

Commonwealth of Puerto Rico
Office of the Governor
Puerto Rico Environmental Quality Board



Nitrogen Dioxide
Infrastructure SIP
Requirements of Clean
Air Act Section
110(a)(2)

Air Quality Area

Proposal

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Acronyms

AQS: Air Quality System

CAA: Clean Air Act

EPA: Environmental Protection Agency

NAAQS: National Ambient Air Quality Standards

NSR: New Source Review

PR: Puerto Rico

PRWRA: Puerto Rico Water Resources Authority

PREQB: Puerto Rico Environmental Quality Board

PRPPEA: Puerto Rico Public Policy Environmental Act

PSD: Prevention of Significant Deterioration

RCAP: Regulation for the Control of Atmospheric Pollution

SIP: State Implementation Plan

SLAMS: State and Local Air Monitoring Stations

SPM: Special Purpose Monitoring

LEGAL AUTHORITY

The Puerto Rico Public Policy Environmental Act (Law No. 9 of June 18, 1970 as revoked by Law 416 of September 22, 2004, as amended) et. Seq., established an administrative agency known as the Puerto Rico Environmental Quality Board of the Commonwealth of Puerto Rico, herein after referred as the PREQB. By means of the before mentioned Act the environmental functions of the Government of the Commonwealth of Puerto Rico have been centered in the PREQB. The PREQB has very broad power which range from the establishment of a state-wide environmental policy through its rule making powers to functional operations which encompass, among other duties, the actual implementation of the Public Policy Environmental Act (PRPPEA), the issuance of cease and desist orders, and the power to hold quasi-judicial hearings.

The PRPPEA confers to the PREQB all the legal authority to carry out the infrastructure implementation plan required by the Clean Air Act (CAA), as amended. The legal authority granted by the PRPPEA is currently and immediately available to the PREQB which is directly responsible for developing and carrying out said infrastructure implementation plan.

In its guidelines for infrastructure implementation plans, the Environmental Protection Agency (EPA) has identified elements of needed legal authority. The elements are set forth here, followed in each case by references to local statutory sections that are believed to confer this authority in Article 9.

1. Authority to *adopt emissions standards and limitations and any other necessary for attainment and maintenance of national (ambient air quality) standards*
2. Authority to *enforce applicable laws, regulations, and standards, and seek injunctive relief*
3. Authority to *abate pollutants emissions on an emergency basis to prevent substantial endangerment to the health of persons*

4. Authority to *prevent constructions, modifications, or operation of any stationary and any location where emissions from such source will prevent the attainment or maintenance of a national ambient air quality standards (NAAQS)*
5. Authority to *obtain information necessary to determine whether air pollution sources are in compliance with applicable law, regulations, and standards, including authority to require recordkeeping and to make inspections and conduct test of air pollution sources.*
6. Authority to *require owners or operators of stationary sources to install, maintain, and use emissions devices and to make periodic reports to the state on the nature and amounts of emissions from such stationary sources; also authority for the State to make such data available to the public as reported and as correlated with applicable emissions standards or limitations.*

The PREQB has promulgated rules implementing statutory authority to meet the requirements of both the CAA and PRPPEA. These regulations are compiled on the Regulation for the Control of Atmospheric Pollution (RCAP) of July 26, 1995, as amended.

The RCAP was developed to preserve the natural quality of the air, and to prevent, eliminate and control atmospheric pollution: to establish standards and requirements for the prevention, elimination, and control of atmospheric pollution.

For convenient reference a copy of the full official text of Law 416 is attached as a support document.

Introduction and Background

Sections 110 (a)(1) and (2) of the Clean Air Act (CAA), hereafter referred to as the *Infrastructure* State Implementation Plan (SIP) requirements, requires states to submit an implementation plan to the EPA Administrator that provides and demonstrates their ability to implement, maintain, and enforce each national ambient air quality standards (NAAQS). Section 110(a)(1) of the Clean Air Act addresses the timing requirement for the submissions of any Infrastructure SIP revisions Section 110(a)(2) lists the elements required that a state needs to demonstrate its authority for implementing plan. Several of the elements in 110(a)(2) specifically address the need for states to demonstrate the ability to implement, maintain, and enforce the air quality standards. These elements are compiled and submitted in what is referred to as an *infrastructure* SIP and are but are not limited to, air quality monitoring, data analysis, and reporting; enforcement; resources; consultation; emergency procedures; and issues related to transport. This document is the infrastructure SIP for the revised 2010 annual nitrogen dioxide Air Quality Standards. This document also supplements any PREQB's previous NO₂ SIP submittal.

