ENVIRONMENTAL PROTECTION
ENVIRONMENTAL REGULATION
DIVISION OF AIR QUALITY
AIR QUALITY PERMITTING ELEMENT
Air Pollution Control
Control and Prohibition of Air Pollution from Oxides of Nitrogen

Proposed Amendments:	N.J.A.C. 7:27-8.1, 8.2, 16.1, 16.8, 16.9, 16.10, 16.16, 19 and 22.1; and 7:27A-3.10
Proposed New Rule:	N.J.A.C. 7:27-19.11
Proposed Repeal:	N.J.A.C. 7:27-16.24
Authorized By:	Bradley M. Campbell, Commissioner, Department of Environmental Protection.
Authority:	N.J.S.A. 13:1B-3(e), 13:1D-9, 13:1D-134 et seq. and 26:2C-1 et seq., in particular 26:2C-9.2
Calendar Reference:	See Summary below for explanation of exception to calendar requirement

DEP Docket Number: 18-04-08/245

Proposal Number: PRN 2004 - 346

Public hearings concerning this proposal will be held on:
Thursday, October 28, 2004 at 12:30 P.M. until close of comments and 6:00 P.M. until close of comments, at:

New Jersey Department of Environmental Protection
401 E. State Street
Hearing Room--First Floor, East Wing
Trenton, NJ 08625

Directions to the hearing room maybe found at the Department's website address, http://www.state.nj.us/dep/where.htm

Submit written comments by close of business on November 19, 2004 to:

Alice A. Previte, Esq.
Attention: DEP Docket No. 18-04-08/245
New Jersey Department of Environmental Protection
Office of Legal Affairs
PO Box 402
Trenton, NJ 08625-0402

Written comments may also be submitted at the public hearing. It is requested (but not required) that anyone submitting oral testimony at the public hearing provide a copy of any prepared text to the stenographer at the hearing.

The Department of Environmental Protection (Department) requests that commenters submit comments on disk or CD as well as on paper. Submittal of a disk or CD is not a requirement. The Department prefers Microsoft Word 6.0 or above. Macintosh formats should not be used. Each comment should be identified by the applicable N.J.A.C. citation, with the commenter's name and affiliation following the comment.
Pursuant to N.J.S.A. 26:2C-8, these proposed new rules and amendments will be operative 60 days after adoption by the Commissioner.

The agency proposal follows:

Summary

As the Department has provided a 60-day comment period on this notice of proposal, this notice is excepted from the rulemaking calendar requirement pursuant to N.J.A.C. 1:30-3.3(a)5.

The Department is proposing a new rule and amendments at N.J.A.C. 7:27-19, Control and Prohibition of Air Pollution from Oxides of Nitrogen (NO_x). The Department is also proposing related amendments to N.J.A.C. 7:27-8, Permits and Certificates for Minor Facilities and Major Facilities Without an Operating Permit; N.J.A.C. 7:27-16, Control and Prohibition of Air Pollution by Volatile Organic Compounds; N.J.A.C. 7:27-22, Operating Permits (for Major Facilities); and N.J.A.C. 7:27A-3.10, Air Administrative Procedures and Penalties.

The proposed new rule and amendments incorporate the Ozone Transport Commission (OTC) March 6, 2001 model rules to control NO_x emissions, and would apply to owners and operators of stationary sources of NO_x emissions, including industrial/commercial/institutional (ICI) boilers, combustion turbines, and reciprocating engines. Owners and operators of such sources would be required to achieve the emission limit specified in the rules or to comply instead with alternative requirements, such as an emission averaging plan, an alternative maximum allowable emission rate or a plan for phased compliance (repowering or use of innovative technology). Moderate size boilers would be required to have an annual tune up. The rule and amendments would also regulate distributed generation of electricity, consistent with the OTC recommendation in its March 28, 2001 "Resolution of the States of the Ozone Transport

Commission Concerning the Creation of Incentives for Additional Clean Distributed Generation of Electric Power."

Background

Ozone is a highly reactive gas formed in the lower atmosphere (also called the troposphere) from chemical reactions involving NO_x and volatile organic compounds (VOCs) in the presence of sunlight. NO_x is a by-product of fossil fuel combustion and, therefore, is emitted primarily by motor vehicles, electric generating facilities, and boilers at large industrial and commercial facilities. At elevated concentrations, ozone causes a variety of adverse human health effects, as well as damage to crops.

