

**COMMONWEALTH OF PUERTO RICO / OFFICE OF THE GOVERNOR**

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



<b>Permit Number:</b>	PFE-TV-4911-63-0796-0005
<b>Permit Application Received:</b>	July 24, 1998
<b>Permit Application Revision:</b>	May 12, 2004
<b>Issue and/or Effectiveness Date:</b>	February 24, 2008 <sup>1</sup>
<b>Expiration Date:</b>	February 24, 2013

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  
PREPA AGUIRRE POWER STATION  
SALINAS, PUERTO RICO**

hereinafter referred to as **PREPA Aguirre Power Station (PREPA Aguirre)** 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 Aguirre 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.

---

<sup>1</sup> The underlined conditions were revised or added by a reconsideration process. Their effective date will be December 12, 2008.

## TABLE OF CONTENTS

Section I	General Information	3
	A. Facility Information	3
	B. Description of Process	3
Section II	Description of Emission Units	4
Section III	General Permit Conditions	4
Section IV	Allowable Emissions	14
Section V	Permit Conditions	15
Section VI	Alternative Operating Scenarios	24
	Scenario 1	24
	Scenario 2	33
	Scenario 3	33
Section VII	Insignificant Emission Units	34
Section VIII	Permit Shield	36
	A. Non Applicable Requirement	36
	B. Reasons for Non-Applicability	36
Section IX	Permit Approval	37
Appendices		38
Appendices A	Definitions and Abbreviations	39

**Section I- General Information**

**A. Facility Information:**

Name of the Company:	Puerto Rico Electric Power Authority
Mailing Address:	P. O. Box 364267
City:	San Juan
State:	Puerto Rico
Zip Code:	00936-4267
Plant Name:	PREPA Aguirre Power Station
Physical Address:	Montesoria Ward PR-3 Km. 152.3 Aguirre, Salinas
Responsible Officer:	Carlos J. Castro Montalvo Electric System Director
Facility Contact Person:	Rafael Pérez Jiménez Steam Power Plant Manager  Edgardo González Borrero Combined Cycle Power Plant Manager  Ivan L. Monroig Morales Gas Turbine Power Plant Supervisor
Phone Number:	(787) 853-3903, (787) 853-3974, (787) 853-3956
Primary SIC Code:	4911

**B. Description of Process:**

The PREPA Aguirre power plant is located in southeast Puerto Rico adjacent to the town of Aguirre in the Montesoria Ward (PR-3 Km. 152.3). The facility consists of twelve fuel combustion sources located in one of the following three plant areas:

1. steam power plant consisting of two oil-fired steam electric units,
2. combined cycle power plant consisting of eight oil-fired gas turbines with two steam electric generators, and a
3. power block consisting of two oil-fired gas turbines.

The PREPA-Aguirre station receives no. 6, and no. 2 fuel oil from barges unloaded at the station's oil discharge docks in Jobos Bay. The fuel oils are stored in large on site tanks prior to being combusted to generate electricity. The significant emission units/points are the flue gas stacks for the twelve combustion sources and ten of the no. 2 fuel oil tanks.

The propane stored in the tanks within the facility is used for the ignition of the fuel oil burners in the boilers by means of a system known like flame initiators. This initiator process is used mainly during start-up, the process of ignition and shutdown of the boilers and in the case of cleaning or the maintenance of the burners.

The combined cycle plant consists of eight combustion turbines or gas turbines, which uses no. 2 fuel oil as fuel to generate electricity. As well, the combustion gases of the previous process pass through a Heat Recovery Steam Generator (HRSG), which produces the necessary steam to move the steam turbine and to produce additional electricity. The combination of four gas turbines and one steam turbine is known as combined cycle. Each combustion turbine can operate in the modality of combined cycle or the modality of simple cycle. Each gas turbine has a stack and each heat recovery has a stack.

The power block consists of two combustion turbines or oil-fired gas turbines that combust no. 2 fuel oil to generate electricity.

**Section II- Description of Emission Units**

The emission units regulated by this permit are the following:

Emission Unit ID	Description
AG1 and AG2	Two oil-fired boilers with steam/turbogenerators (The capacity of each boiler is 4,180 MMBtu/hr .)
CC1-1, CC1-2, CC1-3, CC1-4, CC2-1, CC2-2, CC2-3, CC2-4  AGGT2-1 and AGGT2-2	Eight oil-fired combustion turbines with HRSG and steam turbogenerators (The capacity of each combustion turbine is 607.5 MMBtu/hr.)  Two oil-fired combustion turbines (The capacity of each combustion turbine is 301.5 MMBtu/hr.)
R 5 and R 6	Distillate light fuel No.2 tanks
D1, D2, D3 and D4	
LDR1, LDR2, LDR3 and LDR4	

**Section III- General Permit Conditions**

- 1- **Sanctions and Penalties:** The permittee is obligated to comply with all terms, conditions, requirements, limitations and restrictions set forth in this permit. Any violation of the terms of this permit will be subject to administrative, civil or criminal penalties as established in the Puerto Rico Environmental Public Policy Act, Article 16 (Act Number 416, September 22, 2004, as amended).
  
- 2- **Right of Entry:** As specified under Rules 103 and 603(c)(2) of the RCAP, the permittee shall allow the EQB or an authorized representative, 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 sampling emissions of air quality and fuels; and
  - (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- **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.
- 4- **Data Availability:** As specified under Rule 104 of the RCAP, all emission data obtained by or submitted to the Board, 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 Board may deem appropriate.
- 5- **Emergency Plan:** As specified under Rule 107 of the RCAP, the permittee shall have available an Emergency Plan which must be consistent with adequate safety practices, and provides for the reduction or retention of the emissions from the plant during periods classified by the Board as air pollution 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 Board at any times.
- 6- **Compliance Certification:** As specified under Rule 602(c)(2)(ix)(C) of the RCAP, the permittee shall be submit each year a compliance certification (shall include also the Annual Emissions Report and Annual Fuel Consumption Report). This certification must be submitted to both the Board and the EPA<sup>2</sup> no later than the 1<sup>st</sup> of April of every year, covering the previous natural year. The compliance certification shall include, but is not limited to, the information required under Rule 603(c) of the RCAP.

---

<sup>2</sup>The certification to the EQB shall be mailed to: Manager, Air Quality Area, P.O. Box 11488, San Juan, PR, 00910. The certification to the EPA shall be mailed to: Chief, Enforcement and Superfund Branch, CEPD, US EPA- Region II, Centro Europa Building, 1492 Ponce de León Ave., Stop 22, Santurce, P.R. 00909.

