

COMMONWEALTH OF PUERTO RICO / OFFICE OF THE GOVERNOR

**FINAL TITLE V OPERATING PERMIT
AIR QUALITY AREA
ENVIRONMENTAL QUALITY BOARD**



Permit Number:	PFE-TV-4911-07-0897-0043
Permit Application Received:	August 18, 1997
Issue and/or Effectiveness Date:	May 31, 2005 ¹
Expiration Date:	May 31, 2010

In accordance with the provisions of Part VI of the Regulation for the Control of Atmospheric Pollution (RCAP) and the Code of Federal Regulations, Title 40, Part 70

**PUERTO RICO ELECTRIC POWER AUTHORITY
CAMBALACHE COMBUSTION TURBINE PLANT
ARECIBO, PUERTO RICO**

hereinafter referred to as **PREPA Cambalache** or **the permittee**, is authorized to operate a stationary source of air pollutants limited to the emission units and conditions described in this permit. Until such time as this permit expires, is modified or revoked, PREPA Cambalache is allowed to discharge air pollutants from those processes and activities directly related to or associated with air pollutant sources in accordance with the requirements, limitations and conditions of this permit.

The conditions in this permit are federally and state enforceable. Requirements, which are only state enforceable are identified as such in the permit. A copy of this permit shall be kept on-site at the above-mentioned facility at all times.

**NACIONAL PLAZA BUILDING 431, PONCE DE LEON AVENUE, HATO REY, PUERTO RICO 00917
P.O. BOX 11488 SANTURCE, PUERTO RICO 00910 TELEPHONE: 787-767-8025**

¹ The conditions marked with an asterisk were revised or added by a reconsideration process. Their effective date is May 25, 2006. On the other hand, the effective date of the highlighted conditions is suspended.

**Permit to Operate an Emission Source Covered under Title V
Part VI – Regulation for the Control of Atmospheric Pollution**

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Section I: General Information

A. Facility Information:

Name: Puerto Rico Electric Power Authority

Mailing Address: P. O. Box 364267

City: San Juan State: PR Zip Code: 00936-4267

Plant Name: Cambalache Combustion Turbine

Plant Physical Address: PR-681 Km. 0.5 Arecibo, PR

- * Responsible Officer: Carlos J. Castro Montalvo Telephone: (787) 772-5037
Acting Electric System Director (787) 772-5038
- * Facility Contact Person: Alejandro Adams Telephone: (787) 879-6279
Plant Manager (787) 879-6276

Primary SIC Code: 4911

B. Process Description:

- * PREPA Cambalache consists of three simple cycle diesel turbines with a capacity of 898 MMBtu/hr HHV and 847 MMBtu/hr LHV, each one. PREPA Cambalache operates at two levels: at base load (898 MMBtu/hr HHV and 847 MMBtu/hr LHV) and at spinning rapid reserve load (616 MMBtu/hr HHV and 581 MMBtu/hr LHV). Part of the generated heat is recovered for the production of steam that is injected to the turbines to control the nitrogen oxide emissions (NOx). Each chimney is provided with a Selective Catalytic Reduction (SCR) system for additional NOx reduction. The facilities include a system of unloading, transference and storage of diesel in three tanks of 4.2 million gallons, each one.

PREPA Cambalache is subject to the Regulations for the Control of Atmospheric Pollution (RCAP), the New Source Performance Standards for Stationary Gas Turbines (40 CFR Part 60 Subpart GG) and the Prevention of Significant Deterioration of Air Quality Standards for NOx, SO₂, sulfuric acid mist (H₂SO₄), CO, PM, PM₁₀ and VOC. The applicable requirements specific to all emission units are included in Section V of this permit.

PREPA-Cambalache is a major source for criteria pollutants because it has the potential to emit more than 100 tons/year of PM₁₀, SO₂, NOx, CO and VOC. It is also a major source for hazardous air pollutants because it has the potential to emit more than 10 tons/year of nickel and formaldehyde and 25 ton/year of a combination of HAPs.

Section II - Emission Units Descriptions

The emission units regulated by this permit are the following:

Emission Unit ID	Description	Control Device
Camb 1, Camb 2, Camb 3	Three ABB, GT 11N oil fired combustion turbines with a capacity of 898 MMBtu/hr-HHV and 847 MMBtu/hr-LHV, each one. Each unit operates in simple cycle and combust No. 2 oil to generate electricity.	Selective Catalytic Reduction Device for NOx control. The turbines are also equipped with a steam injection system. The SCR has a minimum efficiency of 80% for NOx emissions. The steam injection system has a minimum efficiency of 50% for NOx emissions.
Camb TK1, Camb TK2, Camb TK3	Three tanks used for the storage of No. 2 fuel oil, each with their own vent. Each has the capacity to store 4.2 millions gallons of No. 2 fuel oil. The combined capacity of the tanks is estimated to be sufficient to support continued operation of the plant for 23 days at the base load condition.	N/A

Section III - General Permit Conditions

1. **Sanctions and Penalties:** The permittee accepts and is bound by all terms, conditions, requirements, limitations and restrictions set forth in this permit. Any violation of such terms will be grounds for prosecution on a felony charge, as established in the Puerto Rico Environmental Public Policy Act, Article 16 (Act Number 416, September 22, 2004). Also, any administrative, civil or criminal measures may be taken to enforce the conditions set forth in this permit.

2. **Right of Entry:** As specified under Rules 103 and 603(C)(2) of the RCAP, the permittee shall allow the EQB, through its authorized representatives, upon presentation of credentials and other documents as may be required by law, to perform the following activities:
 - (A) Enter upon the permittee’s premises where an emission source is located or where emission related activities are conducted, or where records must be kept under the conditions of this permit, under the RCAP, or under the Clean Air Act;

 - (B) Have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit, under the RCAP, or under the Clean Air Act;

- (C) Inspect and examine any facility, equipment (including monitoring and air pollution control equipment), practices or operations (including QA/QC methods) regulated or required under this permit; as well as sample emissions of air quality and fuels;
- (D) As authorized by the Clean Air Act and the RCAP, to sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with the permit or other applicable requirements.
3. **Data Availability:** As specified under Rule 104 of the RCAP, all emission data obtained by or submitted to the EQB, including data reported pursuant to Rule 103 of the RCAP, as well as that obtained in any other way, shall be available for public inspection and may also be made available to the public in any additional manner that the EQB may deem appropriate.
4. **Emergency Plan:** As specified under Rule 107 of the RCAP, the permittee shall have an Emergency Plan which must be consistent with adequate safety practices, and provide for the reduction or retention of the emissions from the plant during periods classified by the EQB as alerts, warnings or emergencies. These plans shall identify the emission sources, include the reduction to be accomplished for each source and the means by which such reduction will be accomplished. These plans shall be available for inspection, as required by representatives of the EQB, at all times.
- * 5. **Compliance Certification:** As specified under Rule 602(c)(2)(ix)(C) of the RCAP, the permittee shall submit a compliance certification no later than April 1st of every year, covering the previous calendar year. The compliance certification shall be submitted to both the Board and the EPA². It shall include the information required by Rule 603 (c) of the RCAP.
6. **Regulation Compliance:** As specified under Rule 115 of the RCAP, any violation to the RCAP, or to any other applicable rule or regulation, shall be grounds for the EQB to suspend, modify, or revoke any relevant permit, approval, variance or other authorization issued by the Board according to the Law of Uniform Administrative Procedures.
7. **Location Approval:** As specified under Rule 201 of the RCAP, nothing in this permit shall be interpreted as authorizing the location or construction of a major source, or the modification of a stationary major source, or a major modification of a significant source, without prior authorization from the EQB and without first demonstrating compliance with the National Ambient Air Quality Standards (NAAQS). Nor shall it be interpreted as authorizing the construction of minor sources without prior authorization by the EQB, as specified under Rule 203 of the RCAP.

² The certification to the EQB shall be mailed to: Manager, Air Quality Program, P.O. Box 11488, Santurce, PR 00910. The certification to the EPA shall be mailed to: Chief, Enforcement and Superfund Branch, CEPD, USEPA – Region II, Centro Europa Building, 1492, Ponce de León Ave., Stop 22, Santurce, PR 00909.

