

COMMONWEALTH OF PUERTO RICO
PUERTO RICO ELECTRIC POWER AUTHORITY
SAN JUAN, PUERTO RICO

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ENVIRONMENTAL PROTECTION
AGENCY REGION III
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DEPP-APP

June 19, 2005

Mr. Steven L. Johnson
Administrator
Environmental Protection Agency
290 Broadway Ave.
New York, N.Y. 10007-1866

Subject: Petition to the Environmental Protection Agency Administrator to Object the Puerto Rico Electric Power Authority Central Cambalache Title V Operating Permit PFE-TV-4911-07-0897-0043

Dear Mr. Johnson:

The Puerto Rico Electric Power Authority (hereinafter PREPA) is hereby filing this Petition to the Environmental Protection Agency (hereinafter EPA) Administrator to object the issuance of the proposed and final Title V operating permit by the Puerto Rico Environmental Quality Board (hereinafter the PREQB) to the PREPA Central Cambalache (hereinafter the Petition). The proposed Title V operating Permit was issued as part of PREQB Interlocutory Resolution R-05-04-4 of February 23, 2005. **Exhibit 1.** The Final Title V Operating Permit was issued as part of Final Resolution R-05-14-5 of May 20, 2005. **Exhibit 2.** The Petition is filed pursuant to Part 70.8(d) of Volume 40 of the Code of Federal Regulations (hereinafter 40 CFR) and Rule 609 of the Regulation for the Control of Atmospheric Pollution (hereinafter the RCAP).

Based on the discussion that follows PREPA respectfully requests the EPA Administrator to receive and evaluate the Petition, and object the PREPA Central Cambalache Proposed and Final Title V Operating Permits above referenced, because the PREQB included in these permits' **applicable requirements**¹, conditions and limitations that were not part of the Draft Title V Operating Permit subject to the public review and comment period of 40 CFR Part 70.7(h) and Rule 609(a) of the RCAP.

¹

The term **applicable requirements** is defined in 40 CFR Part 70.2 and Rule 102 of the RCAP.

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I. INTRODUCTION

A. Permit Chronology

1. The PREPA Central Cambalache facility consists of three (3) simple cycle diesel turbines authorized to operate in two levels: base load (898 MMUTB/hr HHV and 847 MMUTB/hr LHV), and in reserve load (616MMUTB/hr HHV and 581 MMUTB/hr LHV). At present each unit uses fuel no. 2 with a sulfur content of 0.15% by weight, (information which is not included in the Final Title V Operating Permit. The PREPA Central Cambalache has a total electrical energy production capacity of 248 MW.

2. On August 13, 1993, PREPA filed the Preliminary Environmental Statement (hereinafter the P-EIS) for the construction of the PREPA Central Cambalache. On October 14, 1994, the PREQB issued the certification of compliance with the environmental impact statement review process (JCA-93-008AEE). Although the P-EIS for the Cambalache Turbines Project specified a steam injection system for the control of the nitrogen oxide (NO_x) emissions, EPA required PREPA to install a Selective Catalytic Reduction System (hereinafter the SCR) as part of the source's Best Available Control Technology (hereinafter the BACT) analysis. PREPA amended the P-EIS to that effect. On June 2, 1995, PREQB issued to PREPA a Location Approval and Construction Permit (hereinafter the Construction Permit) pursuant to Rules 201 and 203 of the RCAP. **Exhibit 3.** On July 31, 1995, EPA issued the PSD Permit and on December 5, 1996 approved a revision to such permit, pursuant to Part C of the Federal Clean Air Act, and 40 CFR Part 52.21. **Exhibit 4.** In July 1997, the Central Cambalache facility commenced operations.