- 7- **Regulation Compliance:** As specified under Rule 115 of the RCAP, any violation to said Regulation, or to any other applicable rule or regulation, shall be grounds for the Environmental Quality Board (EQB) to suspend, modify, or revoke any relevant permit, approval, variance or other authorization issued by the EQB according to the Law of Uniform Administrative Procedures.
- 8- **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 stationary source, or the modification of a major stationary source, or a major modification of a significant source, without obtaining first a location approval from the Board and without first demonstrating compliance with the National Ambient Air Quality Standards (NAAQS). This permit does not allow the construction of new minor sources without the required permit under Rule 203 of the RCAP.
- 9- **Open Burning:** As specified under the Rule 402 of the RCAP, the permittee 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.
- 10- **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 an *objectionable* odors that can be perceived in an area other than that designated for industrial purposes. (This condition is enforceable only by the State.)
- 11- **Permit Renewal Applications:** As specified under the Rule 602(a)(1)(iv) of the RCAP, the permittee's applications for permit renewal shall be submitted at least twelve (12) months prior to the date of permit expiration. A responsible official must certify all required applications consistent with paragraph (c)(3) of Rule 602.
- 12- **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 Board approves or denies a renewal application (Rule 605(c)(4)(ii) of the RCAP) but only in those cases where the permittee submits a complete renewal application at least twelve (12) months before the expiration date. (Rule 603 (a)(2), Rule 605 (c)(2) and Rule 605 (c)(4) 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 if a timely and complete renewal application is submitted.
  - (c) In the case that this permit is subject to any challenge by third parties, the permit shall remain in effect until the time it is revoked by a court of law with jurisdiction in the matter.
- 13- **Recordkeeping Requirement:** As specified under Rule 603(a)(4) of the RCAP, PREPA Aguirre 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 Aguirre 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.
- 14- **Reporting Requirement:** As specified under Rule 603(a)(5)(i) of the RCAP, the permittee shall submit the semi-annual reports of all required monitoring no later than October 1<sup>st</sup> and April 1<sup>st</sup> of every year, 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 must be certified by a responsible official as established under Rule 602(c)(3) of the RCAP.
- 15- **Deviations Reporting due to Emergencies:** As specified under Rule 603(a)(5)(ii)(a) of the RCAP, any deviation resulting from an upset (such as sudden malfunction or break-down) or emergency conditions, as defined in Rule 603(e) of the RCAP, must be reported within the next two (2) working days. Such notification may be used to assert an affirmative defense upon an enforcement action against the permittee. If the permittee raises the emergency defense upon an enforcement action, the permittee 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.

- 16- **Deviation Reporting (Hazardous Air Pollutants):** Pursuant to Rule 603(a)(5)(ii)(b) of the RCAP, a notification will be required if a deviation occurs that results in release of emissions of hazardous air pollutants for more than an hour in excess of the applicable limit. The permittee 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, the permittee shall notify the Board within 24 hours of the deviation. The permittee shall also submit to the Board, within seven (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.
- 17- **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.
- 18- **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.
- 19- **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.
- 20- **Permit Modification and Revocation:** As specified under Rule 603(a)(7)(iii) of the RCAP, the permit may be modified, revoked, reopened, reissued, or terminated for cause according to the Law of Uniform Administrative Procedures. The filing of a request by the owner or operator of the installation 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.
- 21- **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.

- 22- **Obligation to Furnish Information:** As specified under Rule 603(a)(7)(v) of the RCAP, the permittee shall furnish to the Board, within a reasonable time, any information that the Board may request in writing 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 Board copies of documents related to this permit.
- 23- **Changes in Operating Scenarios:** As specified under Rule 603(a)(10)(i) of the RCAP, the permittee shall be record in a logbook, contemporaneously with making a change from one operating scenario to another authorized in Section VI of this permit, the scenario under which it is operating. This logbook must be kept at the permittee's facility at all times.
- 24- **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 Board's failure to take final action on a permit application within eighteen (18) months. The Board'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.
- 25- **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.
- 26- **Permit Reopenings:** 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 determines 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 determines that the permit must be revised or revoked to assure compliance with the applicable requirements.
- 27- **Changes in Name and/or Ownership:** This permit is issued to **Puerto Rico Electric Power Authority** and/or **PREPA-Aguirre**. 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.
- 28- **Renovation 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 doing renovation or demolition activities of asbestos containing materials at the facility.
- 29- **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.
- (b) 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.
- (c) **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.
- 30- **Labeling of Products Using Ozone-Depleting Substances:** PREPA Aguirre shall comply with the standards for labeling of products using ozone-depleting substances pursuant to 40 CFR Part 82, subpart E.

- 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.
  - b) The placement of the required warning statement must comply with the requirements pursuant to §82.108.
  - c) The form of the label bearing the required warning statement must comply with the requirements pursuant to §82.110.
  - d) No person may modify, remove or interfere with the required warning statement except as described in §82.112.
- 31- **Compliance Clause:** Under no circumstances does compliance with this permit exempt PREPA Aguirre from complying with all other applicable state or federal laws, regulations, permits, administrative orders or applicable court orders.
- 32- **Annual Fee:** As specified under Rule 610 of the RCAP, **Puerto Rico Electric Power Authority** shall pay an annual fee<sup>3</sup> of **\$1,500,000.00** or the charge established by EQB, for all of the facilities included in the agreement between the Environmental Quality Board and Puerto Rico Electric Power Authority. This annual fee shall be submitted in two terms, the first payment must be submitted, on or before June 30 and the second payment, on or before January 1<sup>st</sup> of each year.
- 33- **Risk Management Plan (RMP):** If during the effectiveness of this permit, PREPA Aguirre is subject to the 40 CFR Part 68, PREPA Aguirre shall submit a Risk Management Plan (RMP) according with the compliance schedule in the 40 CFR §68.10. shall be presented. If during the effectiveness of this permit, PREPA Aguirre is subject to the 40 CFR Part 68, PREPA Aguirre shall submit a compliance certification with the requirements of part 68 as part of the annual compliance certification required under 40 CFR part 70, including the recordkeeping and the RMP.
- 34- **General Duty Requirements:** PREPA Aguirre has the general obligation of identifying hazards which may result from accidental releases of any controlled substance under section 112 (r) of the Clean Air Act or any other extremely hazardous substance in a process, using appropriate hazard assessment techniques, designing, maintaining and

---

<sup>3</sup>This amount of the annual fee is by Resolution R-06-17-8.

operating a safe facility and minimizing the consequences of accidental releases if they occur as required in section 112(r)(1) of the Act and Rule 107(D) of the RCAP.

- 35- **Permit Application:** The permit application and/or the portions thereof shall not be incorporated by reference into any draft or final permit issued by the Board.
- 36- **Reports:** Any requirement of information submittal to the Board shall be addressed to: Manager, Air Quality Area, P.O. Box 11488, San Juan, P. R. 00910.
- 37- **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 Aguirre, the affected source must comply with the applicable emission limitations and/or operating limitations of this subpart on or before March 4, 2004 if the source startup before this date or upon startup if your new or reconstructed affected source startup after this date, 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 Aguirre shall comply with the applicable notification requirements of 40 CFR §63.6145 and 40 CFR part 63, Subpart A by the dates specified.
- 38- **Emergency Electric Generators:**
- a) The operation for each emergency electric generator identified as insignificant activities are limited to 500 hours per year.
  - b) The permittee shall keep an annual record of the hours of operation and fuel consumption for each emergency electric generator. It shall be kept available at any time for inspection by EQB and EPA personnel.
- 39- **Particulate Fugitive Emissions:** As established in Rule 404 of the RCAP, PREPA Aguirre 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.

- 40- **Roof Surface Coating:** This is a state-only requirement. PREPA Aguirre shall not cause or permit the roof surface coating by applying hot tar or any other coating material containing organic compounds without previous notification to the Board. The use of used oil or hazardous waste for roof surface coating is prohibited.
- 41- **Storage Tanks:** PREPA Aguirre shall keep records of all fuel oil storage tanks listed as insignificant activities showing the dimensions of each tank and an analysis showing the capacity of each tank pursuant to the 40 CFR §60.116b. This documentation shall be readily available at any time for inspection of EQB personnel and shall be kept onsite for the life of the tank.
- 42- **Emissions Calculations:** PREPA Aguirre 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.
- 43- **Amendments 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 Aguirre 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 Aguirre Power Station to achieve compliance with the amendments or new regulations.
- 44- **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 and fines.
  - b) Nothing herein shall be construed to limit the rights of EPA or the Board to undertake any criminal enforcement activity against PREPA Aguirre 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.

c) Nothing herein shall be construed to limit PREPA Aguirre' 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.