A State Implementation Plan (SIP) is a written plan that describes a state's strategy for achieving and maintaining the National Ambient Air Quality Standard (NAAQS). The Federal Clean Air Act, 42 U.S.C. §§7401-7671q, (CAA or Clean Air Act) requires states with areas that do not meet the NAAQS to develop a SIP outlining the steps the state will take to reduce air pollution. The purpose of a SIP is to ensure the implementation of programs that will reduce emissions.

The EPA established the ozone NAAQS pursuant to the Clean Air Act. New Jersey is not in attainment with the one-hour ozone NAAQS, and submitted to the EPA an Ozone SIP on December 31, 1996, entitled "Meeting the Requirements of the Alternative Ozone Attainment Demonstration Policy Phase-I Ozone SIP Submittal." Because the EPA found New Jersey's Ozone SIP to be inadequate, in a December 29, 1997 memorandum, the EPA required New Jersey to prepare and submit for approval an amendment to the Ozone SIP.

On August 31, 1998, New Jersey submitted to the EPA a revised Ozone SIP, in which the State committed to steps it would take to attain the NAAQS. This revision was entitled "Attainment and Maintenance of the Ozone National Ambient Air Quality Standards-Meeting the Requirements of the Alternative Ozone Attainment Demonstration Policy." As part of its review of New Jersey's submittal, EPA examined the uncertainties in the projections contained in the Ozone SIP and determined that New Jersey would need to implement even further emission reductions to be able to meet the ozone NAAQS. On December 16, 1999, the EPA published a notice in the Federal Register (64 Fed. Reg. 70380) proposing approval of New Jersey's Ozone SIP, contingent upon New Jersey's committing to adopt and submit additional measures necessary to secure additional reductions. The EPA also found that a number of other states, including Connecticut, Delaware, Maryland, New York and Pennsylvania, had emission reduction shortfalls in their one-hour ozone SIP submittals.

The EPA's December 16, 1999, notice indicated that it was appropriate for states in the Ozone Transport Region (OTR) to work together to develop regional strategies to meet the need for additional emission reductions. The OTR was created by the 1990 amendments to the CAA and includes states, including New Jersey, in the northeast and mid-Atlantic areas. The Ozone Transport Commission (OTC) is comprised of representatives from the 12 states and Washington

D.C. within the OTR. The OTC's mission is, in part, to develop control measures that can be applied within the region to further the region's attaining the NAAQS for various air contaminants, including ozone. Because the EPA found that six OTC member states had shortfalls in their ozone SIP commitments, all 13 OTC members agreed to work together regionally to develop control measures that they could use to obtain additional emission reductions. This agreement was formally set forth in a "Memorandum of Understanding Among the States of the Ozone Transport Commission Regarding the Development of Specific Control Measures to Support Attainment and Maintenance of the Ozone National Ambient Air Quality Standards" (MOU), which was approved by the OTC on June 1, 2000. Subsequently, the OTC developed model rules for six control measures. All six model rules are available on the OTC's website at: http://www.sso.org/otc/Publications/pub2.htm.

In order to address the NO_x emission shortfalls in New Jersey's ozone SIP, the Department, on April 26, 2000, submitted another Ozone SIP revision to the EPA, in which the Department committed to proposing new rules and/or amendments based on all six of the OTC model rules. The Department submitted a revision to its Ozone SIP on October 8, 2001, reaffirming its commitment and providing a list of the six OTC model rules and the anticipated emission reductions that the Department anticipated the State would achieve if it implemented the rules. The EPA approved this SIP revision on February 4, 2002. The rule and amendments proposed herein encompass one of OTC's six model rules (Model Rule for Additional NO_x Control Measures). The Department has addressed the remaining five control measures in other rule proposals and adoptions. Rule amendments based on two of the model rules (Model Rule for Mobile Equipment Repair and Refinishing; and Model Rule for Solvent Cleaning Operations) were promulgated on June 2, 2003 (see 35 N.J.R. 2509(a)). Rule amendments based on Model Rule for Architectural and Industrial Maintenance were proposed on July 21, 2003 (see 35 N.J.R. 2983(a)) and promulgated on June 21, 2004 (see 36 N.J.R. 3078(a)). Rule amendments based on Model Rule for Consumer Products and Model Rule for Portable Fuel Container Spillage Control were promulgated on May 3, 2004 (see 36 N.J.R. 2218(a)).