8. **Open Burning:** As specified under Rule 402 of the RCAP, PREPA Cambalache shall not cause or permit the open burning of refuse in their premises except as established under Rule 402 (E) of the RCAP to conduct training or research of fire fighting techniques.
9. **Objectionable Odors:** As specified under Rule 420 of the RCAP, the permittee shall not cause or permit emissions to the atmosphere of any matter which produces "objectionable" odors that can be perceived in an area other than that designated for industrial purposes. (This condition is enforceable only by the State)
10. **Permit Renewal Applications:** As specified under the Rule 602(A)(1)(iv) of the RCAP, the permittee shall submit its permit renewal application to the EQB twelve months prior to the permit expiration date. Every application form, report or compliance certification submitted pursuant to part VI of the RCAP shall be certified by a responsible official, who will attest to his/her appointment as such, as well as of the truth, accuracy and completeness of the submitted documents.
11. **Permit Duration:** As specified under Rule 603 of the RCAP, the following terms will apply during the duration of this permit:
 - a. Expiration: This authorization shall have a fixed term of five (5) years. The expiration date will be automatically extended until the EQB approves or denies a renewal application but only in those cases where the permittee submits a complete application twelve (12) months before the expiration date. [Rule 603 (A)(2) and Rule 605 (C)(2), (C)(4) & (C)(4)(i) of the RCAP]
 - b. Permit Shield: As specified under Rule 605 (C)(4)(i) of the RCAP, the permit shield may be extended until the time it is renewed, only in those cases when a timely and complete application for a permit renewal is submitted.
 - c. In the event that this permit is subject to any challenge by a third party, the permit shall remain in effect until the time it is revoked by a court of law with jurisdiction in the matter.
12. **Recordkeeping Requirement:** As specified under Rule 603(A)(4)(ii) of the RCAP, PREPA Cambalache shall retain all required monitoring data and supporting information for a period of five (5) years from the date of the monitoring sample, measurement, report or application. PREPA Cambalache shall maintain readily accessible at the facility, copies of all records of required monitoring information that include the following:
 - i. The date, place as defined in the permit, and time of sampling or measurements;
 - ii. The date(s) analyses were performed;
 - iii. The company or entity that performed the analysis;
 - iv. The analytical techniques or methods used;
 - v. The results of such analysis; and
 - vi. The operating conditions as existing at the time of sampling or measurement.

*

13. **Reporting Requirement:** As specified under Rule 603(A)(5)(i) of the RCAP, the permittee shall submit reports of all required monitoring every six (6) months, on October 1st and April 1st, respectively, or more frequently if required by the EQB or any other underlying applicable requirement. All instances of deviations from permit requirements must be clearly identified in such reports. All required reports shall be certified by a responsible official, pursuant to Rule 602 (C)(3) of the RCAP.
14. **Deviations Reporting due to Emergencies:** As specified under Rule 603(a)(5)(ii)(a) of the RCAP, any deviation resulting from an upset, malfunction or break-down or emergency conditions, as defined in Rule 603(e) of the RCAP, must be reported within the next 2 working days. Such notification may be used to assert an affirmative defense upon an enforcement action against PREPA Cambalache. If PREPA Cambalache raises the emergency defense upon an enforcement action, PREPA Cambalache shall demonstrate that such deviation happens due to an emergency and that the Board was adequately notified. If such emergency deviation last for more than 24 hours, the affected units may be operated until the end of the cycle or 48 hours, what occurs first. The Board may only extend the operation of an emission source in excess of 48 hours, if the source demonstrates to the Board's satisfaction that the National Air Quality Standards have not been exceeded and that there is no risk to the public health.
- * 15. **Deviation Reporting (Hazardous Air Pollutants):** Pursuant to Rule 603 (a)(5)(ii)(b), a notification will be required if a deviation occurs that results in the release of emissions of hazardous air pollutants for more than an hour in excess of the applicable limit. PREPA Cambalache shall notify the Board within 24 hours of the deviation. For the discharge of any regulated air pollutant that continues for more than 2 hours in excess of the applicable limit, PREPA Cambalache shall notify the Board within 24 hours of the deviation. PREPA Cambalache shall also submit to the Board, within 7 days of the deviation, a detailed written report, which includes probable causes, time and duration of the deviation, remedial action taken, and steps, which are being taken to prevent a reoccurrence.
16. **Severability Clause:** As specified under Rule 603(A)(6) of the RCAP, the clauses in this permit are severable. In the event of a successful challenge to any portion of the permit in an administrative or judicial forum, or in the event any of its clauses is held to be invalid, all other portions of the permit shall remain valid and effective, including those related to emission limits, terms and conditions, be they specific or general, as well as monitoring, record keeping and reporting requirements.
17. **Permit Noncompliance:** As specified under Rule 603(A)(7)(i) of the RCAP, the permittee must comply with all conditions of the permit. Permit noncompliance constitutes a violation of the RCAP and will be grounds for taking the appropriate enforcement action, impose sanctions, revoke, terminate, modify, and/or reissue the permit, or to deny a permit renewal application.
18. **Defense not Allowed:** As specified under Rule 603(A)(7)(ii) of the RCAP, it shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or

reduce the permitted activity in order to maintain compliance with the conditions of this permit.

19. **Permit Modification and Revocation:** As specified under Rule 603(A)(7)(iii) of the RCAP, the permit may be modified, revoked, reopened, and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.
20. **Property Rights:** As specified under Rule 603(A)(7)(iv) of the RCAP, this permit does not convey any property rights of any sort, nor does it grant any exclusive privilege.
21. **Obligation to Furnish Information:** As specified under Rule 603(A)(7)(v) of the RCAP, the permittee shall furnish to the EQB, within a reasonable time, any information that the EQB may request to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the EQB copies of documents related to this permit.
22. **Changes in Operating Scenarios:** As specified under Rule 603(A)(10)(i) of the RCAP, the permittee shall record in a log book, contemporaneously with making a change from one operating scenario to another authorized in Sections V and VI, the scenario under which it is operating. This logbook must be kept at the permittee's facility at all times.
23. **Prohibition on Default Issuance:** As specified under Rule 605(D) of the RCAP, it shall never be considered that a permit has been issued by default as a result of the EQB's failure to take final action on a permit application within eighteen (18) months. The EQB's failure to issue a final permit within eighteen (18) months should be treated as a final action solely for the purpose of obtaining judicial review in a state court.
24. **Administrative Permit Amendments and Permit Modifications:** As specified under Rule 606 of the RCAP, the permit shall not be amended nor modified unless the permittee complies with the requirements for administrative permit amendments and permit modifications as described in the RCAP.
25. **Permit Reopening:** As specified under Rule 608(A)(1), this permit shall be reopened and revised under the following circumstances:
 - a. Whenever additional applicable requirements under any law or regulation become applicable to the permittee, when the remaining permit term is of three (3) or more years. Such reopening shall be completed eighteen (18) months after promulgation of said applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions have been extended pursuant to Rule 605(C)(4)(i) or Rule 605(C)(4)(ii) of the RCAP.

- b. Whenever the EQB or the EPA determine that the permit contains a material mistake or that inaccurate statements were made in establishing the emission standards or other terms or conditions of the permit.
 - c. Whenever the EQB or the EPA determine that the permit must be revised or revoked to assure compliance with the applicable requirements.
26. **Changes in Name and/or Ownership:** This permit is issued to **Puerto Rico Electric Power Authority - Cambalache Combustion Turbines**. In the event that the company and/or installation changes its name or is transferred to a different owner, the new responsible official must submit a sworn statement in which he/she accepts and validates compliance with all conditions of this permit.
27. **Renovation/Demolition Work:** The permittee shall comply with the provisions set forth in 40 CFR §61.145 and §61.150, and Rule 422 of the RCAP when conducting any renovation or demolition activities at the facility.
28. **Requirements for Refrigerants (Climatologic and Stratospheric Ozone Protection):**
- a. In the event that the permittee has equipment or appliances, including air conditioning units, which use Class I or II refrigerants as defined in 40 CFR 82, Subpart A, Appendices A and B, he/she shall take the necessary measures to ensure that all maintenance, service or repair services performed are done so according to the practices, certification and personnel requirements, disposition requirements, and recycling and/or recovery equipment certification requirements specified under 40 CFR 82, Subpart F. Owners/ operators of appliances normally containing 50 or more pounds of refrigerant must keep records of refrigerant purchased and added to such appliances pursuant to §82.166.
 - b. **Service on Motor Vehicles:** If the permittee performs a service on motor (fleet) vehicles when this service involves ozone-depleting substance refrigerant (or regulated substitute substance) in the motor vehicle air conditioner (MVAC), the permittee is subject to all the applicable requirements as specified in 40 CFR Part 82, Subpart B, Servicing of Motor Vehicle Air Conditioners. The term motor vehicle as used in Subpart B does not include a vehicle in which final assembly of the vehicle has not been completed. The term MVAC as used in Subpart B does not include the air-tight sealed refrigeration system used as refrigerated cargo or system used on passenger buses using HCFC-22 refrigerant.
29. **Compliance Clause:** Compliance with this permit does not waive the permittee's obligation to comply with all other applicable laws, regulations, permits, administrative orders, and/or decrees, be they state or federally enforceable.
30. **Emissions Calculation:** The permittee shall submit, on the first day of April each year, the actual or permissible emissions calculation for the previous natural year. The emissions calculation shall be submitted on the forms prepared by the EQB for this purpose and the

responsible official shall certify all the information submitted as true, correct and representative of the permitted activity.