The elements of 110(a)(2) are listed below.

- I. Enforceable Emission Limitations and Other Control Measures [CAA§ 110(a)(2)(A)]
- II. Air Quality Monitoring, Compilation, Data Analysis, and Reporting [CAA§ 110(a)(2)(B)]
- III. Enforcement and Stationary Source Permitting [CAA§ 110(a)(2)(C)]
- IV. Interstate Transport [CAA§ 110(a)(2)(D)]
- V. Resources, Conflict of Interest, and Emergency Backstop [CAA§ 110(a)(2)(E)]
- VI. Stationary Source Emissions Monitoring and Reporting [CAA§ 110(a)(2)(F)]
- VII. Emergency Powers and Contingency Plans [CAA§ 110(a)(2)(G)]
- VIII. SIP Revision for Revised Air Quality Standards or New Attainment Methods [CAA§ 110(a)(2)(H)]
- IX. SIP Revisions for New Nonattainment Areas [CAA§ 110(a)(2)(I)]

- X. Consultation and Public Notification [CAA§ 110(a)(2)(J)]
- XI. Air Quality Modeling and Reporting [CAA§ 110(a)(2)(K)]
- XII. Major Stationary Source Permitting Fees [CAA§ 110(a)(2)(L)]
- XIII. Consultation with Local Entities [CAA§ 110(a)(2)(M)]

Elements Demonstrations

Section 110(a)(2) of the CAA Amendments of 1990 provides a detailed listing of various requirements for Puerto Rico's SIP regarding the NAAQS. Below, each subparagraph is broken down, with various provisions supporting the requirements. The purpose of this section is to demonstrate that Puerto Rico had the authority to implement its Infrastructure SIP requirements outlined in the EPA's guidance documents with respect to Nitrogen Dioxide NAAQS.

I. Enforceable Emission Limitations and Other Control Measures

Include enforceable emission limitations and other control measures, means, or techniques (including economic incentives such as fees, marketable permits, and auctions of emissions rights), as well as schedules and timetables for compliance.

[CAA § 110(a)(2)(A)]

PR Requirement:

The PREQB has promulgated rules to implement and enforce the NAAQS and other air quality standards. These rules include programs for permits and fees

The following parts of the Regulation for the RCAP contain rules relevant for these federal requirements:

Part I: General provisions

Part II: Approval and permits

Part IV: Prohibitions

Part V: Fees

Part VI: Operations Permits Rules for Title V Sources

II. Air Quality Monitoring, Compilation, Data Analysis, and Reporting:

Provide for establishment and operation of devices, methods, systems, and procedures to: (i) monitor, compile, and analyze data on ambient air quality, and (ii) make such data available to EPA. [CAA § 110 (a)(2)(B)]

PR Requirement:

As early as 1959, Puerto Rico has monitored air pollutants. Prior to the CAA of 1970, the Puerto Rico Water Resources Authority (PRWRA) conducted air monitoring. In 1978, the PREQB assumed responsibilities for ambient air monitoring to facilitate the identification and control of air contaminants in PR.

PREQB prepare an annual ambient monitoring network plan and periodic network assessment in accordance with 40 CFR 58.10. The purpose of the annual ambient monitoring network plan is two-fold. First, the plan confirms that the network continues to meet the State and Local Air Monitoring Stations (SLAMS) criteria established by federal regulations, and that the information in the state and federal monitoring records properly classify each monitoring station. Second, the plan serves as a directory of existing State and Local Air Monitoring Stations (SLAMS), Special Purpose Monitoring (SPM), and the meteorological parameters performed at each location.

Puerto Rico's authority to monitor ambient air quality is found in Law 416 for September 22, 2004, as amended Article 9(A) Section (4), et seq.

Agreement between EPA and the PREQB establishes the obligation to operate an ambient monitoring network that complies with applicable federal regulation(s). No specific statutory or regulatory authority is necessary to authorize data analysis or the submission of such data to EPA. Federal grant requirements establish the obligation to provide data to EPA.

Since no area of the United States is designated nonattainment according to the EPA action of January 20, 2012, the PREQB will not be conducting any modeling or modeling analysis for this SIP revision.

The existing nitrogen dioxide (NO₂) monitoring stations were installed at their current locations based on a combination of emissions inventories and population centers. The PREQB operates two (2) nitrogen oxide (NO₂) sites in the air-monitoring network. The NO₂ samplers are operated year-round and the measurements are sent to the EPA AQS on an hourly basis. The SLAMS NO₂ sites are used as a Federal Reference Method (FRM). The sites are located at Cataño (72-033-0008) and Salinas (72-123-0002). The NO₂ stations at Cataño re-started on February 9, 2012 and the Salinas site will start in 2013.