45. **Reciprocating Internal Combustion Engines:** Any existing, new or reconstructed source that operates a stationary Reciprocating Internal Combustion Engines (RICE)<sup>4</sup> 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 Aguirre 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 start up 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 Aguirre shall comply with the applicable notification requirements of 40 CFR §63.6645 and in 40 CFR part 63, subpart A by the dates specified.

#### Section IV- Allowable Emissions

The allowable emissions authorized under this permit are mentioned below. The source shall certify annually that its actual emissions do not exceed the allowable emissions. This certification shall be based on the actual operation of the natural previous year and using the emission factors of AP-42 (Compilation of Air Pollutant Emission Factors) effective at the time of completing the TV application, that their emissions do not exceed the permissible emissions.

Criteria Pollutant	Allowable Emissions (tons /year)
PM	3,928
SO <sub>2</sub>	34,786
NO <sub>x</sub>	26,954.3
CO	2,369.1
VOC	629
HAP	85.28
Lead	2.4

<sup>4</sup> As defined on 40 CFR, §63.6585(a).

**Section V- Permit Conditions**

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

**A. Normal operating scenario.**

1. AG1 and AG2- Oil-fired boilers with steam/turbogenerators. PREPA Aguirre shall reduce fuel No. 6 fuel sulfur content in AG1 and AG2 to 0.5% by weight by March 1, 2007. [Compliance Schedule Approved]

(A) AG1 and AG2- Oil-fired boilers with steam/turbogenerators

Condition	Parameter	Value	Units	Test Method	Method Frequency	Record keeping Requirements	Reporting Frequency
Particulate matter emission limit	Particulate matter	0.3	Pounds/MMBtu	<u>Fuel type</u>	<u>Monthly</u>	Fuel type	Monthly
				<u>Method 5</u>	<u>During the first year of the change to this scenario.</u>	Record book	No later than 60 days after the performance of the test.
Visible Emissions	Visible emissions	20	Percent 6 minutes average	COMS	Continuous or no less frequent than every 15 seconds.	Continuous Record according to 40 CFR §60.7.	According to 40 CFR §60.7
				Method 9	Every two weeks.	Test results	Semiannually
Fuel Consumption Limit	No. 6 Fuel Oil	488,229,840	Gallons per year	Consumption	Daily	Record book	Monthly
Sulfur content limit	Sulfur Content	0.5	Percent by weight	Fuel sample	Daily	Sulfur percent records	Monthly
				Fuel Supplier Analysis	With each receipt	Daily Record of the sulfur content on fuel	

a. PARTICULATE MATTER EMISSION LIMIT:

- (i) 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]
- (ii) The permittee shall perform a performance test during the first year of the permit using Method 5 of the 40 CFR part 60, Appendix A in order to verify compliance with the standard. [Rule 603 (3) of the RCAP]
- (iii) The permittee must submit a test protocol to EQB 30 days prior to the start of the test, a detailed test protocol describing all test equipment, procedures and Quality Assurance (QA) measures to be used. The protocol must be specific to the test, facility, operating conditions and parameters to be measured. [Rule 106 (C) of the RCAP]
- (iv) The permittee must submit a written notification 15 days prior of the performance test in order to allow EQB to assign an observer. [Rule 106 (D) of the RCAP]
- (v) The permittee must submit a final report within 60 days after the performance test. [Rule 106 (E) of the RCAP]
- (vi) As specified in Rule 603(a)(4)(ii) of the RCAP, the permittee shall retain all records for required monitoring and supporting information for a period of five (5) years from the date of the monitoring sample, measurement, report or application.

b. VISIBLE EMISSIONS LIMIT:

- (i) The permittee shall not exceed the opacity limit of 20% for units AG1 and AG2 (six (6) minutes average), except for one period of not more than four minutes in any consecutive 30 minutes interval when the opacity shall not exceed 60%. [Rule 403(A) of the RCAP]
- (ii) PREPA Aguirre Power Station shall calibrate, maintain and operate a continuous opacity monitoring system (COM's) in each stack of the units AG1 and AG2 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 Aguirre Power Station 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 Aguirre shall take immediate corrective actions to eliminate the excess opacity. PREPA Aguirre shall maintain continuous records and submit the reports to EQB according to the requirements in the 40 CFR §60.7. If there is a conflict between the requirements established in this permit and the requirements in the 40 CFR §60.7, PREPA Aguirre shall comply with the more stringent requirement.

(iii) In addition to monitoring the opacity in the visible emissions with continuous opacity monitoring system (COMS), PREPA Aguirre shall perform an initial reading of opacity during the first year of the effectiveness of this permit and subsequently shall perform readings of visible emissions every two (2) weeks in accordance with the requirements that follows:

(A) The visible emissions readings shall be performed in accordance with 40 CFR Part 60 Method 9, Appendix A for a minimum of 6 minutes. The visible emission readers shall be certified according to Method 9 by a school approved by the Federal Environmental Protection Agency or by the Board.

(B) All visible emissions readings shall recorded in accordance with Method 9.

(C) When a visible emissions reader records, in accordance with Method 9, an average of 6 minutes of an opacity greater than 20%, PREPA Aguirre shall review the operating conditions of the units AG1 and AG2 and shall document the cause of the emissions with such opacity, correct any deficiency, and document the steps taken to correct any deficiency. This disposition will not apply to a 4 minutes period within 30 minutes interval, in which visible emissions with an opacity up to 60% may be emitted from a stack, according to Rule 403(A)(2) of the RCAP.

(D) If the day that corresponds to take the reading, the unit is not in operation or the conditions of Method 9 are not complied, PREPA Aguirre shall document this situation in the visible emissions record, and inform it in the summary of visible emissions to be submitted to the Board along with the semiannual report required in condition 14 of Section III of this permit. The next readings of visible emissions shall be performed within the period of every two weeks according to this condition, and the Conditions Table of the Section V(A)(1)(A).

(iv) PREPA Aguirre shall submit a report of the readings of visible emissions along with the semi-annual report required in Contition 14 of Section III of this permit. This report of the opacity readings shall include a summary of the results of the readings and the beginning and finishing hours of the reading and the dates in which the readings were realized. The report shall indicate if the unit was not operating the day that correspond to

the performing of the reading of visible emissions or that the conditions of Method 9 were not complied. The report shall also include the total number of the readings of visible emissions realized in that period for the units subject to this requirement. PREPA Aguirre shall retain a copy of the report of the readings of visible emissions that include date and hour of the reading by at least five years, in compliance with the Rule 603(A)(4)(ii) of the RCAP.

(v) As specified in Rule 603(a)(4)(ii) of the RCAP, the permittee shall keep all records of required monitoring data and supporting information for a period of five (5) years from the date of the monitoring sample, measurement, report or application. These include a record of visible emissions which contains the dates and times of inspections, as well as information about any corrective measures taken.

