

**PREVENTION OF SIGNIFICANT DETERIORATION PERMIT ISSUED  
PURSUANT TO THE REQUIREMENTS AT 40 CFR § 52.21**

**U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION IX**

**PSD PERMIT NUMBER:** SD 11-01

**PERMITTEE:** Pio Pico Energy Center, LLC  
P.O. Box 95592  
2542 Singletree Lane  
South Jordan, UT 84095

**FACILITY NAME:** Pio Pico Energy Center

**FACILITY LOCATION:** 7363 Calzada de la Fuente  
Otay Mesa, CA 92154

Pursuant to the provisions of the Clean Air Act (CAA), Subchapter I, Part C (42 U.S.C. Section 7470, *et. seq.*), and the Code of Federal Regulations (CFR) Title 40, Section 52.21, the United States Environmental Protection Agency Region 9 (EPA) is issuing a *Prevention of Significant Deterioration* (PSD) permit to Pio Pico Energy Center, LLC. The Permit applies to the construction and operation of a new 300 megawatt (MW, nominal) natural gas-fired simple cycle power plant, known as the Pio Pico Energy Center (PPEC) in Otay Mesa, California.

Pio Pico Energy Center, LLC is authorized to construct and operate the PPEC power plant as described herein, in accordance with the permit application (and plans submitted with the permit application), the federal PSD regulations at 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 may result in enforcement action pursuant to Section 113 of the CAA. This PSD Permit does not relieve Pio Pico Energy Center, LLC from the responsibility to comply with any other applicable provisions of the CAA (including applicable implementing regulations in 40 CFR Parts 51, 52, 60, 61, 63, and 72 through 75), or other federal, state, and San Diego County Air Pollution Control District requirements.

Per 40 CFR § 124.15(b), this PSD Permit becomes effective 30 days after the service of notice of this final permit decision unless review is requested on the permit pursuant to 40 CFR § 124.19.

  
\_\_\_\_\_  
Deborah Jordan  
Director, Air Division

11-19-2012  
\_\_\_\_\_  
DATE

**PIO PICO ENERGY CENTER (SD 11-01)  
PREVENTION OF SIGNIFICANT DETERIORATION PERMIT  
PERMIT CONDITIONS**

**PROJECT DESCRIPTION**

The Pio Pico Energy Center (Project) consists of three General Electric (GE) LMS100 natural gas-fired combustion turbine-generators (CTGs) rated at 100 megawatt each. The Project will have an electrical output of 300 MW. The Project will be located in an unincorporated area of San Diego County known as Otay Mesa. The Project's footprint is a 9.99 acre parcel located at 7363 Calzada de la Fuente in the Otay Mesa Business Park. The site is located within the San Diego County Air Pollution Control District (SDAPCD, or District).

This Prevention of Significant Deterioration (PSD) permit for the Project requires the use of Best Available Control Technology (BACT) to limit emissions of nitrogen oxides (NO<sub>x</sub>), total particulate matter (PM), particulate matter 10 micrometers (µm) in diameter and smaller (PM<sub>10</sub>), particulate matter 2.5 µm in diameter and smaller (PM<sub>2.5</sub>), and greenhouse gases (GHG), to the greatest extent feasible. Air pollution emissions from the Project will not cause or contribute to violations of any National Ambient Air Quality Standards (NAAQS) or any applicable PSD increments for the pollutants regulated under the PSD permit.