3. On August 8, 1997, PREPA filed a timely and complete Title V operating permit application for the PREPA Central Cambalache. On October 16, 1998, the PREQB issued the Draft Title V Operating Permit (hereinafter the Draft Title V Operating Permit) and held public hearings on November 18, 1998 and January 13, 1999. **Exhibit 5.** PREPA attended the hearings and on March 12, 1999 filed its comments to the Draft Title V Operating Permit as authorized by the official who presided over these hearings. **Exhibit 6.**

4. From July 1997 to September 2001, PREPA Central Cambalache operated the combustion turbines with the SCR. During this period of time, in spite of PREPA's, the designer and manufacturer of the turbines (Alstom) and the designer and manufacturer of the SCR (the Englehard company) best efforts, the SCR system failed to operate according to design specifications. Although the SCR system was designed to control NO_x emissions to 10 ppm and a slip of ammonia not greater than 10 ppm, and was operated according to the manufacturer's instructions, it consistently produced levels of NO_x in excess of the 10 ppm. In order to solve this problem, PREPA and EPA Region 2 held several meetings in July 1998, March 1999, October 1999, January 2000, and March 2001.

5. As a result of these meetings, EPA and PREPA decided that the operation of the SCR as the NO_x control equipment was not compatible with the PREPA Central Cambalache turbine system; therefore EPA ordered the immediate removal of the SCR. EPA determined that the use of the SCR as an air pollution control equipment for NO_x emissions did not constitute BACT. In September 2001, EPA ordered the immediate removal of the SCR of the turbines and confirmed its decision through Compliance Order In the matter of Puerto Rico Electric Power Authority Cambalache, Puerto Rico, Index No. : CAA-02-2002-1002, issued to PREPA on October 24, 2001 (hereinafter the Compliance Order). **Exhibit 7.**

6. EPA issued the Compliance Order pursuant to Section 113(a)(3)(B) of the Federal Clean Air Act, Part C of this Act (that establishes the Prevention of Significant Deterioration Permit Program), and the agency's authority to require a BACT analysis. The Compliance Order in addition to determine that the SCR was not considered BACT for the turbines (Finding of Fact # 11), ordered PREPA the following: (1) to immediately cease using the SCR (Order A); (2) the turbines must comply with the emission limits for NO_x, H₂SO₄, PM and PM₁₀ submitted by PREPA in its June 28, 2001 revised BACT application; (3) PREPA should re-test for these parameters at each turbine (Order B); (4) Within 30 days after concluding the tests, PREPA must operate its turbines to achieve an emission rate no greater than 20% higher than the average emission levels achieved during the tests (Order D); and (5) PREPA should file a revised BACT application reflecting those emission rates (Order D).

7. The Compliance Order was notified to the PREQB. The PREQB did not request a conference to the EPA to inquire on the Order. The Authority agreed to and is complying with the Compliance Order.

8. As a result of the Compliance Order and the elimination of the SCR, on September 22, 2003 PREPA filed with EPA a modification to the PSD Permit. **Exhibit 8.** On April 16, 2004, PREPA filed a Request to Revise the Title V operating permit application. **Exhibit 9.** On March 31, 2004, PREPA filed with the PREQB the Request to Revise the Construction Permit. **Exhibit 10.** These documents contained the conditions and limitations established for the facility, according to the Compliance Order.

9. The Request to Revise the Construction Permit for PREPA Central Cambalache was filed at PREQB, long before the agency issued the Proposed Title V Operating Permit. By the time PREQB issued the Proposed and the Final Title V Operating Permits, EPA and PREQB had knowledge of the changes in the **applicable requirements** and in the PREPA Central Cambalache operations due to the Compliance Order. The Proposed and Final Title V Operating Permits failed to acknowledge that the Compliance Order as a matter of fact and law amended the **applicable requirements** of the PSD Permit, and of the Construction Permit, and that it established new **applicable requirements** with which PREPA Central Cambalache is obliged to comply with. Such **applicable requirements** should have been included in the Proposed and in the Final Title V Operating Permits.

B. The Proposed and Final Title V Operating Permits

1. The Proposed and Final Title V Operating Permits include **applicable requirements**, conditions and limitations that do not correspond to the current operations of the PREPA Central Cambalache. The present operational conditions and limitations of the PREPA Central Cambalache are known by EPA and the PREQB and are part of the modifications to the PSD Permit, and of the Requests to Revise the Construction Permit and the Title V operating permit application, already filed with the agencies. The Proposed and Final Title V Operating Permits with different **applicable requirements**, conditions and limitations adversely affect the operations of the PREPA Central Cambalache and force the source to report deviations and non compliance with the **applicable requirements** contained in the Proposed and Final Title V Operating Permits.