In addition to addressing the NO_x emission shortfalls, the proposed new rule and amendments would address distributed generation, which is the use of small scale electric generating technologies installed at, or in close proximity to, the end-user's location. Distributed generation can be a low emitting sources, such as a fuel cell or microturbine, or a high emitting source, such as an stationary diesel engine without pollution controls.

Commercial businesses may find it economically advantageous to generate their own electricity, rather than to buy it from an electricity supplier that supplies power over the electrical grid. A well-proven and commercially available method of producing power on site is through the use of generators that run on diesel fuel. However, these generators produce relatively large amounts of NO_x, carbon monoxide (CO), and particulate emissions. Through these proposed rule and amendments, the Department seeks to better control emissions from diesel electric generators and encourage the use of cleaner technologies.

The following is a description of the proposed new rule and amendments.

N.J.A.C. 7:27-8 Permits and Certificates for Minor Facilities (and Major Facilities Without an Operating Permit)

N.J.A.C. 7:27-8.1 Definitions

The Department is adding five new definitions to N.J.A.C. 7:27-8.1. The term "brake horsepower" is added to be consistent with term used in N.J.A.C. 7:27-19. "Energy and Environmental Technology Verification Act," or "EETV Act" refers to legislation enacted in 2000 (N.J.S.A.13:1D-134 et seq.) authorizing the Department to develop and implement a verification and certification process for innovative energy and environmental technologies. The Department is using its authority under the EETV Act to propose amendments to this subchapter to verify emissions. "Microturbine" is a newly defined term that refers to a combustion turbine with outputs of 25 kW to 500 kW. Under the proposed new rule and amendments, microturbines that are verified to be low emitting can be excluded from the preconstruction permit and operating certificate requirements. The new term "rated power output" refers to the manufacturer-specified maximum electrical or equivalent mechanical power output for an engine or turbine. Under the proposed new rule and amendments, the Department is regulating or excluding from regulation certain pieces of equipment based upon their rated power output. "Technology Acceptance and Reciprocity Partnership" or "TARP" is a newly defined term that refers to an organization that has prepared a verification method that regulated facilities may use to demonstrate compliance with certain provisions of this subchapter.

N.J.A.C. 7:27-8.2 Applicability

The Department has added to N.J.A.C. 7:27-8.2(c) a reference to new N.J.A.C. 7:27-8.2(f), discussed below, which adds additional exempt equipment or source operation to those already exempted from being significant sources by N.J.A.C. 7:27-8.2(d) and (e).

Stationary reciprocating engines with a maximum rated power output of 50 brake horsepower or greater, if used for generating electricity, are being added to the list of categories of significant sources at N.J.A.C. 7:27-8.2(c)21 that must have a preconstruction permit and operating certificate. This will enable the Department to obtain information on such new and modified engines and to ensure that air contaminant emissions are controlled and air quality is protected. The Department is adding a related amendment to N.J.A.C. 7:27-8.2(c)1, which identifies commercial fuel burning equipment with a maximum rated heat input of 1,000,000 BTU per hour or greater to the burning chamber as a significant source (requiring a preconstruction permit and operating certificate). Both commercial fuel burning equipment described in N.J.A.C. 7:27-8.2(c)1 and a stationary reciprocating engine described in N.J.A.C. 7:27-8.2(c)21 are significant sources; however, because commercial fuel burning equipment is identified by heat input and stationary reciprocating engines are identified by power output, the two types of equipment are not included in the same paragraph.

The Department is proposing to amend N.J.A.C. 7:27-8.2(d) to add the words "preconstruction" and "operating" to clarify the types of permits and certificates that sources identified in the subsection would not require.