## EQUIPMENT LIST

The following devices and activities are subject to this PSD permit:

Unit ID	Description
Turbine 1	<ul style="list-style-type: none"><li>• 100 MW (nominal net) combustion turbine generator (CTG), with a maximum heat input rate of 903 MMBtu/hr (HHV)</li><li>• Natural gas-fired GE Model LMS100 CTG</li><li>• Emissions of NO<sub>x</sub> controlled by water injection, Selective Catalytic Reduction (SCR)</li></ul>
Turbine 2	<ul style="list-style-type: none"><li>• 100 MW (nominal net) combustion turbine generator (CTG), with a maximum heat input rate of 903 MMBtu/hr (HHV)</li><li>• Natural gas-fired GE Model LMS100 CTG</li><li>• Emissions of NO<sub>x</sub> controlled by water injection, Selective Catalytic Reduction (SCR)</li></ul>
Turbine 3	<ul style="list-style-type: none"><li>• 100 MW (nominal net) combustion turbine generator (CTG), with a maximum heat input rate of 903 MMBtu/hr (HHV)</li><li>• Natural gas-fired GE Model LMS100 CTG</li><li>• Emissions of NO<sub>x</sub> controlled by water injection, Selective Catalytic Reduction (SCR)</li></ul>
Partial Dry Cooling System	<ul style="list-style-type: none"><li>• Dry cooling component with a nominal 9,600 gallons per minute (GPM) maximum circulation rate, supplemented by 23,520 GPM wet cooling component.</li><li>• Total dissolved solids (TDS) concentration in wet cooling circulation water of &lt; 5,000 ppm (500 mg/L)</li><li>• Drift eliminator with drift losses less than or equal to 0.001 percent based on wet cooling water circulation rate</li></ul>
Circuit Breakers	<ul style="list-style-type: none"><li>• 3 switchyard and 2 generator breakers containing SF6</li></ul>

## PERMIT CONDITIONS

### 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**

The Permittee shall notify EPA Region IX by letter 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.G, 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.G; and
- D. date upon which initial performance evaluation of the continuous emissions monitoring system (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, the Permittee shall, to the extent practicable, maintain and operate the facility that is subject to this PSD permit (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 EPA, which may include, but is not limited to, monitoring results, opacity observations, review of operating maintenance procedures and inspection of the Facility.

## **IV. MALFUNCTION REPORTING**

- A. The Permittee shall notify EPA at [R9.AEO@epa.gov](mailto:R9.AEO@epa.gov) within two (2) working days

following the discovery of any failure of air pollution control equipment or process equipment, or failure of a process to operate in a normal manner, which results in an increase in emissions above any allowable emission limit stated in Section IX of this permit.

- B. In addition, the 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 Facility 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 Facility, this PSD Permit shall be binding on all subsequent owners and operators. Within 14 days of any such change in control or ownership, the Permittee shall notify the succeeding owner and operator of

the existence of this PSD Permit and its conditions by letter. The Permittee shall send a copy of this letter to EPA Region IX within thirty (30) days of its issuance.

## **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**

The Permittee shall construct the Project in compliance with this PSD permit, the application on which this permit is based, and all other applicable federal, state, and local air quality regulations. 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. Air Pollution Control Equipment and Operation**

As soon as practicable following initial startup of each turbine (startup as defined in 40 CFR § 60.2) but prior to commencement of commercial operation of that turbine (as defined in 40 CFR § 72.2), and thereafter, except as noted below in Condition IX.C, the Permittee shall install, continuously operate, and maintain the water injection system and SCR system for control of NO<sub>x</sub> on Turbine 1, Turbine 2, and Turbine 3. The Permittee shall also perform any necessary operations to minimize emissions so that emissions are at or below the emission limits specified in this permit.

**B. Emission Limits**

1. The Permittee shall not discharge or cause the discharge of emissions from each CTG (Turbine 1, Turbine 2, and Turbine 3) into the atmosphere in excess of the following limits. The emission limits in this condition shall apply at all times, except as described in Condition IX.I, and for NO<sub>x</sub> only, the alternate emission limits in Condition IX.C shall apply during startup and shutdown, after which the limits in this condition shall apply:

<b>Pollutant</b>	<b>Emission Limit (per CTG)</b>
<b>NO<sub>x</sub></b>	<ul style="list-style-type: none"><li>• 2.5 ppmvd @ 15% O<sub>2</sub></li><li>• 1-hr average</li><li>• 8.18 lb/hr</li></ul>
<b>PM, PM<sub>10</sub>, and PM<sub>2.5</sub></b>	<ul style="list-style-type: none"><li>• 0.0065 lb/MMBtu (HHV) at loads of 80% or higher</li><li>• 5.5 lb/hr</li><li>• PUC-quality natural gas (sulfur content of no greater than 0.25 grains per 100 dscf on a 4-calendar quarter rolling average and not greater than 1.0 gr per 100 dscf at any time)</li></ul>
<b>CO<sub>2</sub></b>	<ul style="list-style-type: none"><li>• 1,328 lbs/MWh gross output</li><li>• 720 rolling operating-hour average</li></ul>

2. CO<sub>2</sub>e emissions from the circuit breakers shall not exceed 40.2 tons per calendar year.
3. The Permittee shall install, operate, and maintain enclosed-pressure SF<sub>6</sub> circuit breakers with a maximum annual leakage rate of 0.5% by weight.

**C. Requirements during Gas Turbine (Turbine 1, Turbine 2, and Turbine 3) Startup and Shutdown Periods**

The CTG NO<sub>x</sub> emission limits in Condition IX.B.1 shall not apply during CTG startup and shutdown periods. During these periods, the following requirements shall apply:

1. The CEMS shall be in operation during each startup and shutdown period.
2. Duration of startups and shutdowns of each CTG (Turbine 1, Turbine 2, and Turbine 3) shall not exceed 30 and 11 minutes, respectively, per occurrence.
3. Total number of startups shall not exceed 500 per turbine, per calendar year.
4. For CTGs, “initial startup” is defined as the first fire of each unit.
5. Startup is defined as the period beginning with ignition and ending 30 minutes later,
6. Shutdown is defined as the period beginning with the initiation of combustion turbine shutdown sequence and lasting until fuel flow is completely off and combustion has ceased.
7. NO<sub>x</sub> emissions during startup or shutdown from each CTG shall not exceed 26.6 lb/hr based on a 1-hr average.
8. NO<sub>x</sub> emissions from each CTG shall not exceed 22.5 pounds per startup event, or 6.0 pounds per shutdown event.

**D. Operational Limits**

1. The annual quantity of fuel for each turbine (Turbine 1, Turbine 2, and Turbine 3) shall not exceed 3,914,556 MMBtu (HHV) in any in any 12-month rolling period.
2. When a combustion turbine is operating, ammonia shall be injected whenever the SCR catalyst outlet temperature exceeds 575 degrees F.
3. The cooling tower drift rate shall not exceed 0.001%; and the maximum total dissolved solids (TDS) shall be less than 5,000 ppm.
4. Within 60 days after achieving normal operation, but not later than 180 days after the initial startup of equipment, each CTG (Turbine 1, Turbine 2, and Turbine 3) shall achieve an initial heat rate at full load that does not exceed 9,196 Btu<sub>hhv</sub>/kWh<sub>gross</sub>.
5. The circuit breakers shall be equipped with a 10% by weight leak detection system. The leak detection system shall be calibrated in accordance with manufacturer’s specifications. The manufacturer’s specifications and records of all calibrations shall be maintained on site.

6. The Permittee shall prepare and follow a Maintenance Plan for each CTG. The Maintenance Plan shall follow manufacturer's written instructions or operator-developed procedures that provide, to the extent practicable, for the maintenance and operation of the turbine in a manner consistent with good air pollution control practice for minimizing emissions. The Maintenance Plan shall include, but not be limited to, the following requirements:
  - a. Annual maintenance shall be performed no less frequently than once every four calendar quarters and shall include:
    - i. Generator testing
    - ii. Boroscope inspection of turbine passes
    - iii. Control system check
  - b. Major overhaul shall be conducted as recommended by the manufacturer, at every 25,000 operating hours (or other period recommended in writing by the manufacturer).