C. The Compliance Order

1. The Compliance Order issued pursuant to the PSD regulation, as a matter of fact and law modified the PSD Permit and amended PREPA Central Cambalache's **applicable requirements**, operational conditions and limitations. As a matter of fact and law, EPA eliminated the applicable requirement to operate a SCR as the control equipment for NO_x. However, the Proposed and Final Title V Operating Permits maintained the SCR and the related requirements. The Compliance Order established that the limits of emission for NO_x, H₂SO₄, PM and PM₁₀ shall be those established in the June 28, 2001 Request to Revise BACT for the PREPA Central Cambalache. These limits are: 42ppm, @ 15% O₂ for NO_x, 32 lbs/hr for H₂SO₄, 67 lbs/hr for PM and 54 lbs/hr for PM₁₀ for base load and 42 ppm for NO_x, 32 lbs/hr for H₂SO₄, 30 lbs/hr for PM and 55 lbs/hr for PM₁₀ for reserve load. The Compliance Order requires PREPA Central Cambalache to operate the turbines to reach emission rates no greater than 20% higher than the average emission levels achieved during the tests. These emission rates are: 42 ppm for NO_x, 32 lbs/hr for H₂SO₄, 20 lbs/hr for PM, and 51 lbs/hr for PM₁₀ for base load and reserve load. Neither the Proposed nor the Final Title V Operating Permits include the emission limitations and pollutant's emission rates established pursuant to the Compliance Order. The Proposed and Final Title V Operating Permits do not comply with the requirements of 40 CFR Part 70.6(a)(1) and Rule 603 of the RCAP, which require that a Title V operating permit contains the limits and requirements that assure compliance with the applicable requirements.

The EPA Administrator shall object the issuance of the Proposed and Final Title V Operating Permits and shall modify them to incorporate the **applicable requirements**, conditions, limitations and the pollutants emission rates established in the Compliance Order.

II. LEGAL BASIS FOR THE PETITION

A. The Public Petitions to the EPA Administrator Pursuant to 40 CFR Part 70.8

Pursuant to 40 CFR part 70.8(d), regarding public petitions to the EPA Administrator, if the EPA Administrator does not object in writing the Proposed Title V Operating Permit, within its 45 day review period, any person may petition the Administrator to make such objection. Such petition shall be made within 60 days after the expiration of the Administrator's 45-day review period. Any such petition shall be based on objections to the permit that were raised with reasonable specificity during the public comment period (unless it was impracticable to raise such objections within the period) or unless the grounds for such objections arose after such period.² These provisions were adopted by PREQB and incorporated in Rule 609 (e) (1) of the RCAP.³

EQB issued the proposed Title V operating permit for PREPA Central Cambalache. EPA did not object in writing the PREPA Central Cambalache Proposed Title V Operating Permit within its 45-days review period. PREPA is a person, according to Rule 102 of the RCAP. The term "person" is defined as *"any person natural or juridical, or group of persons, private or public including agencies, government bodies, municipalities and public quasi-public corporations."* PREPA attended the hearings held by PREQB during the Draft Title V operating permit public review process. PREPA filed comments to the Draft Title V Operating Permit. PREPA is a person who may petition the EPA Administrator to object the Proposed Title V Operating Permit and, in this case, the Final Title V Operating Permit. PREQB issued the Final Title V Operating Permit during the 60-days public petition review period. The Proposed Title V Operating Permit became the Final Title V Operating Permit on May 31, 2005.

III. CONDITIONS AND INFORMATION OF THE PROPOSED AND FINAL TITLE V OPERATING PERMITS THAT ARE PART OF THE PETITION

The comments and objections to the Proposed and Final Title V Operating Permits' conditions hereunder were impracticable to argue at the time the PREQB granted the public review period in 1998 and 1999. On other instances, the grounds to object these conditions arose

² 40 CFR Part 70.8 (d).