31. **Annual Fee:** As specified under Rule 610 of the RCAP, the permittee must submit an annual payment based on the emissions calculations for each regulated pollutant. The payment will be based on their actual emissions at a rate of \$37.00 per ton, unless the Board decides otherwise as permitted under Rule 610(b)(2)(iv) of the RCAP. This payment for the previous year must be made on or before June 30 of each year.
32. **Sworn Statement:** All reports required pursuant Rule 103(D) of the RCAP (i.e., semiannual monitoring reports and annual compliance certification) shall be submitted together with a sworn statement or affidavit by the Responsible Official or a duly authorized representative. Such sworn statement shall attest to the truth, correctness and completeness of such records and reports.
33. **Control Equipment:** The permittee shall comply with Rule 108 of the RCAP, as follows:
 - A. All air pollution control equipment or control measures shall provide for continuous compliance with applicable rules and regulations. Such equipment or measures shall be installed, maintained, and operated according to those conditions imposed by the Board, within the specified operating limitations of the manufacturer.
 - B. The collected material from air pollution control equipment shall be disposed in accordance with applicable rules and regulations. The removal, manipulation, transportation, storage, treatment or disposal will be done in such or manner that shall not to produce environmental degradation, and in accordance with applicable rules and regulations.
 - C. The Board may require, when deemed appropriate to safeguard the health and welfare of human beings, the installation and maintenance of additional, complete and separate air pollution control equipment of a capacity equal to the capacity of the primary control equipment. Furthermore, the Board may require that such additional air pollution control equipment be operated continuously and conjunctionally with the primary air pollution control equipment.
 - D. All air pollution control equipment shall be operated at all times while the source being controlled is in operation.
 - E. In the case of a shutdown of air pollution control equipment for the necessary scheduled maintenance, the intent to shutdown such equipment shall be reported to the Board at least three days prior to the planned shutdown. Such prior notice shall include, but is not limited to the following:
 1. Identification of the specific source to be taken out of service with its location and permit number.

2. The expected length of time that the air pollution control equipment will be out of service.
 3. The nature and quantity of emissions of air pollutants likely to be permitted during the shutdown period.
 4. Measures such as the use of off-shift labor and equipment that will be taken to minimize the length of the shutdown period.
 5. The reasons why it will be impossible or impractical to shutdown the operating source during the maintenance period.
- F. The permittee shall to the extent possible, maintain and operate at all times, including periods of start-up, shutdown and malfunction, any affected source and the associated air pollution control equipment, in a manner consistent with the original manufacturers design specifications and in compliance with applicable rules and regulations and permit conditions.
- * G. The permittee shall maintain copies of all the calibrations and inspections of the control equipments. The permittee shall record in a logbook all the periods when the control equipment is in shutdown and the process continues its operation. All the records shall be available to the EQB personnel.
34. **Particulate Fugitive Emissions:** As established in Rule 404 of the RCAP, the permittee shall not cause or permit:
- a. any materials to be handled, transported, or stored in a building, its appurtenances, or a road to be used, constructed, altered, repaired, or demolished, without taking reasonable precautions to prevent particulate matter from becoming airborne.
 - b. the discharge of visible emissions of fugitive dust beyond the boundary line of the property on which the emissions originate.
35. **Risk Management Plan:** If during the effectiveness of this permit, the permittee is subject to the 40 CFR Part 68, he/she shall submit a Risk Management Plan according with the compliance schedule in the 40 CFR Part 68.10. As part of the annual compliance certification required under 40 CFR Part 70, the permittee shall submit a compliance certification with the requirements of Part 68, including the recordkeeping and the Risk Management Plan. The permittee shall comply with the general duty requirements of section 112(r)(1) of the Act as follows:
- a. Identify hazards that may result from accidental releases using appropriate hazard assessment techniques.

- b. Design, maintain, and operate a safe facility.
 - c. Minimize the consequences of accidental releases if they occur.
36. **Labeling of Products Using Ozone-Depleting Substances:** The permittee shall comply with the standards for labeling of products using ozone-depleting substances pursuant to 40 CFR Part 82, Subparte E, unless it is determined that this regulation does not apply to PREPA.
- a. All containers in which a class I or class II substance is stored or transported, all products containing a class I substance, and all products directly manufactured with a class I substance must bear the required warning statement if it is being introduced into interstate commerce pursuant to §82.106 of the 40 CFR.
 - b. The placement of the required warning statement must comply with the requirements pursuant to §82.108 of the 40 CFR.
 - c. The form of the label bearing the required warning statement must comply with the requirements pursuant to §82.110 of the 40 CFR.
 - d. No person may modify, remove, or interfere with the required warning statement except as described in §82.112 of the 40 CFR.
37. **Emergency Generators:**
- a. The operation for each emergency generator identified as insignificant activity is limited to 500 hours per year.
 - b. The permittee shall keep an annual record of the hours of operation and fuel consumption for each generator. It shall be kept available at any time for inspection by EQB and EPA personnel.
38. **Reservation of Rights:** Except as expressly provided in this Title V permit:
- a. Nothing herein shall prevent EPA or the Board from taking administrative enforcement measures or seeking legal or equitable relief to enforce the terms of the Title V permit, including but not limited to the right to seek injunctive relief, and imposition of statutory penalties, fines and/or punitive damages.
 - b. Nothing herein shall be construed to limit the rights of EPA or the Board to undertake any criminal enforcement activity against the permittee or any person.
 - c. Nothing herein shall be construed to limit the authority of EPA or the Board to undertake any actions in response to conditions that present an imminent and substantial endangerment to public health or welfare, or the environment.

d. Nothing herein shall be construed to limit the permittee's rights to administrative hearing and judicial appeal of termination/ revocation/ disputes over modification/ denial actions in accordance with regulations and the Environmental Public Policy Act.

39. **Combustion Turbines:** Any existing, new or reconstructed source that have or operate stationary combustion turbines is subject to the National Emission Standards for Hazardous Air Pollutants for combustion turbines contained in the 40 CFR part 63, subpart YYYY. Unless it is determined that this regulation is not applicable to PREPA Cambalache, the affected source must comply with the applicable emission limitations and/or operating limitations of this subpart upon startup if your new or reconstructed affected source startup after March 4, 2004 or by the date specified in an extension of compliance granted according to 40 CFR §63.6(i). Unless it is determined that this regulation does not apply, PREPA Cambalache shall comply with the applicable notification requirements of 40 CFR §63.6145 and in 40 CFR part 63, subpart A by the dates specified.

40. **Reciprocating Internal Combustion Engines:** Any existing, new or reconstructed source that operates a stationary Reciprocating Internal Combustion Engines (RICE)³ with a site-rating of more than 500 brake horsepower (HP) is subject to the National Emission Standards for Hazardous Air Pollutants for stationary Reciprocating Internal Combustion Engines contained in the 40 CFR part 63, subpart ZZZZ. Unless it is determined that this regulation is not applicable to PREPA Cambalache or the source is exempted, the affected source must comply with the applicable emission limitations and/or operating limitations of this subpart; on or before June 15, 2007 for an existing stationary RICE, no later than August 16, 2004 if you start up your new or reconstructed stationary RICE before August 16, 2004, upon startup if your new or reconstructed RICE start up after August 16, 2004, or by the date specified in an extension of compliance granted according to 40 CFR §63.6(i). PREPA Cambalache shall comply with the applicable notification requirements of 40 CFR §63.6645 and in 40 CFR part 63, subpart A by the dates specified.

* 41. **Ammendments or New Regulations:** In case a new regulation is established or an existing one is amended (state or federal) and the Board determines that it applies to the facility, Prepa Cambalache shall comply with what is established as soon as this regulation or amendment becomes effective. The Board shall provide a determined and reasonable period of time for PREPA Cambalache to achieve compliance with the amendments or new regulations.