**E. Fuel Use**

1. To fire Turbines 1, 2 and 3, the Permittee shall use only Public Utilities Commission (PUC)-pipeline quality natural gas with a sulfur content that (1) is less than or equal to 0.25 grains per 100 dscf on a four-calendar quarter rolling average, and (2) shall not at any time exceed 1.0 grains per 100 dscf.
2. For each turbine, the Permittee shall keep a monthly record of the quantity of natural gas used in Turbine 1, Turbine 2, and Turbine 3.
3. The Permittee shall sample and record the sulfur content of the natural gas fuel on a quarterly basis. As an alternative, the Permittee may obtain laboratory analysis of sulfur content from the fuel supplier on a quarterly basis, if the Permittee can demonstrate that the fuel tested is representative of fuel delivered to the facility.
4. The fuel sulfur content of the natural gas shall be determined using any of the following test methods: ASTM D1072, D3246, D4468, D5504 or D6667.

**F. Continuous Emissions Monitoring System (CEMS) for Turbines**

1. Before Turbines 1, 2, and 3 commence commercial operation (as defined in 40 CFR § 72.2), the Permittee shall install and calibrate CEMS to measure stack gas NO<sub>x</sub>, and O<sub>2</sub> concentrations and a continuous monitoring system (CMS) to monitor exhaust gas flow and moisture content and to calculate

CO<sub>2</sub> emission rates to demonstrate compliance with the emission limits in Conditions IX.B.1, IX.C.7, and IX.C.8. CO<sub>2</sub> emissions shall be calculated using the procedures set forth in 40 CFR Part 75.

2. The CEMS and CMS required by this permit shall be installed, calibrated, operated, audited, tested, and maintained in accordance with the manufacturers' recommendations and the appropriate performance standards and quality assurance requirements in the appendices of either 40 CFR part 60 or 40 CFR part 75.
3. The Permittee shall reduce CEMS and CMS data to one-hour averages in a manner meeting the specifications in 40 CFR § 60.13(h) for all operating hours, including startup and shutdown. For startup and shutdown periods, the permittee shall record emission rates in one-minute increments.
4. No later than 90 days after commencement of commercial operation, the Permittee shall submit to EPA a CEMS and CMS quality assurance plan. The plan shall specify how the Permittee will demonstrate compliance with emission limits in Conditions IX.B.1, IX.C.7, and IX.C.8, including emission limits that apply during startup and shutdown.
5. The Permittee shall perform for each CEMS:
  - a. Daily calibration checks,
  - b. Quarterly linearity checks with a relative accuracy within  $\pm 5\%$ , and
  - c. Relative accuracy test audits (RATA) during every fourth consecutive operating quarter (a calendar quarter in which there are at least 168 clock hours during which a turbine combusts any fuel, either for part of the hour or for the entire hour), or during every 8th consecutive calendar quarter, whichever occurs first. The monitors shall meet a Relative Accuracy of less than 20%.
6. The Permittee shall perform initial RATAs no later than the initial performance test for the associated emission unit.
7. The Permittee shall submit RATA test plans and reports of RATA test results to EPA as described in Condition IX.G.1.h.
8. The Permittee shall maintain the following records for at least five years

from the date of origin:

- a. One-hour averages calculated pursuant to Condition IX.G.3,
- b. The results of all calibration and linearity checks, and
- c. RATA test plans and reports of test results.