³ Rule 609(e)(1) of the RCAP states: *"If the Administrator does not object in writing under section (d) of Rule 609, any person may petition the Administrator within sixty (60) days after the expiration of the Administrator's 45-day review period to make such objection. Any such petition shall be based only on objections to the permit that were raised with reasonable specificity during the public comment period provided for in section (a) of Rule 609, unless the petitioner demonstrates that it was impracticable to raise such objections within such period, or unless the grounds for such objection arose after such period. "*

after such review period because the conditions were incorporated after the public review period ended. Most of the objections to these conditions are the result of EPA's Compliance Order.

A. Section I (B) – Process Description

1. PREPA respectfully requests that the EPA Administrator objects this Section and modifies it to indicate the following:

(a) Delete any reference to the SCR system from the description of the process, which requirement was eliminated by EPA's Compliance Order

(b) The Proposed and Final Title V Operating Permits shall recognize that PREPA Central Cambalache is not a major source of hazardous air pollutants (hereinafter HAPs) because it does not have the potential to emit HAPs above the major source thresholds values according to the Requests to Revise the Construction Permit and the Request to Revise the Title V Operating Application.

(c) The description of the source shall be revised to show that it is authorized to operate at two levels, base load (898 MMBtu/hr HHV and 847 MMBtu/hr LHV) and in reserve load (616 MMBtu/hr and 581 MMBtu/hr LHV).

B. Section II – Description of Emission Units

PREPA respectfully requests that the EPA Administrator objects that the description of the SCR is still part of the Table included in this Section as the control equipment for NO_x and the reference to its minimum efficiency of 80%, for the reasons explained in Part I of this Petition.

C. Section III – General Conditions

1) General Condition No. 41, on New Requirements or New Applicable Amendments, establishes that “[i]n case that a new regulation or an existing one is amended (state or federal) and PREQB determines that it applies to the facility, PREPA Cambalache shall comply with it as soon as it becomes effective.” On this matter we must indicate that the applicability of new regulations or amendments to existent is prospective and under any circumstances sources should be required to be in compliance of a new and amended existing regulation by the time of promulgation. The final permit must contain language to the effect that when new **applicable requirements** or new amendments to an existing facility comes in effect, reasonable time will be granted to PREPA so it can adjust its operations to the new requirements or to demonstrate its impossibility to fulfill the same. Otherwise, the condition would be arbitrary and capricious, and would violate the due process of law that guarantees the Constitutions of the United States and of the Commonwealth of Puerto Rico.

2) General Condition No. 33(G) refers to “copies of calibration and inspection information for the control equipment such as dust collectors and gas scrubbers”. PREPA respectfully requests the EPA Administrator to object this condition and modify it to eliminate the reference to the dust collectors and gas scrubbers, because the only control equipment at the source is the steam injection system, to control the NO_x emissions.

D. Section IV – Allowable Emissions

1) This Section IV of the Proposed and Final Title V Operating Permits require that the annual actual emissions certification be calculated using the emission factors of the AP-42 Compilation of Air Pollutant Emissions Factors (hereinafter the AP-42 emission factors) in effect at the time of filing the Title V operating permit application. However, as a result of the performance tests mandated by Compliance Order, new allowable emissions were calculated and included in the Request to Modify the PSD Permit, the Request to Revise the Construction Permit and the Request to Revise the Title V operating permit application. Accordingly, the potentials to emit the pollutants NO_x and CO were calculated using the data obtained from the continuous emissions monitoring system operated by the source and the emissions factors obtained from performance tests. Therefore, PREPA respectfully requests the EPA Administrator to object this Section and to modify it to allow that annual actual emissions be certified by using the emissions factors before mentioned.