42. **Reports:** Any requirement of information submittal to the Board shall be addressed to: Manager, Air Quality Area, PO Box 11488, Santurce, P.R. 00910.

Section IV - Allowable emissions

³ As defined on 40 CFR, §63.6585(a).

- * The allowable emissions authorized under this permit are mentioned in the table below. PREPA Cambalache shall certify annually that its actual emissions do not exceed the allowable emissions. This certification shall be based on the actual operation of the previous calendar year and using the calculation methodology approved by the EPA and/or EQB in their respective construction permits.

Criteria Pollutant	Allowable emissions (tons /year)
PM ₁₀	946
SO ₂	1800
NO _x	460
CO	515
VOC	180
Lead	0.3

*

Hazardous Atmospheric Pollutant	Allowable emissions (tons /year)
Manganese	4.0
Nickel	14.2
Phosphorus	3.5
Formaldehyde	31.9
Total HAPs (including Mn, Ni, P, and formaldehyde)	54.7

Section V - Permit Specific Conditions

1. Facility-wide requirements [PSD permit]
 - A. All equipment, facilities, and systems, including the combustion and electric generation units, installed or used to achieve compliance with the terms and conditions of this permit shall at all times be maintained in good working order and be operated as efficiently as possible so as to minimize air pollutant emissions. The continuous emission monitoring systems required by this permit shall be on-line and in operation 95% of the time when turbines are operating.
 - B. Each ABB GT 11N distillate oil fired combustion turbine shall continuously operate in accordance with its designed specified combustion parameters.
 - C. Emissions of carbon monoxide, total particulate matter, particulate matter less than 10 microns and volatile organic compounds will be controlled by implementing good combustion practices.
 - D. In case of conflict, PREPA Cambalache comply with the most stringent limit or more stringent monitoring, recordkeeping, and reporting requirement of either the limits provided herein or provided in the PSD permit or other subsequent applicable requirement(s). This condition shall apply to Combustion Turbines Camb 1, Camb 2, Camb 3 that are regulated by both 40 CFR part 60, subpart GG and PSD.

2. Requirements for each emission unit

The following tables contain a summary of all applicable requirements, as well as the test methods for all emission units identified in Section II of this permit.

A. CAMB 1, CAMB 2 y CAMB 3

Condition	Parameter	Value	Units	Method of Compliance	Frequency of Method	Recordkeeping Requirements	Reporting Frequency
40 CFR Part 60 Subpart GG	NOx	139	ppmvd ⁴	See below	---	---	---
	SO ₂	150					

⁴Corrected to 15% oxygen

Condition	Parameter	Value	Units	Method of Compliance	Frequency of Method	Recordkeeping Requirements	Reporting Frequency
PM Emission Limit	PM	0.3	Pounds per million Btu	Supplier Certification of the type of fuel used.	Each time fuel is received at the facility.	Daily records of the type of fuel used and the sulfur content in the fuel burned.	Annually
PM & PM ₁₀	PM & PM ₁₀	72 0.0171	lb/hr gr/dscf ⁵	Method 5 and Method 202 Surrogate: Combustion temperature and volumetric flow rate	Initial Performance Test Continuously	Log	Semi-Annually
Opacity Limit	Opacity	20	6 minute average percent	Method 9 COMS	Once during the first year of the permit Continuously	Test results Log	60 days after the readings Quarterly (Excess emissions report)
SO ₂ emission limit	SOx Standard	28	ppmvd	Method 8 Surrogate: Sulfur sampling in the fuel	Initial Performance Test Per transfer	Log	Annually
Sulfur Content limit	Sulfur content	0.15	Weight percent	Fuel Sample	Per transfer	Analysis results	Monthly
NOx emission limit	NOx Standard	35 10	lbs/hr ppmvd	CEMS Method 7E	Continuous Initial Performance Test	Log Keep a copy of the performance test results	Quarterly (Excess emissions report)
Nitrogen Content	Nitrogen Content	0.10	percent by weight	Fuel Sample	Per transfer	Log	Monthly
H ₂ SO ₄ Mist emission limit	H ₂ SO ₄ emissions	32 4.3	lb/hr ppmvd ⁶	Method 8 Surrogate: Sulfur sampling in the fuel	Initial Performance test Per transfer	Keep a copy of the performance test results Log	--- Annually
CO emission limit	CO emissions	20 9	lbs/hr ppmvd	CEMS Method 10	Continuously Initial performance test	Log	Quarterly (Excess emissions report)
VOC emission limit	VOC emissions (as methane)	13 11	lbs/hr ppmvd	Method 25 A Surrogate: Combustion Temperature and volumetric flow rate	Initial Performance Test Continuously	Keep a copy of the performance test results Log	Semi-Annually

⁵ Corrected to 15% oxygen

⁶ Corrected to 15 % oxygen

Condition	Parameter	Value	Units	Method of Compliance	Frequency of Method	Recordkeeping Requirements	Reporting Frequency
Lead emissions limit	Lead emissions	0.023 5.0	lbs/hr µgr/dscf	Method 12 Surrogate: Fuel usage	Initial Performance test	Keep a copy of the performance test results	---
Ammonia emission limit	Ammonia emissions	10	ppmvd ⁷	CEMS	Continuously	log	Quarterly (Excess emissions report)
Fuel type	distillate oil No. 2	N/A	N/A	Record type of fuel burned	Daily	Log	Monthly
Fuel usage	Fuel Used	6,261	gal/hr	CMS	Continuous (each hour)	Log	monthly
COMS, CEMS and CMS	N/A	N/A	N/A	Performance evaluation	Annually	Evaluation results	Sixty days after test
				Performance auditing	Every four months	Logbook	Every four months
Continuous operation of the SCR	NOx removal efficiency	80	Percent	Record the ammonia slip	Daily	Logbook	Every six months
Steam injection system	Continuous operation of the system	N/A	N/A	Record steam consumed	Daily	Logbook	Every six months
	Steam to fuel ratio	N/A	N/A	CMS Established on performance test	Continuous	Logbook	Every six months
Maximum Heat input rate	Heat input rate	847	MMBtu/hr (LHV)	Record heat input rate	Daily	Logbook	Every six months
Load Limit	Load	100	percent ⁸	Record power generated per hour	Daily	Logbook	Every six months
		60	percent ⁹				
Startup, shutdown duration limit	Duration	6	hours	Record of startup, shutdown duration (CMS)	Daily	Logbook	Quarterly

*

(1) New Source Performance Standards for Stationary Gas Turbines, 40 CFR Part 60 Subpart GG

- a. The combustion turbines are subject to the Standards of Performance for Stationary Gas Turbines established under 40 CFR Part 60, Subpart GG.
- b. PREPA Cambalache is subject to the Prevention of Significant Deterioration of Air Quality Standards, which has more stringent emission limits than those

⁷ Corrected to 15% oxygen

⁸ Base load, normal operating scenario

⁹ Alternate Operating scenario – See requirements in section VI

of subpart GG. Compliance with the emission limits included in the PSD permit shall be deemed compliance with the emission limits included in the 40 CFR Part 60 Subpart GG.

(2) PM Emission Limit, Rule 406 of the RCAP

- a. The permittee shall not cause nor permit the emission of particulate matter, from any equipment burning solid or liquid fuel, in excess of 0.3 lb/MMBtu. [Rule 406 of the RCAP]
- b. In order to verify compliance with the limit established in the previous condition, the permittee shall use the fuel vendor certification of the sulfur content in the fuel.
 - i. For these units, PREPA Cambalache shall keep records of the type of fuel used, actual usage and fuel sulfur content (in weight percent) certified by the fuel vendor.
 - ii. PREPA Cambalache shall use emission factors from the AP-42 effective at the time of completing the permit application together with the records of fuel usage and the sulfur content to calculate the particulate matter emissions and demonstrate compliance with the limit established in the previous condition. Emission factors from AP-42 of EPA: *Compilation of Air Pollutant Emission Factors, Volume I: Stationary Point and Area Sources, Fifth Edition, Office of Air Quality Planning and Standards.*
- c. In case that this rule is amended and the facility is affected by it, PREPA Cambalache shall comply with the new established applicable limits of the amended regulation once it becomes effective.