(vi) PREPA Aguirre shall submit to the Board, a copy of the format to be used to record the readings of visible emissions at least 30 days before the initial visible emissions reading.

c. FUEL CONSUMPTION LIMIT:

(i) The permittee shall not exceed the consumption limit of No. 6 fuel oil of **488,229,840 gallons** for any period of twelve (12) consecutive months for both boilers. The fuel consumption for any consecutive 12-month period shall be calculated by adding the monthly consumption for the unit to the total fuel consumption for the unit for the previous 11 months.

(ii) The levels of the fuel tank must be measured monthly and the amount of fuel that is received must be measured and recorded each time that the fuel is received. The amount of fuel consumption will be determine using the measurement in the levels of tank and the amount of fuel is received during this month.

(iii) As specified in Rule 603(a)(4)(ii) of the RCAP, the permittee shall retain all records of required monitoring data and supporting information for a period of five (5) years from the date of the monitoring sample, measurement, report or application. These include the records of the monthly and annual fuel consumption reports.

(iv) The permittee shall submit, with each annual compliance certification, an annual report summary indicating the fuel consumption of each turbine in term of the monthly and annual consumption.

d. SULFUR CONTENT LIMIT:

- (i) The permittee shall not burn or allow the use in any fuel equipment, any fuel with a sulfur content, by weight, which exceeds 0.5% in the boilers.
- (ii) The permittee shall keep a copy of the fuel supplier certification indicating the fuel sulfur content to demonstrate compliance with the requirement of keeping a daily record of the sulfur content in the no. 6 fuel oil. PREPA Aguirre shall obtain an analysis of the sulfur content with each receipt of fuel using the ASTM D4294 method.
- (iii) The permittee shall submit to EQB a monthly report indicating the daily fuel consumption and the sulfur content, by weight, for the fuel consumed. This report shall be submitted to the Board within the first 30 days of the month following for which the report is representative. The report shall be addressed to the Chief of the Validations and Data Management Division and shall keep available at any time at the facility for EQB and EPA revision. [Rule 410 of the RCAP]
- (iv) As specified in Rule 603(a)(4)(ii) of the RCAP, the permittee shall retain all records of required monitoring data and supporting information for a period of five (5) years from the date of the monitoring sample, measurement, report or application. These include a record of the results of fuel sampling, monthly fuel consumption reports and the sulfur content in the fuels burned.
- (v) PREPA Aguirre shall submit, with each annual compliance certification, a summary of the reports for that year indicating the sulfur content by weight for the fuels consumed monthly.

e. TRAINING REQUIREMENTS:

- (i) PREPA Aguirre shall ensure that PREPA employees in charge of the emission units AG1 and AG2 are properly trained in all operations of the emissions units and shall document the training provided.

2. **CC1-1, CC1-2, CC1-3, CC1-4, CC2-1, CC2-2, CC2-3, CC2-4**-Oil-fired combustion turbines with HRSG, and **AGGT2-1 and AGGT2-2**- Oil-fired combustion turbines

Condition	Parameter	Value	Units	Test Method	Method Frequency	Record keeping Requirements	Reporting Frequency
Particulate matter emission limit	Particulate matter	0.3	Pounds/MMBtu	<u>Fuel type and AP-42 emissions calculations</u>	<u>Monthly</u>	<u>Record book of fuel type and emissions calculations</u>	<u>Semiannually</u>
Visible Emissions	Visible emissions	20	Percent (6 minutes average)	Method 9	<u>Once during the first year of permit approval.</u>	Tests results	Semiannually
				<u>Visible emissions inspections</u>	<u>Every 14 days</u>	Record book	Semiannually
Sulfur Content Limit	Sulfur Content	0.5	Percent by weight	Fuel sample	Daily	Sulfur percent records	Monthly
				Fuel Supplier Analysis	With each receipt	Daily Record of the sulfur content on fuel	
Fuel Consumption Limit	No. 2-Distillate Oil	354,482,160	Gallons per year	Consumption	Daily	Record book	Monthly

a. PARTICULATE MATTER EMISSION LIMIT:

- (i) 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]
- (ii) PREPA Aguirre shall calculate the emissions of particulate matter monthly using applicable AP-42 (Compilation of Air Pollutant Emission Factors) emission factors to the unit and the average rate of fuel heat input.
- (iii) PREPA Aguirre shall also maintain in the facility a monthly report of the type of fuel used. Copy of these reports shall be submitted every six months along with the semi-annual report required in condition 14 of Section III of this permit.

(iv) As specified in Rule 603(a)(4)(ii) of the RCAP, the permittee shall retain all records for required monitoring and supporting information for a period of five (5) years from the date of the monitoring sample, measurement, report or application.

b. VISIBLE EMISSIONS LIMIT:

(i) The permittee shall not exceed the opacity limit of 20% (six (6) minutes average) for units CC1-1, CC1-2, CC1-3, CC1-4, CC2-1, CC2-2, CC2-3, CC2-4, AGGT2-1 and AGGT2-2, except for one period of not more than four minutes in any consecutive 30 minutes interval when the opacity shall not exceed 60%. [Rule 403(A) of the RCAP]

(ii) Because it is not viable to install the continuous opacity monitoring system (COMS) in these turbines, as an alternate test method, PREPA Aguirre shall contract an independent opacity reader, certified in a school approved by EPA or EQB, to perform one opacity reading to each stack of each combustion turbine units CC1-1, CC1-2, CC1-3, CC1-4, CC2-1, CC2-2, CC2-3, CC2-4, AGGT2-1 and AGGT2-2, during the first year of the permit using Method 9 established under 40 CFR part 60, Appendix A. The applicable combustion turbine shall be operating at the time of performance of the opacity readings.

(iii) PREPA Aguirre shall perform opacity visual inspections every 14 days during the hours of the day using a visible emissions reader certified by a school approved by EPA or the Board. When the certified reader establishes that the opacity limit is exceeded according to Rule 403 of RCAP, PREPA Aguirre shall verify that the equipment causing the visible emissions is operating in accordance with the specifications of the manufacturer and the conditions of the permit. If it is not operating adequately, PREPA Aguirre shall take corrective actions to eliminate the excess of opacity immediately, and shall document the cause of the emissions with such elevated opacity, shall correct any deficiency and shall document the taken steps to correct any deficiency. PREPA Aguirre shall realize tests of visible emissions every fourteen (14) days in accordance with the requirements listed below:

(A) The visible emissions readings shall be perform in accordance with 40 CFR Part 60 Method 9, Appendix A, for a minimum of six minutes. The visible emissions readers shall be certified according to Method 9 by a school approved by the EPA or the Board.

(B) All visible emissions readings shall be recorded in accordance with Method 9.

(C) If the day that corresponds to take the reading, the unit is not in operation or the conditions of Method 9 are not complied, PREPA Aguirre shall document it in the

report of readings and inform it in the visible emissions summary to be submitted to the Board along with the semi-annual reports required in Condition 14 of Section III of this permit. The next readings shall be realized every 14 days.