2) The allowable emissions in the Table are the values initially submitted in the Title V operating permit application of August 18, 1997. These emissions were calculated using the AP-42 emission factors and emission factors guaranteed by the manufacturer when these units were constructed. The potential to emit of the CAPs was based on operational conditions different from present conditions. This Table must be revised according to the Request to Modify the PSD Permit, the Request to Revise the Construction Permit and the Request to Revise the Title V operating permit application, already filed with the agencies. To be consistent with these requests the allowable emissions to be included in the Final Title V Operating Permit of the PREPA Central Cambalache shall be the following:

Criteria Pollutants	Allowable Emissions (tons/year)
PM	263
SO ₂	1,800
NO _x	1,801
CO	713
VOC	180
Pb	0.3
PM ₁₀	670

HAPs	Allowable Emissions (tons/year)
Manganese	0.030
Nickel	0.059
Phosphorus	3.54
Formaldehyde	3.304
Total HAPs (including Mn, Ni, P and Formaldehyde)	8.27

According to the above mentioned allowable emissions, PREPA Central Cambalache is not a major source of HAPs and PREPA respectfully requests the EPA Administrator to object any reference in the Proposed and Final Title V Operating Permits to the effect that the source is a major source of HAPs.

E. Section V – Specific Permit Conditions

1) Specific Condition (2)(A): Emission Limit for PM and PM₁₀ – PREPA, respectfully requests that the EPA Administrator objects this condition and modifies it to reflect the PM and PM₁₀ emission limitations included in the Request to Modify the PSD Permit, the Request to Revise Construction Permit and the Request to Revise Title V operating permit application. Accordingly, the emission limits for PM/PM₁₀ must be the following:

“The PM emissions shall not exceed 20 lbs/hr in the heat entrance level in base load. The PM concentrations shall not exceed 0.0047 gr/dscf in the heat entrance level in base load. The emissions PM₁₀ shall not exceed 51 lbs/hr in the heat entrance level in base load. The PM₁₀ concentrations shall not exceed 0.0120 gr/dscf in the heat entrance level in base load.”

2) Specific Condition (A)(4): Opacity Limit – Paragraph (b) of this condition requires that an opacity reading to each turbine’s chimney or to any common chimney be conducted by an independent opacity reader according to EPA Method 9 during the first year of the permit. PREPA understands that these opacity readings can be performed by any of PREPA's certified opacity readers. Paragraph (c) requires the preparation of a sampling protocol to conduct the opacity readings of Paragraph (b). EPA Method 9 to which Paragraph (b) makes reference to does not require the sampling protocol of Rule 106 of the RCAP. Thus, PREPA requests the EPA Administrator to object these conditions and eliminate the requirements that opacity readings be performed by independent readers. The same requests are incorporated herein and made part hereof for Paragraphs (d) and (e) of this condition related to sampling protocols. Paragraph (f) seems to be the mistaken incorporation of a condition of BMSMC-Humacao in the PREPA Central Cambalache permit that should also be eliminated.

3) Specific Condition (A) (6): Sulfur Content Limit – Paragraph (d) of this condition establishes that the fuel consumption report shall be submitted the first 15 days of the following month for which the report is representative. PREQB authorized PREPA to file this report within the 30 days of the following month for which the report is representative by means of Resolution R-96-1-1 of January 2, 1996. **Exhibit 11.** PREPA respectfully requests the EPA Administrator to object this condition and revise and modify it as per authorized in PREQB Resolution R-96-1-1. PREPA respectfully requests the EPA Administrator to object and modify any other permit provision in the alternate operating scenarios included in the Proposed and Final Title V Operating Permits according to the comments and petition before mentioned.

4) Specific Condition (A)(7): NO_x Emission Limit – The NO_x emission limits shall be revised according to the limitations established by the performance tests conducted pursuant to the Compliance Order, which limitations are included in the Requests to Modify the PSD Permit, Revise the Construction Permit and the Title V operating permit application. According to these documents such NO_x emissions limitations shall be the following:

“The emissions of NO_x will not exceed 147.7 lbs/hr calculated like NO₂. The concentrations of NO_x in exit gases will not exceed 42 ppm by volume, dry base (ppmvd), corrected to 15% of O₂.”