(3) PM and PM₁₀ emission limits, PSD permit

- a. The PM and PM₁₀ emissions shall not exceed 72 lbs/hr at the base load heat input level, each. [PSD permit]
- b. The concentration of PM and PM₁₀ in the exhaust gas, corrected to 15% oxygen, shall not exceed 0.0171 gr/dscf at the base load heat input level, each. [PSD permit]

(4) Opacity Limit

- a. Opacity of Emissions, as measured by 40 CFR Part 60, Method 9, shall not exceed 20%, except for one period of not more than 4 minutes in any 30

minute interval when the opacity shall not exceed 60%. [PSD permit, Rule 403 of the RCAP]

- * b. PREPA Cambalache shall use an opacity reader, certified in a school approved by EPA, to perform one opacity reading in the chimney of each turbine or in a common stack, as applicable during the first year of the permit using Method 9 established in the 40 CFR part 60, Appendix A. The turbines shall be operating at the time of the opacity reading.
- * c. Prepa Cambalache shall submit to the Board a copy of the visible emissions reading report 60 days after the reading.
- * d. PREPA Cambalache shall calibrate, maintain and operate a continuous opacity monitoring system (COM's) in each stack of the units CAMB1, CAMB2 and CAMB3 to measure and record the opacity levels in the stack. The system shall comply with all applicable monitoring performance specifications (including but not limited to the 40 CFR § 60.13 and 40 CFR Part 60, Appendix B, Performance Specification 1). The COM's shall be in line and operating 95% of the unit's operating time. When the COM's establishes that the opacity limit is being exceeded according to Rule 403 of the RCAP, PREPA Cambalache shall verify that the equipment causing the visible emissions is operating according to the manufacturer's specifications and the permit conditions. If it is not working properly, Prepa Cambalache shall take immediate corrective actions to eliminate the excess opacity.
- e. PREPA Cambalache shall keep a copy of the visible emissions reading report including the date and time of the reading for at least five years, in compliance with Rule 603(A)(4)(ii) of the RCAP.
- f. PREPA Cambalache shall submit summary with the results included in the visible emissions report in the annual compliance certification corresponding to the year when the reading was made.
- g. The Board reserves its right to require additional visible emission readings in order to demonstrate compliance with the opacity limit.

(5) SO₂ emission limit

- a. The SO₂ emissions shall not exceed 137 lbs/hr. [PSD permit]
- b. The concentration of SO₂ in the exhaust gas shall not exceed 28 ppmv, corrected to 15% oxygen. [PSD permit]

(6) Sulfur content limit

- a. As approved by the permit PFE-07-0295-0145-I-C and the PSD permit, each distillate oil fired combustion turbine shall continuously use no. 2 in which the sulfur content does not exceed 0.15% by weight.
- b. PREPA Cambalache shall sample the fuel being fired in the three combustion turbines on each occasion that fuel is transferred to the storage tanks at the facility from any other source. The fuel sampling shall include, but not be limited to determine the fuel's sulfur content (% by weight). [PSD permit, PFE-07-0295-0145-I-C]
- c. Compliance with the sulfur content standard shall be determined using the testing methods established in 40 CFR §60.335(d). [PSD permit]
- * d. PREPA Cambalache shall submit a monthly report indicating the fuel consumption in the combustion turbines and the sulfur content certified by the fuel vendor within 30 days of the next month following the one being reported as required by Rule 410 of the RCAP. This report shall be addressed to the Validation and Data Management Division and shall be available in the facility for review by the Board's technical personnel.
- e. PREPA Cambalache shall keep for at least 5 years the fuel sampling reports, monthly reports of the fuel consumption and the sulfur content in the fuel burned, in compliance with Rule 603(a)(4)(ii) of the RCAP.
- f. PREPA Cambalache, a service contractor retained by PREPA, the fuel vendor or any other qualified agency, may perform the sulfur content analysis. [40 CFR §60.335(e)]

(7) NOx emission limit

- a. The NOx emissions shall not exceed 35 pounds per hour (lbs/hr) calculated as NO₂ [PSD permit].
- b. The concentration of NOx in the exhaust gas shall not exceed 10 parts-per-million by volume on a dry basis (ppmvd), corrected to 15% oxygen.

(8) Nitrogen content

- a. Each distillate oil fired combustion turbine unit shall use No. 2 distillate fuel oil which contains no more than 0.10 percent nitrogen by weight. [PSD permit]
- b. PREPA shall sample the fuel being fired in the three combustion turbines on each occasion that fuel is transferred to the storage tanks at the facility from

any other source. The fuel sampling shall include, but not be limited to determine the fuel's nitrogen content (% by weight). [PSD permit]

- c. Compliance with the nitrogen content standard shall be determined using analytical methods and procedures that are accurate to within 5 percent and are approved by the Administrator to determine the nitrogen content of the fuel being fired. [PSD permit]
- d. The nitrogen content analysis may be performed by PREPA-Cambalache, a service contractor retained by PREPA-Cambalache, the fuel vendor or any other qualified agency. [40 CFR §60.335(e)]

(9) H₂SO₄ mist emission limit

- a. The H₂SO₄ emissions shall not exceed 32 lbs/hr. [PSD permit]
- b. The concentration of H₂SO₄ in the exhaust gas shall not exceed 4.3 ppmvd, corrected to 15% oxygen. [PSD permit].

(10) CO emission limit

- a. The CO emissions shall not exceed 20 lbs/hr at the base load heat input level. [PSD permit]
- b. The concentration of CO in the exhaust gas, corrected to 15% oxygen, shall not exceed 9 ppmvd at the base load heat input level. [PSD permit].

(11) VOC emission limit

- a. The VOC emissions (as methane) shall not exceed 13 lbs/hr at the base load heat input level. [PSD permit]
- b. The concentration of VOC (as methane) in the exhaust gas, corrected to 15% oxygen shall not exceed 11 ppmvd at the base load heat input level. [PSD permit]

(12) Lead emissions limit

- a. The Pb emissions shall not exceed 0.023 lbs/hr at the base load heat input level. [PSD permit]
- b. The concentration of Pb in the exhaust gas, corrected to 15% oxygen shall not exceed 5.0 µgr/dscf. [PSD permit].

(13) Ammonia emissions limit

- a. The concentration of NH₄ in the exhaust gas shall not exceed 10 ppmvd, corrected to 15% oxygen.[PSD permit]

(14) Fuel Type

- a. Each Combustion turbine shall use low sulfur No. 2 distillate fuel oil which contains no more than 0.15 percent sulfur by weight. [PSD permit and PFE-07-0295-0145-I-C].
- b. PREPA shall maintain daily records indicating the type of fuel used. The records shall be available for inspection by EQB personnel.

(15) Fuel Usage

- a. Each combustion turbine unit shall be limited to a maximum fuel consumption rate of 6,261 gallons per hour.[PSD permit]

(16) Continuous Monitoring Systems

- a. Prior to the date of startup and thereafter, PREPA Cambalache shall install, calibrate, maintain and operate the following continuous monitoring systems in each of the combustion turbine exhaust stack.
 - i. Continuous opacity monitoring system (COMS) to measure and record stack opacity levels. The system shall meet all applicable EPA monitoring performance specifications (including, but not limited to 40 CFR Part 60.13 and 40 CFR Part 60, Appendix B, Performance Specification 1).
 - ii. A continuous emission monitoring system (CEMS) to measure and record stack gas NO_x (as measured as NO₂) concentrations. The system shall meet all applicable EPA monitoring performance specifications (including, but not limited to 40 CFR Part 60.13 and 40 CFR Part 60, Appendix B, Performance Specifications 2, and Appendix F).
 - iii. A CEMS to measure and record stack gas oxygen concentrations. The system shall meet all applicable EPA monitoring performance specifications (including but not limited to 40 CFR Part 60.13 and 40 CFR Part 60, Appendix B, Performance Specifications 3, and Appendix F).
 - iv. A CEMS to measure and record stack gas carbon monoxide concentrations. The system shall meet all applicable EPA monitoring performance specifications (including, but not limited to 40 CFR Part 60.13 and 40 CFR Part 60, Appendix B, Performance Specifications 4, and Appendix F). [PSD permit]

- v. A CEMS to measure and record ammonia slip. Upon request of EPA, PREPA Cambalache shall conduct a performance evaluation of the monitor. [PSD permit]
- vi. A CMS to measure and record stack gas volumetric flow rates. The system shall meet all applicable EPA monitoring performance specifications of 40 CFR Part 60 Appendix A, Method 19.
- vii. Continuous monitoring systems to measure and record stack temperatures and steam to fuel ratios. Upon request of EPA and/or EQB, PREPA Cambalache shall conduct a performance evaluation of the monitor.
- b. PREPA Cambalache shall calibrate, maintain and operate a CMS to measure and record the amount of fuel burned in each turbine. The records shall be made available for inspection by EQB personnel.[PFE-07-0295-0145-I-C]
- c. The hours of operation of the combustion turbines will be determined by the CMS Data Acquisition System.
- d. The fuel consumption monitoring system and the ratio of steam to fuel monitoring system shall be accurate to within ± 5.0 percent, according to the 40 CFR §60.334 (a).