The Department is proposing to amend N.J.A.C. 7:27-8.2(d)11, which relates to fuel cells. Under the amended paragraph, a fuel cell system of any generating capacity fueled by hydrogen without a fuel processor, or a fuel cell system with less than 5,000 kilowatts generating capacity fueled by methane, or a fuel cell system with less than 500 kilowatts generating capacity fueled by other fuels, would be an insignificant source and would not need either a preconstruction permit or an operating certificate. This expands the type and size of fuel cells that do not require air pollution control permits, in order to encourage industry to use these low emitting sources.

Similarly, under the proposed new N.J.A.C. 7:27-8.2(f)1i, a microturbine with less than 500 kilowatts electric generating capacity, fueled by natural gas, and verified to emit less than 0.40 pounds of NO_x per megawatt hour and 0.25 pounds of CO per megawatt hour, would be considered an insignificant source and would not need a preconstruction permit or an operating certificate.

Under the proposed new N.J.A.C. 7:27-8.2(f)1ii, any piece of electric generating equipment, other than a fuel cell system or a microturbine, that has less than 500 kilowatts electric generating capacity and that has been verified to emit less than 0.40 pounds of NO_x per megawatt hour, 0.25 pounds of CO per megawatt hour, 0.10 pounds of particulate matter (PM) per megawatt hour, and 0.01 pounds of SO_2 per megawatt hour, would be considered an insignificant source and would not need a preconstruction permit or operating certificate. The exclusions from preconstruction permitting and operating certificate summarized above are intended to encourage the use of distributed generation equipment which emits low levels of air contaminants, even if such equipment has rated heat inputs of greater than 1,000,000 BTU per hour, which is the permit applicability level for other fuel burning equipment.

Proposed N.J.A.C. 7:27-8.2(f)2 provides alternatives for verifying the emission levels for a microturbine, or for any other electric generating equipment that would be an insignificant source pursuant to N.J.A.C. 7:27-8.2(f)1. A facility may use a verification process under the EETV Act or TARP; a verification process performed by the manufacturer; or if none of these were available or acceptable to the Department, stack emission testing.

The new provision at N.J.A.C. 7:27-8.2(f)3 would require the owner or operator of a microturbine or any other electric generating equipment that is an insignificant source pursuant to N.J.A.C. 7:27-8.2(f)1 to maintain on site, and provide to the Department on request, a certified statement that the source meets the criteria of an insignificant source, as set forth in N.J.A.C. 7:27-8.2(f)1 and 2.

The proposed new provision at N.J.A.C. 7:27-8.2(f)4 would allow the Department, at its discretion, to require the owner or operator of a microturbine or any other electric generating

equipment that would be an insignificant source pursuant to N.J.A.C. 7:27-8.2(f)1 to submit certified test report and/or supporting test to the Department and to perform source emission testing in accordance with N.J.A.C. 7:27-8.4(f).

The proposed amendments to N.J.A.C. 7:27-8 are consistent with the OTC March 6, 2001 Distributed Generation Initiative, which can be obtained on the Internet at http://www.sso.org/otc/Publications/pub2.htm. As discussed in the Distributed Generation Initiative, stationary reciprocating engines can be high emitting sources. By requiring stationary reciprocating engines with a maximum rated power output of 50 brake horsepower or greater, if used for generating electricity, to obtain permits and operating certificates, the Department can ensure emissions from these sources are minimized and maintained at low levels. Conversely, fuel cells, microturbines, and other small electric generating equipment, which are verified to be low emitting, can be excluded from the preconstruction permit and operating certificate requirements. The Department expects that making it easier for industry to install low emitting sources will encourage industry to install clean distributed energy generation.

N.J.A.C. 7:27-16 Control and Prohibition of Air Pollution by Volatile Organic Compounds

N.J.A.C. 7:27-16.1 Definitions

The Department proposes defining new terms, revising the definitions of existing terms, and updating or modifying a number of terms at N.J.A.C. 7:27-16.1, based on the definitions in the OTC NO_x Model Rule, and to clarify them or make them consistent with their use in Subchapter 19. The terms "brake horsepower," “electric distribution company,” “electric distribution system,” “electric generating unit,” “emergency,” “emergency generator,” “internal combustion engine,” “power outage,” "rated power output," “reciprocating engine,” and “voltage reduction” are new, and are added to be consistent with N.J.A.C. 7:27-19.