## **G. Performance Tests**

### **1. Stack Tests**

- a. Within 60 days after achieving normal operation, but not later than 180 days after the initial startup of equipment, the Permittee shall conduct performance tests (as described in 40 CFR § 60.8) as follows:
  - i. NO<sub>x</sub>, CO<sub>2</sub>, PM, PM<sub>10</sub>, and PM<sub>2.5</sub> emissions from each gas turbine (Turbine 1, Turbine 2, and Turbine 3). The Permittee shall also conduct subsequent performance tests during every fourth consecutive operating quarter (a calendar quarter in which there are at least 168 clock hours during which a turbine combusts any fuel, either for part of the hour or for the entire hour), or during every 8th consecutive calendar quarter, whichever occurs first.
  - ii. PM, PM<sub>10</sub>, and PM<sub>2.5</sub> emissions from the cooling tower.
  - iii. Heat rate performance according to the requirements of the American Society of Mechanical Engineers Performance Test Code on Overall Plant Performance (ASME PTC 22). The Permittee shall also conduct subsequent performance tests during every fourth consecutive operating quarter (a calendar quarter in which there are at least 168 clock hours during which a turbine combusts any fuel, either for part of the hour or for the entire hour), or during every 8th consecutive calendar quarter, whichever occurs first.
- b. The 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.
- c. Performance tests shall be conducted in accordance with the test methods set forth in 40 CFR § 60.8 and 40 CFR Part 60 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<sub>x</sub> emissions measured in ppmvd
  - ii. EPA Methods 1-4, 7E, and 19 for NO<sub>x</sub> emissions measured on a heat input basis
  - iii. EPA Methods 1-4 and 3A for CO<sub>2</sub> emissions
  - iv. EPA Method 5 for filterable PM, PM<sub>10</sub> and PM<sub>2.5</sub>, and Method 202 for condensable PM<sub>10</sub> and PM<sub>2.5</sub>, collecting a minimum of 90 dry standard cubic feet per test run (3 hours). In lieu of Method 202, the Permittee may use EPA Conditional Test Method CTM-039.
  - v. Modified Method 306 or Cooling Technology Institute Acceptance Test Code (ATC 140) - Isokinetic Drift Measurement Test Code for Water Cooling Tower (also referred to as the Heated Bead Isokinetic test procedure) for PM emissions from the wet cooling tower, and
  - vi. the provisions of 40 CFR § 60.8 (f).
- d. The initial performance test conducted after initial startup shall use the test procedures for a “high NO<sub>2</sub> emission site,” as specified in San Diego Test Method 100, to measure NO<sub>x</sub> emissions. The source shall be classified as either a “low” or “high” NO<sub>2</sub> emission site based on these test results. If the emission source is classified as a:
- i. “high NO<sub>2</sub> emitting site,” then each subsequent performance test shall use the test procedures for a “high NO<sub>2</sub> emission site,” as specified in San Diego Test Method 100.
  - ii. “low NO<sub>2</sub> emitting site,” then the test procedures for a “high NO<sub>2</sub> 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 NO<sub>2</sub> emission site.”
- e. The performance test methods for NO<sub>x</sub> emissions specified in Condition IX.G.1.c.i and ii., 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, and
  - ii. Use the test data both to demonstrate compliance with the applicable NO<sub>x</sub> emission limit and to provide the required reference method data for the RATA of the CEMS.
- f. 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.

- g. 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).
  - h. The Permittee shall furnish EPA with a written report of the results of performance tests within 60 days of completion.
2. Cooling Tower Total Dissolved Solids Testing
- a. The Permittee shall perform weekly tests of the blow-down water quality using an EPA-approved method. This weekly test shall not be required for any 7-day period in which the wet cooling tower is not in operation, provided that the Permittee maintains a log of wet cooling tower operation.
  - b. The Permittee 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 onsite for a minimum of five years and shall be provided to EPA and District personnel upon request.
  - c. The Permittee shall calculate the PM, PM<sub>10</sub>, and PM<sub>2.5</sub> emission rates using an EPA-approved calculation based on the TDS and water circulation rate.
  - d. The Permittee 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 Permittee shall provide a written test and emissions calculation protocol for EPA review and approval, and send a copy to the District.
  - e. 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 made available to EPA and District personnel upon request. The Permittee shall promptly report any deviations from this procedure.

## **H. Recordkeeping and Reporting**

- 1. The Permittee shall maintain a file of all records, data, measurements, reports, and documents related to operation of the Facility. All records shall be in a permanent form suitable for inspection.
- 2. The Permittee shall maintain CEMS records that include the following: the occurrence and duration of any startup, shutdown, or malfunction, performance testing, evaluations, calibrations, checks, adjustments,

maintenance, duration of any periods during which a CEMS is inoperative, and corresponding emission measurements.