In compliance with the revised new short-term standard, PREQB proposes to install two (2) monitors at locations where maximum NO₂ concentrations are expected to occur, including within 50 meters of major roadways, as well as monitors that will be sited to measure the area-wide NO₂ concentrations that occur more broadly across communities.

PREQB has and will continue to submit data to EPA's Air Quality System (AQS) in timely manner in accordance with EPA's AQ data reporting regulation.

III. Enforcement and Stationary Source Permits:

Include a program to provide for enforcement of measures in (A), and regulation of the modification and construction of any stationary source within the areas covered by the plan as necessary to assure that NAAQS are achieved, including a permit program as required in parts C and D. [CAA § 110(a)(2)(C)]

PR Requirement:

The PREQB has established rules governing the enforcement of control measures, including attainment plans and permitting programs that regulate construction and modification of stationary sources. EPA Region 2 is the permitting authority for PR PSD Program.

The following parts of the RCAP contain rules relevant for these federal requirements:

Part I: General Provisions

- Rule 103: Source Monitoring, Record Keeping, Reporting, Sampling and Testing Methods
- Rule 105: Malfunction
- Rule 106: Test Method
- Rule 107: Air Pollution Emergencies
- Rule 108: Air Pollution Control Equipments
- Rule 109: Notice of Violation
- Rule 111: Applications, Hearings, Public Notice
- Rule 112: Compliance Determination / Certification
- Rule 115: Punishment
- Rule 119: Derogation
- Rule 120: Separability Clause

Part II: Approval and Permits

- Rule 201: Location Approval

- Rule 202: Air Quality Impact Analysis
- Rule 203: Permit to Construct a Source
- Rule 204: Permit to Operate a Source
- Rule 205: Compliance Plan for Existing Emission Sources
 - Rule 207: Continuing Responsibility for Compliance

Part IV: Prohibitions

Part V: Fees

- Rule 501: Permit Fees
- Rule 502: Excess Emissions Fees
- Rule 503: Test Fees
- Rule 504: Modification

Part VI: Operations Permits Rules for Title V Sources

For existing sludge incineration unit in Puerto Rico (PRASA Puerto Nuevo) PREQB is working in the submission of the Emissions Guidelines and Compliance Schedules in 40 CFR Part 60 Subpart MMMM. This regulation establishes a limit for nitrogen oxides of 150 ppm by dry volume for fluidized bed sludge incineration units.

IV. Interstate Transport:

Contain adequate provisions prohibiting any source or other type of emissions activity from emitting any air pollutant in amounts which will: [CAA § 110(a)(2)(D) (i)]

Contribute significantly to nonattainment in, or interfere with maintenance by, any other State with respect to any such national primary or secondary ambient air quality standard. [CAA § 110(a)(2)(D)(i)(1)]

PR Requirement:

The PREQB shall have and may exercise the power to establish, revise, or modify emission limitations, emission control standards, or control measures for stationary sources or facilities in areas of the state where such sources or facilities significantly contribute to nonattainment of an ambient air quality standard of significantly contribute to a significant deterioration of air quality in the state, an area of the state, or another state.

The PREQB hereby certifies that our emissions do not contribute to Nitrogen Dioxide nonattainment in another state or interfere with maintenance of the NAAQS in another state. Puerto Rico is not located within the continental United States. There are no adjacent or nearby states or territories which have Nitrogen Dioxide nonattainment areas.

EPA Requirement:

Contain adequate provisions prohibiting any source or other type of emissions activity from emitting any air pollutant in amounts which will:

Interfere with measures required to be included in the applicable implementation plan for any other State under part C to prevent significant deterioration of air quality or to protect visibility. [CAA § 110(a)(2)(D)(i)(11)]

PR Requirement:

EPA Region 2 is responsible for the PSD and NSR permitting program that contains requirements for sources of air pollutants in Puerto Rico to obtain an approved permit before beginning constructions of a facility and before modifying an existing facility.

V. Resources, Conflict of Interest, and Emergency Backstop:

States are to provide assurances that (i) adequate personnel, funding, and legal authority will be available to carry out the SIP; and (ii) the State has responsibility for ensuring adequate implementation of plan provisions to be carried out by local districts.