- (D) PREPA Aguirre shall submit a summary of the readings of visible emissions along with the semi-annual report required in Condition 14 of Section III of this permit. This report shall include a summary of the results of the readings and the beginning and ending hours and the dates in which the readings were performed. The report shall indicate if the unit were not operating the day that correspond to perform the readings of visible emissions or that is not comply with the conditions of Method 9. The report also shall include the total number of the readings of visible emissions realized in that period for the units subject to this requirement. PREPA Aguirre shall retain a copy of the report of the reading of visible emissions that include date and the hour of the reading by at least five (5) years, in compliance with the Rule 603(A)(4)(ii) of the RCAP.
- (iv) PREPA Aguirre shall submit to the Board, a copy of the format to be used to record the readings of visible emissions at least thirty (30) days prior to the reading of the initial opacity reading.
- (v) The permittee shall notify in writing the Board at least fifteen (15) days of prior of the initial reading of Method 9, to allow the EQB the opportunity to have an observer present. [Rule 106 (D) of the RCAP]
- (vi) Two (2) copies of the report of the initial reading under Method 9 shall be submitted by the permittee within 60 days after the tests. This report shall contain the information required in Rule 106 (E) of the RCAP. The requirements of the subsequent readings shall be submitted in the summary of readings that shall be submitted with the semi annual report of Condition 14 of Section III of the permit.
- c. SULFUR CONTENT LIMIT:
- (i) The permittee shall not burn or allow the use in any fuel burning equipment, any fuel with a sulfur content, by weight, which exceeds 0.5% in the ten (10) oil-fired combustion turbines (CC1-1, CC1-2, CC1-3, CC1-4, CC2-1, CC2-2, CC2-3, CC2-4, AGGT2-1 and AGGT2-2). [Rule 410 of the RCAP]
- (ii) The permittee shall keep a copy of the fuel supplier certification indicating the fuel sulfur content to demonstrate compliance with the requirement of keeping a daily record of the sulfur content in the no. 2 fuel oil. PREPA Aguirre shall sample the fuel upon every

delivery at the site for transfer to the storage tanks at the facility from any other source to verify sulfur content from supplier's invoice. The fuel sampling shall include but not be limited to determining the fuel's sulfur content (% by weight).

- (iii) The permittee shall submit to EQB a monthly report indicating the daily fuel consumption and the sulfur content, by weight, for the fuel consumed in the ten (10) oil-fired combustion turbines. This report shall be submitted to the Board within the first 30 days of the month following the month for which the report is representative. The report shall be addressed to the Chief of the Validations and Data Management Division of the Area of Evaluation and Strategic Planning, and shall keep available at any time at the facility for EQB and EPA revision. [Rule 410 of the RCAP]
- (iv) As specified in Rule 603(a)(4)(ii) of the RCAP, the permittee shall retain all records of required monitoring data and supporting information for a period of five (5) years from the date of the monitoring sample, measurement, report or application. These include a record of the results of fuel sampling, monthly fuel consumption reports and the sulfur content in the fuel burned.
- (v) The permittee shall submit, with each annual compliance certification, a summary of the reports for that year indicating the sulfur content by weight for the fuels consumed monthly.

d. FUEL CONSUMPTION LIMIT:

- (i) The permittee shall not exceed the consumption limit for No. 2 fuel oil of **354,482,160 gallons** for any period of twelve (12) consecutive months for the ten (10) oil-fired combustion turbines (CC1-1, CC1-2, CC1-3, CC1-4, CC2-1, CC2-2, CC2-3, CC2-4, AGGT2-1 and AGGT2-2). The fuel consumption for any consecutive 12-month period shall be calculated by adding the monthly consumption for the unit to the total fuel consumption for the unit for the previous 11 months.
- (ii) The levels of the fuel tank must be measured monthly and the amount of fuel that is received must be measured and recorded each time that the fuel is received. The amount of fuel consumption will be determine using the measurement in the levels of tank and the amount of fuel is received during this month.
- (iii) As specified in Rule 603(a)(4)(ii) of the RCAP, the permittee shall retain all records of required monitoring data and supporting information for a period of five (5) years from the date of the monitoring sample, measurement, report or application. These include the records of the monthly and annual fuel consumption reports.

- (iv) The permittee shall submit, with each annual compliance certification, an annual report summary indicating the fuel consumption of the turbines in term of the monthly and annual consumption.

**3. D1, D2, D3, D4 - Distillate (No. 2 oil) tanks**

- a. Storage Tanks Affected for Liquid Volatile Organic for Subpart Kb, Part 60, 40 CFR
  - (i) The permittee of each storage vessel as specified in §60.110b(a) shall keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel.

**Section VI - Alternative Operating Scenarios**

**1. Scenario 1**

PREPA Aguirre may increase fuel No. 6 fuel sulfur content in AG1 and AG2 to 0.75% by weight and the turbines CC1-1, CC1-2, CC1-3, CC1-4, CC2-1, CC2-2, CC2-3, CC2-4, AGGT2-1 and AGGT2-2 of oil fired combustion shall use No.2 fuel oil of 0.25% by weight.  
 [Compliance Schedule Approved]

(A) AG1 and AG2- Oil-fired boilers with steam/turbogenerators

Condition	Parameter	Value	Units	Test Method	Method Frequency	Record keeping Requirements	Reporting Frequency
Particulate matter emission limit	Particulate matter	0.3	Pounds/MMBtu	Fuel type	Monthly	Fuel type	Monthly
				Method 5	During the first year to the change to this scenario.	Record book	No later than 60 days after the performance of the test.
Visible Emissions	Visible emissions	20	Percent 6 minutes average	COMS	Continuous or no less frequent than every 15 seconds.	Continuous Record according to 40 CFR §60.7.	According to 40 CFR §60.7
				Method 9	Every two weeks	Test results	Semiannually

Condition	Parameter	Value	Units	Test Method	Method Frequency	Record keeping Requirements	Reporting Frequency
Fuel Consumption Limit	No. 6 Fuel Oil	488,229,840	Gallons per year	Consumption	Daily	Record book	Monthly
Sulfur content limit	Sulfur Content	0.75	Percent by weight	Fuel sample	Daily	Sulfur percent records	Monthly
				Fuel Supplier Analysis	With each receipt	Daily Record of the sulfur content on fuel	

a. PARTICULATE MATTER EMISSION LIMIT:

- (i) 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]
- (ii) During the first year from the change to this scenario, the permittee shall realize the performance test using Method 5 that appears in 40 CFR Part 60, Appendix A, in order to verify compliance with the standard. [Rule 603 (a)(3) of RCAP]
- (iii) The permittee must submit to the EQB 30 days prior to the start of the test, a detailed test protocol describing all test equipment, procedures and Quality Assurance (QA) measures to be used. The protocol must be specific to the test, facility, operating conditions and parameters to be measured. [Rule 106 (C) of the RCAP]
- (iv) The permittee must submit a written notification 15 days prior of the performance test in order to allow EQB to assign an observer. [Rule 106 (D) of the RCAP]
- (v) The permittee must submit a final report within 60 days after the performance test. [Rule 106 (E) of the RCAP]
- (vi) As specified in Rule 603(a)(4)(ii) of the RCAP, the permittee shall retain all records for required monitoring and supporting information for a period of five (5) years from the date of the monitoring sample, measurement, report or application.

b. VISIBLE EMISSIONS LIMIT:

- (i) The permittee shall not exceed the opacity limit of 20% for units AG1 and AG2 (six (6) minutes average), except for one period of not more than four minutes in any consecutive 30 minutes interval when the opacity shall not exceed 60%. [Rule 403(A) of the RCAP]
- (ii) PREPA Aguirre Power Station shall calibrate, maintain and operate a continuous opacity monitoring system (COM's) in each stack of the units AG1 and AG2 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 Aguirre Power Station 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 Aguirre shall take immediate corrective actions to eliminate the excess opacity. PREPA Aguirre shall maintain continuous records and submit the reports to EQB according to the requirements in the 40 CFR §60.7. If there is a conflict between the requirements established in this permit and the requirements in the 40 CFR §60.7, PREPA Aguirre shall comply with the more stringent requirement.
- (iii) In addition to monitoring the opacity in the visible emissions with continuous opacity monitoring system (COMS), PREPA Aguirre shall perform an initial reading of opacity during the first year of the effectiveness of this permit and subsequently shall perform readings of visible emissions every two (2) weeks in accordance with the requirements that follows:
  - (A) The visible emissions readings shall be performed in accordance with 40 CFR Part 60 Method 9, Appendix A for a minimum of 6 minutes. The visible emission readers shall be certified according to Method 9 by a school approved by the Federal Environmental Protection Agency or by the Board.
  - (B) All visible emissions readings shall recorded in accordance with Method 9.
  - (C) When a visible emissions reader records, in accordance with Method 9, an average of 6 minutes of an opacity greater than 20%, PREPA Aguirre shall review the operating conditions of the units AG1 and AG2 and shall document the cause of the emissions with such opacity, correct any deficiency, and document the steps taken to correct any deficiency. This disposition will not apply to a 4 minutes period within

30 minutes interval, in which visible emissions with an opacity up to 60% may be emitted from a stack, according to Rule 403(A)(2) of the RCAP.

- (D) If the day that corresponds to take the reading, the unit is not in operation or the conditions of Method 9 are not complied, PREPA Aguirre shall document this situation in the visible emissions record, and inform it in the summary of visible emissions to be submitted to the Board along with the semiannual report required in condition 14 of Section III of this permit. The next readings of visible emissions shall be performed within the period of every two weeks according to this condition, and the Conditions Table of the Section V(A)(1)(A).
- (iv) PREPA Aguirre shall submit a report of the readings of visible emissions along with the semi-annual report required in Contition 14 of Section III of this permit. This report of the opacity readings shall include a summary of the results of the readings and the beginning and finishing hours of the reading and the dates in which the readings were realized. The report shall indicate if the unit was not operating the day that correspond to the performing of the reading of visible emissions or that the conditions of Method 9 were not complied. The report shall also include the total number of the readings of visible emissions realized in that period for the units subject to this requirement. PREPA Aguirre shall retain a copy of the report of the readings of visible emissions that include date and hour of the reading by at least five years, in compliance with the Rule 603(A)(4)(ii) of the RCAP.
- (v) As specified in Rule 603(a)(4)(ii) of the RCAP, the permittee shall keep all records of required monitoring data and supporting information for a period of five (5) years from the date of the monitoring sample, measurement, report or application. These include a record of visible emissions which contains the dates and times of inspections, as well as information about any corrective measures taken.
- (vi) PREPA Aguirre shall submit to the Board, a copy of the format to be used to record the readings of visible emissions at least 30 days before the initial visible emissions reading.
- c. FUEL CONSUMPTION LIMIT:
- (i) The permittee shall not exceed the consumption limit for No. 6 fuel oil of **488,229,840 gallons** for any period of twelve (12) consecutive months for both boilers (AG1 and AG2). The fuel consumption for any consecutive 12-month period shall be calculated by adding the monthly consumption for the unit to the total fuel consumption for the unit for the previous 11 months.

- (ii) The levels of the fuel tank must be measured monthly and the amount of fuel that is received must be measured and recorded each time that the fuel is received. The amount of fuel consumption will be determine using the measurement in the levels of tank and the amount of fuel is received during this month.
  - (iii) As specified in Rule 603(a)(4)(ii) of the RCAP, the permittee shall retain all records of required monitoring data and supporting information for a period of five (5) years from the date of the monitoring sample, measurement, report or application. These include the records of the monthly and annual fuel consumption reports.
  - (iv) The permittee shall submit, with each annual compliance certification, an annual report summary indicating the fuel consumption of each turbine in term of the monthly and annual consumption.
- d. SULFUR CONTENT LIMIT:
- (i) The permittee shall not burn or allow the use in any fuel burning equipment, any fuel with a sulfur content, by weight, which exceeds 0.75% in the boilers.
  - (ii) The permittee shall keep a copy of the fuel supplier certification indicating the fuel sulfur content to demonstrate compliance with the requirement of keeping a daily record of the sulfur content in the no. 6 fuel oil. PREPA Aguirre shall obtain an analysis of the sulfur content with each receipt of fuel using the ASTM D4294 method.
  - (iii) The permittee shall submit to EQB a monthly report indicating the daily fuel consumption and the sulfur content, by weight, for the fuel consumed in the boilers. This report shall be submitted to the Board within the first 30 days of the month following for which the report is representative. The report shall be addressed to the Chief of the Validations and Data Management Division and shall keep available at any time at the facility for EQB and EPA revision. [Rule 410 of the RCAP]
  - (iv) As specified in Rule 603(a)(4)(ii) of the RCAP, the permittee shall retain all records of required monitoring data and supporting information for a period of five (5) years from the date of the monitoring sample, measurement, report or application. These include a record of the results of fuel sampling, monthly fuel consumption reports and the sulfur content in the fuels burned.
  - (v) PREPA Aguirre shall submit, with each annual compliance certification, a summary of the reports for that year indicating the sulfur content by weight for the fuels consumed monthly.

e. TRAINING REQUIREMENTS:

(i) PREPA Aguirre shall ensure that PREPA employees in charge of the emission units AG1 and AG2 are properly trained in all operations of the emissions units and shall document the training provided.

(B) CC1-1, CC1-2, CC1-3, CC1-4, CC2-1, CC2-2, CC2-3, CC2-4-Oil-fired combustion turbines with HRSG, and AGGT2-1 and AGGT2-2- Oil-fired combustion turbines

Condition	Parameter	Value	Units	Test Method	Method Frequency	Record keeping Requirements	Reporting Frequency
Particulate matter emission limit	Particulate matter	0.3	Pounds/MMBtu	<u>Fuel type and emissions calculations of AP-42</u>	<u>Monthly</u>	<u>Record book of fuel type and emissions calculations</u>	<u>Semiannually</u>
Visible Emissions	Visible emissions	20	Percent 6 minutes average	Method 9	<u>Once during the first year of permit approval.</u>	<u>Tests results</u>	Semiannually
				<u>Visible emissions inspections</u>	<u>Every 14 days</u>	<u>Record book</u>	Semiannually
SO <sub>2</sub> emission limit	Sulfur Content	0.25	Percent by weight	Fuel sample	Daily	Sulfur percent records	Monthly
				Fuel Supplier Analysis	With each receipt	Daily Record of the sulfur content on fuel	
Fuel Consumption Limit	No. 2-Distillate Oil	354,482,160	Gallons per year	Consumption	Daily	Record book	Monthly

a. PARTICULATE MATTER EMISSION LIMIT:

(i) 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]

- (ii) PREPA Aguirre shall calculate the emissions of particulate matter monthly using applicable AP-42 (Compilation of Air Pollutant Emission Factors) emission factors to the unit and the average rate of fuel heat input.
- (iii) PREPA Aguirre shall also maintain in the facility a monthly report of the type of fuel used. Copy of these reports shall be submitted every six months along with the semi-annual report required in condition 14 of Section III of this permit.
- (iv) As specified in Rule 603(a)(4)(ii) of the RCAP, the permittee shall retain all records for required monitoring and supporting information for a period of five (5) years from the date of the monitoring sample, measurement, report or application.

b. VISIBLE EMISSIONS LIMIT:

- (i) The permittee shall not exceed the opacity limit of 20% for units CC1-1, CC1-2, CC1-3, CC1-4, CC2-1, CC2-2, CC2-3, CC2-4, AGGT2-1 and AGGT2-2 (six (6) minutes average), except for one period of not more than four minutes in any consecutive 30 minutes interval when the opacity shall not exceed 60%. [Rule 403(A) of the RCAP]
- (ii) To install the continuous opacity monitoring system (COMS) in these turbines because of that are not viable, with alternate test method, the PREPA Aguirre shall contract an independent opacity reader, certified in a school approved by EPA or EQB, to perform one opacity reading to each stack of each combustion turbines (units CC1-1, CC1-2, CC1-3, CC1-4, CC2-1, CC2-2, CC2-3, CC2-4, AGGT2-1 and AGGT2-2), during the first year in vogue of the permit using Method 9 established under 40 CFR part 60, Appendix A. The applicable combustion turbines shall be operating at the time of performance of the opacity readings.
- (iii) PREPA Aguirre shall perform opacity visual inspections every 14 days during the hours of the day using a visible emissions reader certified by a school approved by EPA or the Board. When the certified reader establishes that the opacity limit is exceeded according to Rule 403 of RCAP, PREPA Aguirre shall verify that the equipment causing the visible emissions is operating in accordance with the specifications of the manufacturer and the conditions of the permit. If it is not operating adequately, PREPA Aguirre shall take corrective actions to eliminate the excess of opacity immediately, and shall document the cause of the emissions with such elevated opacity, shall correct any deficiency and shall document the taken steps to correct any deficiency. PREPA Aguirre shall realize tests of visible emissions every fourteen (14) days in accordance with the requirements listed below:

- (A) The visible emissions readings shall be perform in accordance with 40 CFR Part 60 Method 9, Appendix A, for a minimum of six minutes. The visible emissions readers shall be certified according to Method 9 by a school approved by the EPA or the Board.
- (B) All visible emissions readings shall be recorded in accordance with Method 9.
- (C) If the day that corresponds to take the reading, the unit is not in operation or the conditions of Method 9 are not complied, PREPA Aguirre shall document it in the report of readings and inform it in the visible emissions summary to be submitted to the Board along with the semi-annual reports required in Condition 14 of Section III of this permit. The next readings shall be realized every 14 days.
- (D) PREPA Aguirre shall sumbit a summary of the readings of visible emissions along with the semi-annual report required in Contition 14 of Section III of this permit. This report shall include a summary of the results of the readings and the beginning and ending hours and the dates in which the readings were performed. The report shall indicate if the unit were not operating the day that correspond to perform the readings of visibles emissions or that is not comply with the conditions of Method 9. The report also shall include the total number of the readings of visible emissions realized in that period for the units subject to this requirement. PREPA Aguirre shall retain a copy of the report of the reading of visible emissions that include date and the hour of the reading by at least five (5) years, in compliance with the Rule 603(A)(4)(ii) of the RCAP.
- (iv) PREPA Aguirre shall submit to the Board, a copy of the format to be used to record the readings of visible emissions at least thirty (30) days prior to the reading of the initial opacity reading.
- (v) The permittee shall notify in writing the Board at least fifteen (15) days of prior of the initial reading of Method 9, to allow the EQB the opportunity to have an observer present. [Rule 106 (D) of the RCAP]
- (vi) Two (2) copies of the report of the initial reading under Method 9 shall be submitted by the permittee within 60 days after the tests. This report shall contain the information required in Rule 106 (E) of the RCAP. The requirements of the subsequent readings shall be submitted in the summary of readings that shall be submitted with the semi annual report of Condition 14 of Section III of the permit.

c. SULFUR CONTENT LIMIT:

- (i) The permittee shall not burn or allow the use in any fuel burning equipment, any fuel with a sulfur content, by weight, which exceeds 0.25 percent in the ten (10) oil-fired combustion turbines.
- (ii) The permittee shall keep a copy of the fuel supplier certification indicating the fuel sulfur content to demonstrate compliance with the requirement of keeping a daily record of the sulfur content in the no. 2 fuel oil. PREPA Aguirre shall sample the fuel upon every delivery at the site for transfer to the storage tanks at the facility from any other source to verify sulfur content from supplier's invoice. The fuel sampling shall include but not be limited to determining the fuel's sulfur content (% by weight).
- (iii) The permittee shall submit to EQB a monthly report indicating the daily fuel consumption and the sulfur content, by weight, for the fuel consumed. This report shall be submitted to the Board within the first 30 days of the month following for which the report is representative. The report shall be addressed to the Chief of the Validations and Data Management Division and shall keep available at any time at the facility for EQB and EPA revision. [Rule 410 of the RCAP]
- (iv) As specified in Rule 603(a)(4)(ii) of the RCAP, the permittee shall retain all records of required monitoring data and supporting information for a period of five (5) years from the date of the monitoring sample, measurement, report or application. These include a record of the results of fuel sampling, monthly fuel consumption reports and the sulfur content in the fuels burned.
- (v) The permittee shall submit, with each annual compliance certification, a summary of the reports for that year indicating the sulfur content by weight for the fuels consumed monthly.

d. FUEL CONSUMPTION LIMIT:

- (i) The permittee shall not exceed the consumption limit for No. 2 fuel oil of **354,482,160 gallons** for any period of twelve (12) consecutive months for the ten (10) oil-fired combustion turbines. The fuel consumption for any consecutive 12-month period shall be calculated by adding the monthly consumption for the unit to the total fuel consumption for the unit for the previous 11 months.
- (ii) The levels of the fuel tank must be measured monthly and the amount of fuel that is received must be measured and recorded each time that the fuel is received. The amount

of fuel consumption will be determine using the measurement in the levels of tank and the amount of fuel is received during this month.

- (iii) As specified in Rule 603(a)(4)(ii) of the RCAP, the permittee shall retain all records of required monitoring data and supporting information for a period of five (5) years from the date of the monitoring sample, measurement, report or application. These include the records of the monthly and annual fuel consumption reports.
- (iv) The permittee shall submit, with each annual compliance certification, an annual report summary indicating the fuel consumption of the turbines in terms of the monthly and annual consumption.

## **2. Scenario 2**

- a. PREPA Aguirre will be authorized to fire natural gas as a primary or igniter fuel in all or any of the boilers AG1 and AG2, the units of combined cycle CC1-2, CC1-3, CC1-2, CC2-1, CC2-2, CC2-3, CC2-4, and the turbines AGGT2-1 and AGGT2-2, after a construction permit process under Rule 203 of the RCAP has been approved. If the change to this scenario results in a significant emission as defined in Rule 102 of the RCAP, the permittee shall obtain the approval of location in accordance to Rule 201 of RCAP before operating under this scenario. If the change of this scenario is considered affected by Prevention of Significant Deterioration (PSD), the permittee shall obtain a federal permit of pre-construction (PSD) before operating under this scenario. When operating under this scenario, the permittee shall comply with all the conditions imposed in the construction permit issued for this change and its subsequent revisions. Furthermore, the permittee shall incorporate to this Title V operation permit, the construction permits and the revisions issued, according to Rule 606 of RCAP.
- b. For the Alternative Operating Scenario 2, PREPA Aguirre shall comply with all the applicable requirements (monitoring, test methods and reporting) of the Normal Operating Scenario in Section V of this permit.