(17) Control equipment

- a. PREPA Cambalache shall install and shall continuously operate at each ABB GT 11N distillate oil fired combustion turbine the following air pollution controls: [PSD permit]
 - i. a steam injection system; and
 - ii. a selective catalytic reduction (SCR) system

(18) Selective Catalytic Reduction (SCR) System

- a. Each SCR system shall continuously use a zeolite catalyst and shall continuously operate in accordance with the manufacturer's design specifications. [PSD permit]
- b. As required by the permit PFE-07-0295-0145-I-C, each SCR system shall have a minimum control efficiency of 80% for NO_x emissions.
- c. PREPA Cambalache shall install and operate a meter for each SCR system to measure and record the ammonia slip. These meters shall be calibrated at least every six months in accordance with the manufacturer's specifications.
- d. Each SCR shall be operated at all times when the combustion turbines are operating.

(19) Steam Injection System

- a. As required by the permit PFE-07-0295-0145-I-C, the steam injection system shall have a minimum control efficiency of 50% for NOx emissions.
- b. PREPA Cambalache shall comply with the steam to fuel ratio determined during the performance testing and contained within the report submitted to EPA.
- c. PREPA Cambalache shall install and operate a continuous monitoring system to monitor the steam to fuel ratio being fired in the turbine. This system shall be accurate to within $\pm 5\%$ and shall be approved by EPA. [40 CFR §60.334(a)]

(20) Maximum Heat Input Rate

- a. Each distillate oil fired combustion turbine unit shall be limited to a maximum heat input of 847 MMBtu/hr, based upon lower heating value. [PSD permit]
- b. Except for startup and shutdown, each ABB GT 11N distillate oil fired combustion turbine unit shall only be allowed to operate at the following two heat input levels:[PSD permit]
 - i. base load (847 MMBtu/hr); and
 - ii. “spinning reserve mode” (581 MMBtu/hr)

(21) Load Limit

- a. Each combustion turbine unit shall only be allowed to operate at the following two loads:
 - i. Base load (100 percent)
 - ii. 60 percent load. (alternate operating scenario)

(22) Start Up and Shutdown periods

- a. Startup for each ABB GT 11N turbine is defined as the period beginning with the initial firing of No. 2 fuel oil in the combustion turbine combustor and ending at the time when the load has increased to the spinning reserve mode.

The duration of the startup shall not exceed 6 consecutive hours for any given combustion turbine startup. [PSD permit]

- b. Shutdown for each combustion turbine is defined as the period of time beginning with the load decreasing from the spinning reserve mode and ending with the cessation of operation of the combustion turbine. The duration of the shutdown shall not exceed 6 consecutive hours for any given combustion turbine shutdown. [PSD permit]
- c. At all times, including periods of startup, shutdown and malfunction, PREPA Cambalache shall, to the extent practicable, maintain and operate the three ABB GT 11N distillate oil fired combustion turbines including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of weather acceptable operating and maintenance procedures are being used will be based on information available to EPA and/or EQB which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the plant. [PSD permit]

(23) Testing

- a. Appendix II includes the dates when the performance testing was performed. Additional performance tests may be required at the discretion of the EPA or EQB for any or all of the following pollutants: SO₂, H₂SO₄, NO_x, PM, PM₁₀, CO, VOC, Pb and opacity. [PSD permit]
- b. If an additional performance test is required, three tests runs shall be conducted for each load condition (base load and spinning reserve mode, and/or other loads specified by EPA) and compliance for each operating mode shall be based on the average emission rate of these runs.
- c. At least 60 days prior to actual testing, PREPA Cambalache shall submit to the EPA (with a copy to EQB) a Quality Assurance Project Plan detailing methods and procedures to be used during the performance stack testing. A Quality Assurance Project Plan that does not have EPA approval may be grounds to invalidate any test and require a re-test. [PSD permit]
- d. Additional tests shall also comply with Rule 106 of the RCAP.
- e. PREPA-Cambalache shall use the following test methods, or a test method which would be applicable at the time of the test and detailed in a test protocol approved by EPA and EQB:
 - i. Performance tests to determine the stack velocity, sample area, volumetric flow rate, molecular composition, excess air of flue gases,

and moisture content of flue gases shall be conducted using 40 CFR Part 60, Appendix A, Methods 1,2,3, and 4.

- ii. Performance test for the emissions of NO_x shall be conducted using 40 CFR Part 60, Appendix A, Method 7E.
 - iii. Performance tests for the emissions of SO₂ shall be conducted using 40 CFR Part 60, Appendix A, Method 8.
 - iv. Performance tests for the emissions of H₂SO₄ shall be conducted using 40 CFR Part 60, Appendix A, Method 8.
 - v. Performance tests for the emissions of PM shall be conducted using 40 CFR Part 60, Appendix A, Method 5.
 - vi. Performance tests for the emissions of PM₁₀ shall be conducted using 40 CFR Part 51, Appendix M, Method 201 (exhaust gas recycle) or Method 201 A (constant flow rate), and Method 202.
 - vii. Performance tests for the emissions of CO shall be conducted using 40 CFR Part 60, Appendix A, Method 10.
 - viii. Performance tests for the emissions of VOC shall be conducted using 40 CFR Part 60, Appendix A, Method 25A.
 - ix. Performance tests for the emissions of Pb shall be conducted using 40 CFR Part 60, Appendix A, Method 12.
 - x. Performance tests for the visual determination of the opacity of emissions from the stack shall be conducted using 40 CFR Part 60, Appendix A, Method 9 and the procedures stated in 40 CFR Part 60.11.
- f. Test results indicating that emissions are below the limits of detection shall be deemed to be in compliance.
 - g. For performance test purposes, sampling ports, platforms and access shall be provided by PREPA Cambalache on each of the combustion turbine units in accordance with 40 CFR Part 60.8 (e).[PSD permit]
 - h. PREPA Cambalache shall submit a written report to EPA and EQB of all emission testing within 60 days of completion of the performance test.[PSD permit]

- i. Operations during periods of startup, shutdown and malfunction shall not constitute representative conditions for the purpose of a performance test. [PSD permit]

B. CAMB TK1, Camb TK2, Camb TK3

1. Stationary Tanks

- a. The Permittee shall not place, store or hold any VOC in any stationary tank, reservoir, or other container of more than 40,000 gallons, unless such tank, reservoir, or other container is a pressure tank capable of maintaining working pressures sufficient, under normal operating conditions, to control vapor or gas loss to the atmosphere, or unless it is equipped with: a floating roof as indicated in Rule 417(A), a vapor recovery system as indicated in Rule 417(B), and any other federal applicable requirements.
- b. Compliance of the above condition i. is exempted for the following:
 - i. Storage of any liquid having no photochemical reactivity (including those compounds listed under the definition of VOC) and/or having a true vapor pressure less than 0.75 psia.
 - ii. Tanks that treat wastewater permitted under the Clean Water Act and exempted by rule from Resource Conservation and Recovery Act.
 - iii. Exemptions based on vapor pressure shall be demonstrated with calculations using Antoine's equation and average liquid surface temperature.

2. 40 CFR Part 60 Subpart Kb

- i. PREPA Cambalache shall keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel. [40 CFR Part 60 §60.116b (b)]

Section VI - Alternate Operating Scenario (AOS)

Under this permit, the following alternate operating scenario is authorized

AOS 1 - PREPA Cambalache is authorized to operate the combustion turbine at 60% load conditions (581 MMBtu/hr-LHV & 616 MMBtu/hr-HHV). The applicable requirements for the alternate operating scenario will be the same as those for the primary operating scenario, except for hours of operation at spinning reserve mode and the emission limits for CO, PM/PM₁₀, VOC and Pb. While operating under this scenario, the following limits apply.