The Department proposes to amend the terms and definitions for “combined cycle combustion turbine,” “regenerative cycle combustion turbine,” “simple cycle combustion turbine,” “stationary combustion turbine,” and “stationary reciprocating engine,” to clarify their meanings, and to make them consistent with the terms used in industry.

The Department proposes to replace “gas turbine” with “combustion turbine,” “non-utility boiler” with “industrial/commercial/institutional boiler" or "ICI boiler,” and “utility boiler” with “boiler serving an electric generating unit” to make the terms consistent with the terms currently used in industry, and to be consistent with N.J.A.C. 7:27-19.

N.J.A.C. 7:27-16.8 Boilers

The proposed amendments would revise N.J.A.C. 27-16.8 to incorporate the new and amended terms as defined at N.J.A.C. 7:27-16.1, and to be consistent with N.J.A.C. 7:27-19, which regulates emissions of NO_x.

Proposed amended N.J.A.C. 7:27-16.8(b)3 provides a schedule under which owners and operators of certain boilers must adjust the combustion process (also called tune up). Existing N.J.A.C. 7:27-16.8(b)3 referred to the procedure at N.J.A.C. 7:27-16.24; however, the Department proposes to repeal N.J.A.C. 7:27-16.24. Amended N.J.A.C. 7:27-16.8(b)3 refers instead to the procedure at proposed amended N.J.A.C. 7:27-19.16. Amended N.J.A.C. 7:27-16.8(b)3i would continue to require each boiler serving an electric generating unit to be adjusted by May 1 of each calendar year. At amended N.J.A.C. 7:27-16.8(b)3ii, each ICI boiler or other indirect heat exchangers of 50 million BTU per hour or greater would be required to be adjusted in the same calendar quarter of each year.

The existing rule required annual tune up of ICI boilers only if they had a maximum gross heat input rate of at least 20 million BTU per hour. The proposed amended rule expands the tune up requirement to include moderate size boilers and other indirect heat exchangers with a heat input rate of at least five million BTU per hour. The schedules of the adjustment of the combustion process these moderate size ICI boilers and indirect heat exchangers would be phased in to give the owners or operators, as well as the boiler service industry, sufficient time to implement the new requirement. The requirement for 20 million to 50 million BTU per hour ICI boilers or other indirect heat exchangers if they are not located at a major NO_x facility would not take effect until 16 months after the operative date of the amended rules. The adjustment requirement would take effect immediately for these size range ICI boilers or other indirect heat exchangers at a major NO_x facility and would continue in effect for those ICI boilers and other indirect heat exchangers that the existing rules require to be adjusted. In order that the adjustment takes place approximately every 12 months, the amended rules would require that the adjustment of the combustion process take place in the same calendar quarter of each year.

The proposed new provision at N.J.A.C. 7:27-16.8(c) would set forth new requirements for the owner or operator of any ICI boiler or other indirect heat exchanger with at least five million, but less 50 million BTU per hour heat input to adjust annually their combustion process in accordance with N.J.A.C. 7:27-19.16, which will be consistent with N.J.A.C. 7:27-19.7. N.J.A.C. 7:27-16.24, referring to the procedure for annual adjustment of the combustion process, would no longer be necessary, and would be repealed and the section reserved. The procedure for annual adjustment of the combustion process at N.J.A.C. 7:27-19.16 would continue to apply.

By expanding the rules to include moderate size boilers (five million to 20 million BTU per hour), the Department anticipates that the moderate size boilers would, as a result of the annual combustion adjustment, run more efficiently and emit lower levels of NO_x. The tune up is also an annual compliance tool for the Department to verify that boilers subject to air quality permits are operating in conformance with this rule and their permits.

N.J.A.C. 7:27-16.9 Stationary combustion turbines

In addition to making use of the new and amended terms defined at N.J.A.C. 7:27-16.1, the proposed amendments to N.J.A.C. 7:27-16.9(a) would make the provisions of N.J.A.C. 7:27-16.9 applicable to any stationary combustion turbine, except emergency generators. The latter would be subject only to recordkeeping in accordance with the new rule at N.J.A.C. 7:27-19.11.