In accordance with sub-element (ii), the infrastructure SIP should include requirements that the State complies with CAA 128, "State Boards." Section 128 of the CAA states:

Sec. 128. (a) Not later than the date one year after the date of the enactment of this section, each applicable implementation plan shall contain requirements that –

- (1) any board or body which approves permits or enforcement orders under this Act shall have at least a majority of members who represent the public interest and do not derive any significant portion of their income from persons subject to permits or enforcement orders under this Act, and
- (2) any potential conflicts of interest by members of such board or body or the head of an executive agency with similar powers be adequately disclosed.

A State may adopt any requirements respecting conflicts of interest for such boards or bodies or heads of executive agencies, or any other entities which are more stringent than the requirements of paragraphs (1) and (2), and the Administrator shall approve any such more stringent requirements submitted as part of an implementation plan. [CAA § 110(a)(2)(E)]

PR Requirement:

PREQB have adequate personnel, funding, and authority under State law to carry out the implementation plan. Adequate funding is requested through the CAA section 105

grant processes. State funding are requested through the Office of Management and Budget and approved by the legislature and the governor.

The Commonwealth of Puerto Rico have their own authority, responsibilities and privileges regarding the protection of air quality as established by the Puerto Rico legislature and Law 416 of 2004. The PREQB relies on the complete statutory and regulatory authority as referenced throughout this document.

PREQB is the only agency responsible for the adequate implementation of the plan.

VI. Stationary Source Emissions Monitoring and Reporting:

Require, as may be prescribed by EPA:

Installation, maintenance, and replacement of equipment, and implementation of other necessary steps, by owners or operators of stationary sources to monitor emissions.

Periodic reports on the nature and amounts of emissions and emissions-related data.

Correlation of such reports by the State agency with any emission limitations or standards established pursuant to CAA, which reports shall be available at reasonable times for public inspection. [CAA § 110(a)(2)(F)(i)(ii)(iii)]

PR Requirement:

The PREQB requires monitoring for air pollutants as part of its construction permit program. Certain emission sources are required to submit annual emission inventories and periodic reporting of emissions, which provides data that is used in air quality modeling to help PR prepare SIP revisions. Emissions data are available at reasonable times for public inspection.

The following parts of the RCAP contain rules relevant for these federal requirements:

Part I: General Provisions

- Rule 103: Source Monitoring, record keeping, reporting, sampling and testing Methods
- Rule 104: Emission data Available for Public Participation
- Rule 106: Test Methods
- Rule 108: Air Pollution Control Equipment
- Rule 109: Notice of Violation
- Rule 111: Applications, Hearings, Public Notice
- Rule 112: Compliance Determination / Certification

Part II: Approval and Permits

- Rule 201: Location Approval
- Rule 202: Air Limits Impact Analysis
- Rule 203: Permit to Construct a Source

VII. Emergency Powers and Contingency Plans:

Provide for authority comparable to that in 303 and adequate contingency plans to implement such authority. Section 303 provides legal authority to the EPA to halt the emission of air pollutants causing or contributing to injury to public or welfare. EPA is authorized to either bring a lawsuit in federal court or, if such civil action cannot assure prompt protection of public health or welfare, to issue such orders as may be necessary to protect public health or welfare or the environment.

The requirement for states to provide adequate contingency plans to implement such authority is intended to establish emergency episode plans for responding to elevated

pollutant levels in urban areas. Emergency episode plans are required in areas that record ambient pollutant concentrations in excess of threshold levels specified in 40 CFR Section 51.150. [CAA § 110(a)(2)(G)]

PR Requirement:

The PREQB may issue emergency order to the persons causing or contributing to the atmospheric pollution to reduce their emissions in order to eliminate sources condition or to immediately discontinue the emissions of pollutants. In addition, the PREQB also maintains air pollution information in a form readily available to the public on the PREQB Website (<http://www.jca.gobierno.pr>)

The following parts of RCAP contain rules relevant for this federal requirement:

Part I, Rule 107: Air Pollution Emergencies

VIII. SIP Revisions for Revised Air Quality Standards or New Attainment Methods:

Provide for revision of such plan:

From time to time as necessary to take account of revisions of such national primary or secondary ambient air quality standard or the availability of improved or more expeditious methods of attaining such standard.

Except as provided in (3)(C), whenever EPA finds on the basis of information available to EPA that the plan is substantially inadequate to attain the NAAQS which it implements or to otherwise comply with any additional CAA requirements. [CAA § 110(a)(2)(H)(i)(ii)]

PR Requirement:

PREQB commits to submit SIP revisions whenever revised air quality standards are promulgated by EPA, as may be necessary to take in account of such primary or secondary NAAQS.