Condition	Parameter	Value	Units	Test Method	Method of compliance	Recordkeeping Requirements	Reporting Frequency
40 CFR Part 60 Subpart GG	NOx	127	ppmvd ¹⁰	See below	---	---	---
	SO ₂	150					
Hours of Operation limit	Hours of operation	2000	hours per year	CMS	Continuous (Daily Total)	log	monthly
PM & PM ₁₀	PM & PM ₁₀ (Spinning reserve mode)	55 0.0191	lb/hr gr/dscf ¹¹	Method 5 and Method 202 Surrogate: Combustion temperature and volumetric flow rate	Initial Performance Test Continuously	Keep Copy of the Stack Test Results Log	Semi-Annually
CO emission limit	CO emissions	71	ppmvd lbs/hr	CEMS Method 10	Continuously Initial performance test	Log Keep Copy of the Stack Test Results	Quarterly (Excess emissions report)
		104					
VOC emission limit	VOC emissions (as methane)	11	lbs/hr ppmvd	Method 25 A Surrogate: Combustion Temperature and volumetric flow rate	Initial Performance Test Continuously	Keep Copy of the Stack Test Results Log	Semi-Annually
		13					
Lead emission limit	Lead emissions	0.016	lbs/hr μgr/dscf	Method 12	Initial Performance test	Keep Copy of the Stack Test Results	---
		5.0					

(1) New Source Performance Standards for Stationary Gas Turbines, 40 CFR Part 60 Subpart GG

- a. The combustion turbines are subject to the Standards of Performance for Stationary Gas Turbines established under 40 CFR Part 60, Subpart GG.

¹⁰ Corrected to 15% oxygen

¹¹ Corrected to 15% oxygen

- b. PREPA Cambalache is subject to the Prevention of Significant Deterioration of Air Quality Standards, which has more stringent emission limits than those of subpart GG. Compliance with the emission limits included in the PSD permit shall be deemed compliance with the emission limits included in the 40 CFR Part 60 Subpart GG.

(2) Hours of Operation

- a. Each ABB GT 11N distillate oil fired combustion turbine unit shall only be allowed to operate for up to 2000 hours per year at the “spinning reserve” mode heat input level. [PSD permit]
- b. Daily compliance shall be determined by adding the total amount of hours operated at the spinning reserve mode during each calendar day to the total hours operated at the spinning reserve mode in the preceding 364 calendar days. [PSD permit]

(3) PM and PM₁₀ emission limits

- a. The PM and PM₁₀ emissions shall not exceed 55 lbs/hr at the spinning reserve mode heat input level, each. [PSD permit]
- b. The concentration of PM and PM₁₀ in the exhaust gas, corrected to 15% oxygen, shall not exceed 0.0191 gr/dscf at the spinning reserve mode heat input level, each. [PSD permit]

(4) CO emission limit

- a. The CO emissions shall not exceed 104 lbs/hr at the spinning reserve mode heat input level. [PSD permit]
- b. The concentration of CO in the exhaust gas, corrected to 15% oxygen, shall not exceed 71 ppmvd at the spinning reserve mode heat input level. [PSD permit].

(5) VOC emission limit

- a. The VOC emissions (as methane) shall not exceed 13 lbs/hr at the spinning reserve mode heat input level. [PSD permit]
- b. The concentration of VOC (as methane) in the exhaust gas, corrected to 15% oxygen shall not exceed 11 ppmvd at the spinning reserve mode heat input level. [PSD permit]

(6) Lead emission limit

- a. The Pb emissions shall not exceed 0.023 lbs/hr at the spinning reserve heat input level. [PSD permit]
- b. The concentration of Pb in the exhaust gas, corrected to 15% oxygen shall not exceed 5.0 µgr/dscf. [PSD permit].

Section VII. Recordkeeping requirements

A. PREPA Cambalache shall keep and update daily the following records:

1. gallons of No.2 fuel oil fired on an hourly basis at each ABB GT 11N distillate oil fired combustion turbine The record shall be kept in a 365 day rolling average.
2. the hours of operation of each ABB GT 11N distillate oil fired combustion turbine;
3. the sulfur content of all fuel oil burned;
4. the amount of steam consumed at each ABB GT 11N distillate oil fired combustion turbine to control NOx emissions;
5. the amount of electrical output (MW) on an hourly basis from each ABB GT 11N distillate oil fired combustion turbine;
6. any adjustments and maintenance performed on monitoring systems; and
7. all fuel sampling results obtained pursuant to this permit.
8. records inspections and preventive maintenance performed on the equipment and/or the control equipments;
9. all calibrations performed;
10. amount of distillate fuel oil charged to the storage tanks
11. storage tank EU-TK1 dimensions and analysis stating the tank capacity,
12. hours of operation and amount of fuel consumed by the emergency generators
13. any one-hour period during which the average steam to fuel ratio, as measured by the continuous monitoring system, falls below the optimum steam to fuel ratio established during the performance test or any period during which the fuel-bound nitrogen of the fuel is greater than the maximum nitrogen content allowed by the fuel-bound nitrogen allowed in this permit.
14. any one-hour period in which the ammonia flow is below the optimum ammonia

flow established during the performance test, except for startup, shutdown, and load changes at the turbine.

15. the amount of ammonia flow to each SCR.

- B. PREPA Cambalache shall keep available at any time a copy of the Emergency Plan required in Rule 107 of the RCAP.
- C. PREPA Cambalache shall keep readily accessible records of fire fighting activities related to research or training.
- D. PREPA Cambalache must keep records of refrigerant purchased and added to appliances normally containing 50 or more pounds of refrigerant, if PREPA Cambalache owns or operates such appliances. [40 CFR §82.166]
- E. PREPA Cambalache shall keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel. [40 CFR Part 60 §60.116b (b)]
- F. PREPA Cambalache shall maintain records of the required monitoring information that shall include the following:
 - 1. The date, place as defined in the permit, and time of sampling or measurements;
 - 2. The date (s) analysis were performed;
 - 3. The company or entity that performed the analysis;
 - 4. The analytical techniques or methods used;
 - 5. The results of such analysis; and
 - 6. The operating conditions as existing at the time of sampling or measurement.
- G. All monitoring records, fuel sampling test results and logs must be maintained for a period of five years after the date of record, and made available upon request. All rolling averages shall be computed on a daily basis.
- H. Pursuant to section 60.7 (b) of the 40 CFR, PREPA Cambalache shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the affected facility; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative.
- I. PREPA Cambalache shall record in a logbook, contemporaneously with making a change from one operating scenario to another authorized under this permit, the scenario under

which it is operating. This logbook must be kept at the facility at all times.

Section VIII – Reporting Requirements

- A. Compliance Certification: The permittee shall submit a compliance certification as required by Section III, condition 5 of this permit.
- * B. Emissions Calculations: The permittee shall submit, on the first day of April each year, the actual or permissible emissions calculations for the previous natural year. The emissions calculations shall be submitted on the forms prepared by the Board for this purpose and the responsible official must certify all the information submitted as true, correct and representative of the permitted activity. The permittee must make the applicable payment for the emissions calculations for the previous year on or before June 30 of each year. The emissions calculations shall include, but not limited to PM/PM₁₀, NO_x, VOC, NH₃, CO, SO_x, lead, HAPs and sulfuric acid emissions. If there are no NH₃ emissions in the facility, PREPA Cambalache may inform as zero the NH₃ emissions in the emission calculations report.
- C. As part of the annual compliance certification required under 40 CFR Part 70, PREPA Cambalache shall include, if applicable, the requirements of 40 CFR Part 68, including the recordkeeping and the Risk Management Plan (RMP), and a certification supporting the adequate implementation of the Plan according to 107(D) of the RCAP. PREPA Cambalache shall submit a revised registration to EPA and EQB within six months indicating that the stationary source is no longer covered if PREPA Cambalache is no longer subject to this part. PREPA Cambalache shall maintain all records supporting the implementation of this part for five years unless otherwise provided 40 CFR Part 68, Subpart G. PREPA Cambalache shall review and update the RMP as specified in 40 CFR §68.150.
- * D. As established under Rule 603(a)(5)(i) of the RCAP, PREPA Cambalache shall submit reports of any required monitoring every 6 months, on October 1st and April 1st, respectively, or more frequently if required by the underlying applicable requirement or by the Board. All instances of deviations from this permit's requirements must be clearly identified in such reports. All required reports must be certified by a responsible official as established under Rule 602(c)(3) of the RCAP.
- E. Fuel Consumption Monthly Report: PREPA Cambalache shall submit a monthly report indicating on a daily basis the sulfur content (percent by weight) in the fuels burned or combusted in the turbines and the amount of fuel burned at each unit. This report shall be submitted to EQB to the attention of the Chief of the Validation and Data Management Division during the first 15 days of the month following the one for which the report is representative. PREPA Cambalache shall submit annually with the annual compliance certification, a summary of the information included in such reports year, showing the sulfur content in percent by weight and fuel consumption.
- F. Any deviation resulting from emergency or upset conditions as defined in section (e) of Rule 603 shall be reported within two working days. [Rule 603(a)(5)(ii)(a) of the RCAP]

