuel oil delivery, documents from the fuel supplier certifying compliance with the fuel sulfur content limit of Special Condition IX.E for Units D7 and D8; and all other information required by this permit recorded in a permanent form suitable for inspection. The file must be retained for not less than five years following the date of such measurements, maintenance, reports, and/or records.
- 2. Permittee shall maintain CEMS records that contain the following: the occurrence and duration of any startup, shutdown, shakedown, or malfunction, performance testing, evaluations, calibrations, checks, adjustments, maintenance, duration of any periods during which a continuous monitoring system or monitoring device is inoperative, and corresponding emission measurements.
- 3. Permittee shall maintain records of all source tests and monitoring and compliance information required by this permit.
- 4. Permittee shall maintain records and submit a written report of all excess emissions to EPA semi-annually. The report is due on the 30th day following the end of the calendar quarter and shall include the following:
 - a. Time intervals, data and magnitude of the excess emissions, the nature and cause (if known), corrective actions taken and preventive measures adopted;
 - b. Applicable time and date of each period during which the CEMS was inoperative (monitor down-time), except for zero and span checks, and the nature of CEMS repairs or adjustments; and
 - c. A negative declaration when no excess emissions occurred or when the CEMS has not been inoperative, repaired, or adjusted.

- d. Any failure to conduct any required sources testing, monitoring, or other compliance activities.
- e. Any violation of limitations on operation, including but not limited to restrictions on hours of operation.
- 5. Excess emissions shall be defined as any period in which the facility emissions exceed the maximum emission limits set forth in this permit.
- 6. A period of monitor down-time shall be any unit operating clock hour in which sufficient data are not obtained to validate the hour for NO_x , CO or O_2 .
- 7. Excess emissions indicated by the CEM system, source testing, or compliance monitoring shall be considered violations of the applicable emission limit for the purpose of this permit.
- 8. All records required by this PSD Permit shall be retained for not less than five years following the date of such measurements, maintenance, and reports.

K. Shakedown Periods

The combustion turbine emission limits and requirements in Sections IX.C, IX.D, and IX.E shall not apply during combustion shakedown periods. Shakedown is defined as the period beginning with initial startup and ending no later than initial performance testing, during which the Permittee conducts operational and contractual testing and tuning to ensure the safe, efficient and reliable operation of the plant. The requirement of section III of this permit shall apply at all times.

X. ACROYNMS AND ABBREVIATIONS

APCD Air Pollution Control District

ASTM American Society for Testing and Materials

BTU British Thermal Unit

CEMS Continuous Emissions Monitoring System

CFR Code of Federal Regulations

CO Carbon Monoxide

CTG Combustion Turbine Generator

CTM Conditional Test Method

District Mojave Desert Air Pollution Control District

(d)scf (dry) Standard Cubic Feet

EPA Environmental Protection Agency

g grams gr grains

HHV Higher Heating Value

HRSG Heat Recovery Steam Generator

hp Horsepower

hr Hour
KW Kilowatt
lbs Pounds

MMBtu Million British Thermal Units

MW Megawatt

NO₂ Nitrogen Dioxide NO_x Oxides of Nitrogen

NSPS New Source Performance Standards

O₂ Oxygen

PM Total Particulate Matter

PM_{2.5} Particulate Matter with aerodynamic diameter less than 2.5 micrometers PM₁₀ Particulate Matter with aerodynamic diameter less than 10 micrometers

ppmvd Parts Per Million by Volume, Dry basis

ppmv Parts Per Million by Volume

PSD Prevention of Significant Deterioration

PUC Public Utilities Commission
RATA Relative Accuracy Test Audit
SCR Selective Catalytic Reduction

SO₂ Sulfur Dioxide SO_x Oxides of Sulfur

STG Steam Turbine Generator TDS Total Dissolved Solids

tpy Tons Per Year

yr Year

XI. AGENCY NOTIFICATIONS

All correspondence as required by this Approval to Construct must be forwarded to:

A. Director, Air Division (Attn: AIR-5)
EPA Region IX
75 Hawthorne Street
San Francisco, CA 94105-3901

Email: R9.AEO@epa.gov Fax: (415) 947-3579

B. Air Pollution Control Officer
 Mojave Desert Air Quality Management District
 14306 Park Avenue
 Victorville, CA 92392-2310