3. The Permittee shall maintain records of the hours of operation for each turbine (Turbine 1, Turbine 2, and Turbine 3), on a monthly basis.
4. The Permittee shall maintain records and submit a written report of all excess emissions and any other noncompliance with permit conditions to EPA for each six-month reporting period from January 1 to June 30 and from July 1 to December 31, except when more frequent reporting is specifically required by an applicable subpart, or EPA, on a case-by-case basis, determines that more frequent reporting is necessary to accurately assess the compliance status of the source. The report shall be postmarked by the 30<sup>th</sup> day following the end of each semi-annual period 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;
  - c. A statement in the report of a negative declaration; that is, a statement when no excess emissions occurred or when the CEMS has not been inoperative, repaired, or adjusted;
  - d. Any failure to conduct any required source testing, monitoring, or other compliance activities; and
  - 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 any turbine exceeds any emission limits set forth in this permit.
6. A period of monitor down-time shall be defined as any unit operating clock hour in which sufficient data are not obtained by the CEMS to validate the hour for NO<sub>x</sub>, CO<sub>2</sub>, or O<sub>2</sub>, while the CEMS is also meeting the requirements of Condition IX.F.3.
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, reports, and/or records.

9. The Permittee shall measure and record the following for each CTG (Turbine 1, Turbine 2, and Turbine 3) on an hourly basis:
  - a. Net energy output ( $\text{MWh}_{\text{net}}$ );
  - b. Pounds of  $\text{CO}_2$  per net energy output ( $\text{lb CO}_2/\text{MWh}_{\text{net}}$ );
  - c. The 720-operating hour rolling average emission rate of  $\text{lb CO}_2/\text{MWh}_{\text{net}}$  based on the average hourly recordings.
10. The Permittee shall maintain a log describing maintenance and repair activities, including the following information:
  - a. Date of activity
  - b. Description of activity
  - c. For scheduled maintenance, the elapsed time, hours of turbine operation, or other applicable measure since the activity was last performed.
  - d. For scheduled maintenance, the elapsed time, hours of turbine operation, or other applicable measure until the activity should next be performed.
11. The Permittee shall calculate the  $\text{SF}_6$  emissions due to leakage from the circuit breakers by using the mass balance in equation DD-1 at 40 CFR Part 98, Subpart DD on an annual basis. Records of such calculations shall be maintained on site.

**I. Shakedown Periods**

The combustion turbine emission limits and requirements in Conditions IX.B, IX.C and IX.D shall not apply during combustion shakedown periods. Shakedown is defined as the period beginning with initial startup as defined in Condition IX.C.4 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 shakedown period shall not exceed 90 consecutive days. The requirements of Section III of this permit shall apply at all times.

**X. AGENCY NOTIFICATIONS**

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

- A. Director, Air Division (Attn: AIR-5)  
EPA Region IX

75 Hawthorne Street  
San Francisco, CA 94105-3901

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

With a copy to:

B. Air Pollution Control Officer  
San Diego County Air Pollution Control District  
10124 Old Grove Road  
San Diego, CA 92131-1649  
Fax: (858) 586-2701

## **XI. ACROYNMS AND ABBREVIATIONS**

Act	Clean Air Act [42 U.S.C. Section 7401 et seq.]
Agency	U.S. Environmental Protection Agency
BACT	Best Available Control Technology
BTU	British thermal units
CAA	Clean Air Act [42 U.S.C. Section 7401 et seq.]
CEMS	Continuous Emissions Monitoring System
CMS	Continuous Monitoring System
CFR	Code of Federal Regulations
CO	Carbon Monoxide
CO <sub>2</sub> e	Carbon Dioxide Equivalent
CTG	Combustion Turbine Generator
GE	General Electric
GHG	Greenhouse Gas (Greenhouse Gases)
g/hp-hr	grams per horsepower-hour
gr/scf	Grains per Standard Cubic Feet
EAB	Environmental Appeals Board
EPA	U.S. Environmental Protection Agency
GHG	Greenhouse Gases
HHV	Higher Heating Value
HP	Horsepower
kW	Kilowatts of electrical power
kWhr	Kilowatt-hour
mg/L	Milligrams per liter
µg/m <sup>3</sup>	Microgram per Cubic Meter
MMBTU	Million British thermal units