## **3. Scenario 3**

- a. PREPA Aguirre will be authorized to use additives injection during the operation of units AG1 and AG2, after a construction permit process under Rule 203 of the RCAP has been approved. If the change to this scenario results in a significant emission as defined in Rule 102 of the RCAP, the permittee shall obtain the approval of location in accordance to Rule 201 of RCAP before operating under

this scenario. If the change of this scenario is considered affected by Prevention of Significant Deterioration (PSD), the permittee shall obtain a federal permit of pre-construction (PSD) before operating under this scenario. When operating under this scenario, the permittee shall comply with all the conditions imposed in the construction permit issued for this change and its subsequent revisions. Furthermore, the permittee shall incorporate to this Title V operation permit, the construction permits and the revisions issued, according to Rule 606 of RCAP.

- b. For the Alternative Operating Scenario 3, PREPA Aguirre shall comply with all the applicable requirements (monitoring, test methods and reporting) of the Normal Operating Scenario in Section V of this permit.

**Section VII - Insignificant Emission Units**

Note: The following list of insignificant activities was provided by the permittee for a better understanding of its operations and layout. However, for insignificant activities, which are exempted because of size or production rate, a list of such activities must be included in the application.

<b>Emission Unit ID</b>	<b>Description (Basis for exemption)</b>
Tanks R1, R2, R3, S1, S2, LDS1, LDS2	Less than 1 ton/yr of VOC (each of one) [Appendix B(3)(ii)(P) of RCAP].
Non-treated tank and certified tanks (2)	Less than 1 ton/yr of VOC (each of one) [Appendix B(3)(ii)(P) of RCAP].
Security system and combined cycle emergency generators and diesel fire water pumps (2)	Less than 500 hrs/yr [Appendix B(3)(ii)(O) of RCAP].
Used oil, lube oils, hydrazine, aqueous ammonia, and cyclohexylamine tanks	Less than 10,000 gallons [Appendix B(3)(ii)(N) of RCAP].
Water treatment equipment sewers and drains	VOC in water less than 3,500 ppb [Appendix B(3)(ii)(L) of RCAP].
Fuel oil and light oil discharge docks	Less than 1 ton/yr of VOC (each) [Appendix B(3)(ii)(P) of RCAP].

<b>Emission Unit ID</b>	<b>Description (Basis for exemption)</b>
Acid and caustic soda tanks	Less than 10,000 gallons [Appendix B(3)(ii)(N) of RCAP].
Propane tanks	Less than 10,000 gallons [Appendix B(3)(ii)(N) of RCAP].
Gas turbine starting engines (2)	Less than 1 ton/yr of VOC, CO, PM <sub>10</sub> , and NO <sub>x</sub> and less than 2 ton/yr of SO <sub>2</sub> [Appendix B(3)(ii)(P) of RCAP]
Gas turbine fuel tanks	Less than 10,000 gallons [Appendix B(3)(ii)(N) of RCAP].
Fire water pump station	Less than 10,000 gallons [Appendix B(3)(ii)(N) of RCAP].
Three Emergency Power Generators with operation of less than 500 hrs/yr	Emergency generators with an operation rate equal to or less than 500 hrs/yr [Appendix B(3)(ii)(O) of RCAP]
Miscellaneous activities (such as those maintenances activities using internal combustion motors)	Less than 1 ton/yr [Appendix B(2) of RCAP].
Controlled substances	Appendix B 2 of the RCAP. Less than significance levels of Appendix E of the RCAP for lead, chromium, chlorine, arsenic, cadmium, manganese, mercury and nickel.
Raw water tanks and certified tanks (2)	Less than 1 ton/yr of VOC (each one) [Appendix B(3)(ii)(P) of RCAP].
Oil absorbent material (pads/rags)	Appendix B 2 of the RCAP. Less than significance levels of Appendix E of the RCAP for lead, chromium, chlorine, arsenic, cadmium, cobalt, manganese, mercury and nickel.
Starting engines fuel tanks	Less than 10,000 gallons [Appendix B(3)(ii)(N) of RCAP].

**Section VIII - Permit Shield**

- 1- 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.

A. Non Applicable Requirements

Non applicable requirements		
State	Federal	Reason
Hazardous Air Pollutant Limits		See Section VIII, Part (B) of this Permit
<u>Rule 106 (A) and (B) and (C) of the RCAP</u>		<u>See Section VIII, Part (B) of this Permit</u>
	Standards of Performance for Stationary Gas Turbines (40 CFR 60, Subpart GG)	See Section VIII, Part (B) of this Permit

B. Reasons for Non Applicability

Coding for Non Applicability	
Code	Reason
Hazardous Air Pollutant Limits	No applicable requirements
<u>Rule 106 (A), (B) and (C) of the RCAP only for the Method 9 required in this permit.</u>	<u>No applicable requirements. It is not apply because the Method 9 already it is established for these units.</u>
40 CFR 60 Subpart GG	Not applicable to sources built before October 3, 1977.

- 2- The permit shield covers any alternative operating scenario as long as it is defined and allowed under the conditions of this permit.

**Section IX - Permit Approval**

By virtue of the authority conferred upon the Environmental Quality Board by the Public Policy Environmental Act, Law Number 416, September 22, 2004, as amended, and after verifying the administrative record and compliance with the Uniform Administrative Procedure Act, Law Number 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, **December 2, 2008.**

**ENVIRONMENTAL QUALITY BOARD**

*/S/*

Eng. Noelia Rosa Jaime  
Vice President

*/S/*

Wanda E. García Hernández  
Alternate Member

*/S/*

Javier J. Rúa, Esq.  
Chairman

# **APPENDICES**

## **Appendix A- 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. **API**- American Petroleum Institute
2. **AP-42**- Compilation of Air Pollutant Emission Factors
3. **Btu**-British Thermic Unit
2. **CFR**-United States Code of Federal Regulations
3. **CO**-Carbon Monoxide
4. **EPA**-Environmental Protection Agency
5. **EQB**-Environmental Quality Board of Puerto Rico
6. **°F**-Fahrenheit degrees
7. **HAP**- Hazardous Air Pollutant
8. **HP**- Horsepower
9. **IP**- Institute of Petroleum
10. **MMBtu**- Million Btu
11. **NAAQS**-National Ambient Air Quality Standards
12. **NO<sub>x</sub>**- Oxides of nitrogen

13. **O<sub>2</sub>**- Oxygen
14. **OPM**- Operations and Preventive Maintenance
15. **PM**- Particulate matter
16. **PM<sub>10</sub>**-Particulate matter with particulate has an aerodynamic mass equal or less than ten (10) microns.
17. **ppb**- parts per billion
18. **ppm**- parts per million
19. **ppmw**- parts per million by weight
20. **PREPA**- Puerto Rico Electric Power Authority
21. **PSD**- Prevention of Significant Deterioration
22. **psid**- pound per square inch, differential
23. **psig**- pound per square inch, gauge
24. **QA**- Quality Assurance
25. **RCAP**- Regulations for the Control of Atmospheric Pollution of the Environmental Quality Board
26. **RMP**- Risk Management Plan
27. **sec**- seconds
28. **SIC**- Standard Industrial Classification
29. **SO<sub>x</sub>**- Sulfur Oxides
30. **SO<sub>2</sub>**- Sulfur Dioxide
31. **SSU**- Saybolt Universal Seconds
32. **VOC**-Volatile Organic Compound
33. **wt%**- weight percent