IX. SIP Revisions for New Nonattainment Areas:

In the case of a plan or plan revision for an area designated as nonattainment area, meet the applicable requirements of part D (relating to nonattainment areas).

States are to submit SIP revisions for newly designated nonattainment areas to meet the requirements of Part D – Plan Requirements for Nonattainment Areas under Clean Air Act Title I – Air Pollution Prevention and Control. Part D of the Clean Air Act specifies both general requirements for all SIPs and specific requirements for different criteria pollutants. [CAA § 110(a)(2)(I)]

PR Requirement:

SIP revisions that implement the control strategies necessary to bring a nonattainment area into attainment of the NAAQS are not required by the CAA to be submitted within three years of the promulgation of a new or revised NAAQS. Therefore, CAA §110(a)(1) does not require this element to be demonstrated as part of an infrastructure SIP submittal (73 FR 16205, at 16206).

However, PREQB commits to submit SIP revisions whenever areas of the state are newly designated nonattainment for any federal ambient air quality standard. EPA Region 2 is responsible for the nonattainment new source review permitting program that contains requirements for sources of air pollutants in PR to obtain an approved permit before beginning constructions of a facility and before modifying an existing facility.

X. Consultation and Public Notification:

Federal Requirement:

Meet applicable requirements of 121 (consultation). Section 121 requires that states provide a satisfactory process of consultation with general purpose local governments, designated organizations of elected officials of local governments, and any affected federal land manager in carrying out CAA requirements.

Meet applicable requirements of 127 (public notification). Section 127 requires the states to provide measures which will be effective to notify the public on a regular basis of instances or areas in which any air quality standard is exceeded during the preceding calendar year, to advise the public of the health hazards associated with such pollution, and to enhance public awareness of measures that can be taken to prevent such standards from being exceeded. [CAA § 110(a)(2)(J)]

PR Requirement:

PREQB, as part of a SIP revision process, consults with local and state agencies of concern and sign the necessary Memorandum of Understanding. The PREQB consults with other state agencies, local agencies, and non-governmental organizations, as well as with the environmental agencies of other states regarding air quality concerns.

Daily air quality status will be shared with the public in the PREQB web page.

In addition, PREQB web page display past air quality information and graphs provide summaries of unhealthy air quality experienced throughout PR. This feature of the website allows the public to monitor long term air quality and see how one year compares to previous years.

PREQB commits to maintain a public information and education program that satisfies the requirements of Section 127.

XI. Air Quality Modeling and Reporting:

Provide for performance of air quality modeling as EPA may prescribe for the purpose of predicting the effect on ambient air quality of any emissions of any air pollutant for which EPA has established a NAAQS. Provide for the submission, upon request, of data related to such air quality modeling to EPA. [CAA § 110(a)(2)(K)]

PR Requirement:

PREQB has the authority to perform air dispersion modeling as required under the CAA to demonstrate attainment with the NAAQS.

Air quality modeling data is submitted as part of Puerto Rico's relevant SIP submissions and through federal grant commitments.

XII. Major Stationary Source Permitting Fees:

Require owner of a major stationary source to pay, as a condition of any permit required under CAA, a fee sufficient to cover:

- (i) reasonable cost of reviewing and acting upon any permit application, and
- (ii) if the owner receives a permit, the reasonable costs of implementing and enforcing the terms and conditions of the permit (not including court costs or costs associated with enforcement), until fee requirement is superseded by EPA approval of a Title V fee program. [CAA § 110(a)(2)(L)]

PR Requirement:

The PREQB assesses annual fees that are sufficient to cover the Puerto Rico major source permit program costs. The Board shall ensure that any fee required by this

chapter will be used solely for permit program costs. When a source applies for a modification, administrative change or minor modification to the Title V permit, the source will pay per tonnage. The Governing Board of PREQB issued several Resolutions (R-97-47-1; R-03-13-23; RI-06-02; R-06-17-8) that provides for the annual payment of actual emissions based on a fixed rate by tonnage.

PRPPEA Law requires the fee for Title V sources in article 9 (A)(2)

The following part of the RCAP contains rule relevant for these federal requirements:

Part VI: Operations Permits Rules for Title V Sources

- Rule 610: Fee Determination and Certification

XIII. Consultation with Local Entities:

Provide for consultation and participation by local political subdivisions affected by the plan. [CAA § 110(a)(2)(M)]

PR Requirement:

The PREQB has several cooperative agreements and Memoranda of Understanding with various other local agencies and organizations. Consultation with a variety of different organizations is a regular part of the PREQB's process of developing SIP revisions.