MW	Megawatts of electrical power
NAAQS	National Ambient Air Quality Standards
NESHAPS	National Emission Standards for Hazardous Air Pollutants
NMHC	Non-methane Hydrocarbons
NO	Nitrogen oxide or nitric oxide
NO <sub>2</sub>	Nitrogen dioxide
NO <sub>x</sub>	Oxides of Nitrogen (NO + NO <sub>2</sub> )
NP	National Park
NSPS	New Source Performance Standards, 40 CFR Part 60
NSR	New Source Review
O <sub>2</sub>	Oxygen
PM	Total Particulate Matter
PM <sub>2.5</sub>	Particulate Matter less than 2.5 micrometers (µm) in diameter
PM <sub>10</sub>	Particulate Matter less than 10 micrometers (µm) in diameter
PPEC	Pio Pico Energy Center
PPM	Parts per Million
PPMVD	Parts per Million by Volume, on a Dry basis
PSD	Prevention of Significant Deterioration



**BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT  
COMMISSION OF THE STATE OF CALIFORNIA  
1516 NINTH STREET, SACRAMENTO, CA 95814  
1-800-822-6228 – WWW.ENERGY.CA.GOV**

**APPLICATION FOR CERTIFICATION  
FOR THE *PIO PICO ENERGY CENTER PROJECT***

**Docket No. 11-AFC-01  
PROOF OF SERVICE  
(Revised 8/16/2012)**

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DECLARATION OF SERVICE

I, Cenne Jackson, declare that on November 21, 2012, I served and filed a copy of the attached Workshop, dated November 19, 2012. This document is accompanied by the most recent Proof of Service list, located on the web page for this project at: [www.energy.ca.gov/sitingcases/piopico/index.html](http://www.energy.ca.gov/sitingcases/piopico/index.html).

The document has been sent to the other parties in this proceeding (as shown on the Proof of Service list) and to the Commission's Docket Unit or Chief Counsel, as appropriate, in the following manner:

*(Check all that Apply)*

**For service to all other parties:**

- Served electronically to all e-mail addresses on the Proof of Service list;
- Served by delivering on this date, either personally, or for mailing with the U.S. Postal Service with first-class postage thereon fully prepaid, to the name and address of the person served, for mailing that same day in the ordinary course of business; that the envelope was sealed and placed for collection and mailing on that date to those addresses **NOT** marked "e-mail service preferred."

**AND**

**For filing with the Docket Unit at the Energy Commission:**

- by sending one electronic copy to the e-mail address below (preferred method); **OR**
- by depositing an original and 12 paper copies in the mail with the U.S. Postal Service with first class postage thereon fully prepaid, as follows:

CALIFORNIA ENERGY COMMISSION – DOCKET UNIT  
Attn: Docket No. 11-AFC-01  
1516 Ninth Street, MS-4  
Sacramento, CA 95814-5512  
[docket@energy.ca.gov](mailto:docket@energy.ca.gov)

**OR, if filing a Petition for Reconsideration of Decision or Order pursuant to Title 20, § 1720:**

- Served by delivering on this date one electronic copy by e-mail, and an original paper copy to the Chief Counsel at the following address, either personally, or for mailing with the U.S. Postal Service with first class postage thereon fully prepaid:

California Energy Commission  
Michael J. Levy, Chief Counsel  
1516 Ninth Street MS-14  
Sacramento, CA 95814  
[michael.levy@energy.ca.gov](mailto:michael.levy@energy.ca.gov)

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct, that I am employed in the county where this mailing occurred, and that I am over the age of 18 years and not a party to the proceeding.

\_\_\_\_\_  
Originally Signed By Cenne Jackson