- G. Pursuant to Rule 603 (a)(5)(ii)(b) of the RCAP, a notification will be required if a deviation occurs that results in the release of emissions of hazardous air pollutants for more than an hour in excess of the applicable limit, or a release of other regulated air pollutant in that continues for more than 2 hours in excess of the applicable limit. PREPA Cambalache shall notify EQB within 24 hours of the deviation. PREPA Cambalache shall also submit to the Board, within 7 days of the deviation, a detailed written report, which includes probable causes, time and duration of the deviation, remedial action taken, and steps, which are being taken to prevent a reoccurrence. [This condition is enforceable only by the State]
- H. PREPA shall submit a written report of all excess emissions to EQB and EPA for every calendar quarter. All quarterly reports shall be postmarked by the 30th day following the end of each quarter and shall include the information specified below:
1. The magnitude of excess emissions computed in accordance with 40 CFR Part 60.13(h), any conversion factor(s) used, and the date and time of commencement and completion of each time period of excess emissions.
 2. Specific identification of each period of excess emissions that occurs during startups, shutdowns, malfunctions, and fuel switching or transfers for each turbine unit. The nature and cause of any malfunction (if known) and the corrective action taken or preventive measures adopted shall also be reported.
 3. The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments.
 4. When no excess emissions have occurred or the monitoring systems have not been inoperative, repaired, or adjusted, such information shall be stated in the report.
 5. Results of quarterly monitor performance audits, as required in 40 CFR Part 60, Appendix F.
 6. Excess emissions indicated by monitoring systems, except during startup or shutdown shall be considered violations of the applicable emission limits.
 7. Excess emissions reports shall include but not limited to limit excess in opacity, NO_x, SO₂, NH₃, VOC, CO, PM/PM₁₀ and the following excesses:
 - * a. Any one-hour period during which the average steam to fuel ratio, as measured by the continuous monitoring system, falls below the optimum steam/water to fuel ratio established during the performance test or any period during which the fuel-bound nitrogen of the fuel is greater than the maximum nitrogen content allowed by the fuel-bound nitrogen allowed in this permit. This report shall include the average steam to fuel ratio, average fuel consumption, ambient conditions, gas turbine load, and nitrogen content

of the fuel during the period of excess emissions, and the graphs and figures developed under 40 CFR §60.335. [40 CFR §60.334(c)(1)]

- *
 - b. Any daily period during which the sulfur content of the fuel being fired in the gas turbines exceeds 0.15%.

- I. PREPA Cambalache shall submit one copy to EPA and two copies to EQB of all emission test reports within 60 days after performance of the emission test. [Rule 106(E) of the RCAP]

- J. PREPA Cambalache shall comply with the applicable notification requirements of 40 CFR §63.6145 and in 40 CFR part 63, subpart A by the dates specified unless it is determined that this regulation does not apply.

- K. PREPA Cambalache shall comply with the applicable notification requirements of 40 CFR §63.6645 and in 40 CFR part 63, subpart A by the dates specified.

- L. All reports and Quality Assurance Project Plans required by this permit shall be submitted to:
 - Manager, Air Quality Area
 - Environmental Quality Board of Puerto Rico
 - PO Box 11488
 - Santurce, Puerto Rico 00910

- M. The Board may, at its discretion or as required by EPA, require PREPA Cambalache to perform additional reporting to ensure compliance with the terms and conditions of this permit. [Rule 603(a)(5)(iii) of the RCAP]

Section IX - Insignificant Emission Units

Note: The following list of insignificant activities was provided by the permittee for a better understanding of its operations and layout. Since there is no requirement to update this list, activities may have changed since this filing; however, PREPA must include the list for insignificant activities, which are exempted because of size or production rate, and some may need a construction permit under Rule 203 of the RCAP.

Emission Unit ID	Description (Basis for exemption)
Two emergency generators with a capacity of 3,000 kW, Camb DG1 and Camb DG2	Less than 500 hours per year [Appendix B. 3.(O) of the RCAP]

Section X - Permit Shield

A. As specified under Rule 603(D) of the RCAP, compliance with the conditions of the permit shall be deemed compliance with any applicable requirement as of the date of permit issuance, but only if such applicable requirement is included and specifically identified in the permit. Moreover, the permittee shall be deemed in compliance with any other requirement specifically identified in the permit as “Non Applicable”.

(1) Non Applicable Requirements

Non applicable requirements		
State	Federal	Reason
Hazardous Air Pollutant Limits		See Section X, Part (B) of this Permit

(2) Reasons for Non Applicability

Coding for Non Applicability	
Code	Reason
Hazardous Air Pollutant Limits	No applicable requirements

B, The permit shield covers any alternate scenario as long as it is defined and allowed under the conditions of this permit.

Section XI - Permit Approval

By virtue of the authority conferred upon the Environmental Quality Board by the Public Policy Environmental Act, Law No. 416, September 22, 2004, and after verifying the administrative record and compliance with the Uniform Administrative Procedure Act, Law No. 170, August 12, 1988, as amended, the Clean Air Act, the Public Policy Environmental Act and the Regulation for the Control of Atmospheric Pollution, the Environmental Quality Board approves this permit subject to all the terms and conditions herein established.

In San Juan, Puerto Rico, March 20, 2006.

ENVIRONMENTAL QUALITY BOARD

/s/
Eugene Scott Amy
Vice-President

/s/
Julio I. Rodríguez Colón
Alternate Member

/s/
Carlos W. López Freytes, Esq.
President

APPENDIXES

Appendix I - Definitions and Abbreviations

I. Definitions:

1. **Permittee**-Person and/or entity to which the Puerto Rico Environmental Quality Board has emitted an Operating Permit for an Emission Source under Title V.
2. **Regulation**-Regulation for the Control of Atmospheric Pollution of the Environmental Quality Board.
3. **Responsible Official**-As defined in the Regulation for the Control of Atmospheric Pollution of the Environmental Quality Board.
4. **Title V**-Title V of the Clean Air Act (42 U.S.C. 7661)

II. Abbreviations

1. **AOS** – Alternate Operating Scenario
2. **Btu**-British Thermal Unit
3. **CEMS** – Continuous Emission Monitoring System
4. **CERCLA** – Comprehensive Environmental Emergency Response, Compensation & Liability Act
5. **CFR**-United States Code of Federal Regulations
6. **CMS** – Continuous Monitoring System
7. **CO**-Carbon Monoxide
8. **COMS** – Continuous Opacity Monitoring System
9. **dscf** - dry standard cubic feet
10. **EPA**-Environmental Protection Agency
11. **EQB**-Puerto Rico Environmental Quality Board
12. **H₂SO₄** – Sulfuric Acid
13. **HAP** – Hazardous Air Pollutant
14. **HHV** – High Heating Value
15. **LLV** – Low Heating Value
16. **Mn** - Manganese
17. **NAAQS**-National Ambient Air Quality Standards
18. **Ni** - Nickel

19. **NO_x**-Nitrogen oxides
20. **P** – Phosphorus
21. **PM** – particulate matter
22. **PM₁₀**-Particulate matter whose particulate diameter has a size of aerodynamic mass equal or less than ten (10) microns
23. **ppm** - parts per million
24. **ppmv** – parts per million by volume
25. **ppmvd** – parts per million by volume, dry basis
26. **PSD** – Prevention of Significant Deterioration
27. **QA/QC**-Quality Assurance/ Quality Control
28. **RCAP**-Regulations for the Control of Atmospheric Pollution of the Environmental Quality Board
29. **RMP** – Risk Management Program
30. **SCR** – Selective Catalytic Reduction
31. **SIC**-Standard Industrial Classification
32. **SO₂**-Carbon Dioxide
33. **VOC**-Volatile Organic Compound

APPENDIX II – Performance Tests Dates

Emission Unit ID	Date
Camb 1	June 18-24,1997 September 30-October 2, 1997
Camb 2	June 26-July 3, 1997
Camb 3	July 4-8, 1997