5) Specific Conditions (A)(13): Ammonia Emission Limit; (A)(16) Continuous Monitoring System, Paragraph (a)(v); (A)(17): Control Equipment, Paragraph (a)(ii), (A)(18) Selective Catalytic Reduction System - PREPA respectfully requests that the EPA Administrator objects these Specific Conditions and modifies them according to the Request to Modify the PSD Permit, the Request to Revise the Construction Permit and the Request to Revise the Title V operating permit application. These conditions are no longer applicable to PREPA Central Cambalache since the SCR has been removed and the injection of ammonia was also discontinued, pursuant to the EPA Compliance Order. PREPA respectfully requests the EPA Administrator to object this condition and eliminate any permit condition related to the operation and maintenance of the SCR from the Final Title V Operating Permit.

6) Specific Condition (a) (15): Fuel Consumption - The Table shows a fuel limit of 1,261 lbs/hr HHV. PREPA respectfully requests the EPA Administrator to object the HHV reference to the fuel limit and to eliminate such reference from this condition because the HHV term is related to the fuel heating value and the limit of 1,261 lbs/hr is a flow rate.

7) Specific Condition (A) (22): – PREPA respectfully requests the EPA Administrator to object and modify this condition to include the operating conditions for the start-up and shut-down alternate operating scenario, and the limits for NO_x and CO for this scenario included in the Request to Modify the PSD Permit, the Requests to Revise the Construction Permit and the Title V operating permit application, already filed with the agencies.

F. Section VI – Alternate Operating Scenarios

1) Specific Condition (2)(a): Operating Hours – PREPA respectfully requests the EPA Administrator to object the 2000 hrs/year by unit limitation to allow the operating schedule of 6000 hrs/year for the three units according to the Request to Modify the PSD Permit and the Requests to Revise the Construction Permit and the Title V operating permit application.

2) Specific Condition 3: PM y PM₁₀ Emission limits – PREPA respectfully requests the EPA Administrator to object this permit condition and modify the emission limits for the PM and PM₁₀ according to the Request to Modify the PSD Permit and the Requests to Revise the Construction Permit and the Title V operating permit application. According to these documents the PM/PM₁₀ limits must be the following:

“The PM emissions shall not exceed 20 lbs/hr in the heat entrance level at 60% load. The PM concentrations shall not exceed 0.0055 gr/dscf in the level entrance load of 60%. The emissions of 51 PM₁₀ will not exceed lbs/hr at 60% load level. The PM₁₀ concentrations will not exceed 0.0141 gr/dscf in the heat entrance level at a 60% load.”

G. Section VII(A) – Record Keeping

1) Paragraphs 14 and 15 – Due to the removal of the SCR control equipment, these conditions are no longer applicable, thus, PREPA respectfully requests the EPA Administrator to object these paragraphs and delete them from the Final Title V Operating Permit.

H. Section VIII – Required Reporting Requirements

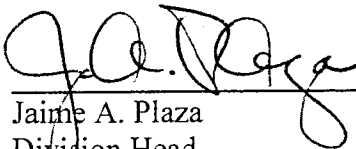
For Paragraph B (Calculations of Emissions), comments for Section IV in Part III D(1) and (2) of this document are hereby incorporated and made part of PREPA's Petition pertaining to this paragraph. For Paragraph E (Fuel Consumption Monthly Report) the comments included in Section V in Part III E(3) are hereby incorporated and made part of PREPA's Petition pertaining to this paragraph. Specific Conditions (A)(6) on sulfur content limit that appears in Part III(E)(4) of this document are hereby incorporated and made part of PREPA's Petition pertaining to this paragraph. As for Paragraph H(7)(A), PREPA requests the following sentence be corrected “The report will include the average water rate to fuel”, to replace the word water by steam. The sentence should read: “This report will include the average steam rate to fuel.” PREPA respectfully requests the EPA Administrator to object Paragraph (H)(7)(b) and revise and modify it to indicate that the sulfur content is 0.15% by weight instead of 0.8%, as permitted by the agencies.

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WHEREFORE, PREPA respectfully requests the EPA Administrator to receive and evaluate this Petition, object the PREPA Central Cambalache Proposed and Final Title V Operating Permits' **applicable requirements**, conditions and limitations discussed above, and for the arguments aforesaid, modify them according to Petition and pursuant to 40 CFR Part 70.8(d) and Rule 609(e) of the RCAP.

RESPECTFULLY SUBMITTED.

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Jaime A. Plaza
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Enclosures

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