The proposed amendments to N.J.A.C. 7:27-16.9(f) would require the owner or operator of a stationary combustion turbine with at least 25 million BTU per hour heat input to adjust the turbine's combustion process, which will be consistent with N.J.A.C. 7:27-19.5. N.J.A.C. 7:27-16.24, referring to the procedure for annual adjustment of the combustion process, would no longer be necessary, and would be repealed and the section reserved. The procedure for annual adjustment of the combustion process at N.J.A.C. 7:27-19.16 would continue to apply.

N.J.A.C. 7:27-16.10 Stationary reciprocating engines

The proposed amendments to this section would incorporate the new and amended terms defined at N.J.A.C. 7:27-16.1. In addition, the proposed amendments to N.J.A.C. 7:27-16.10(a) would limit the provisions to any stationary reciprocating engine except emergency generators. The latter would be subject only to recordkeeping in accordance with the new rule at N.J.A.C. 7:27-19.11**.**

N.J.A.C. 7:27-16.10(e), as proposed to be amended, would set forth new requirements for the owner or operator of a stationary reciprocating engines with a rated power output of at least 50 brake horsepower to adjust the engine's combustion process. The existing rule required the adjustment only of stationary reciprocating engines with a rated power output of at least 500 brake horsepower. The amended rule will be consistent with N.J.A.C. 7:27-19.8. As explained above with reference to N.J.A.C. 7:27-16.8 and 16.9, existing N.J.A.C. 7:27-16.24, referring to the procedure for annual adjustment of the combustion process, would no longer be necessary, and would be repealed and the section reserved. The procedure for annual adjustment of the combustion process at N.J.A.C. 7:27-19.16 would continue to apply.

N.J.A.C. 7:27-16.16 Other source operations

The proposed amendments incorporate the new and amended terms as defined at N.J.A.C. 7:27-16.1.

N.J.A.C. 7:27-16.24 Adjusting combustion processes

As explained previously with reference to N.J.A.C. 7:27-16.8 and 16.9, N.J.A.C. 7:27-16.24 is proposed to be repealed and the section reserved.

N.J.A.C. 7:27-19 Control and Prohibition of Air Pollution from Oxides of Nitrogen

N.J.A.C. 7:27-19.1 Definitions

The proposed amendments to N.J.A.C. 7:27-19.1 would add nine new terms, based on the definitions in the OTC model rule for additional NO_x control measures: "brake horsepower-hour" or “bhp-hr,” “dual fuel engine,” “fuel-bound nitrogen,” “gas” or “gaseous fuels,” “internal combustion engine,” “natural gas,” and “reciprocating engine.” The proposed amendments would also add the amended Subchapter 8 definition of an “emergency,” which refers to any situation that arises from sudden and reasonably unforeseeable events beyond the control of an owner or operator of a facility, as well definitions of two new terms as used in the “emergency generator” definition: “power outage,” and “voltage reduction.” The proposed amendments would add the new term "brake horsepower," to be consistent with the terminology used in the rule text, as well as the new term "electric distribution system" as used in the "voltage

reduction" definition.

The proposed new definition of "natural gas" would incorporate by reference the American Society of Testing Materials (ASTM) Standard Specification for Liquid Petroleum Gases, D1835-82. The ASTM specification covers those products commonly referred to as liquefied petroleum gases, consisting of propane, propene (propylene), butane, and mixtures of these materials. Four basic types of liquefied petroleum gases are provided to cover the common use of applications. This specification is applicable to products intended for use as domestic, commercial and industrial heating, and engine fuels. This standard governs vapor pressure, volatility, gravity and other product characteristics.

The proposed amendments would add a number of new definitions to N.J.A.C. 7:27-19 for terms that are used elsewhere in Chapter 27. These definitions, “budget source,” “Clean Air Act” or “CAA,” “electric distribution company,” “modify” or “modification,” and “rated power output,” would be consistent with the definitions for those terms found elsewhere in the chapter.

The proposed amendments to N.J.A.C. 7:27-19.1 would amend the definitions of the following terms to be consistent with the definitions of these terms at N.J.A.C. 7:27-8 and 7:27-22: “CFR,” “NESHAP,” “operating certificate” or “certificate,” “preconstruction permit” or “permit,” “source operation” or “source,” and “state implementation plan” or “SIP,” and would amend the definition of “maximum allowable emission rate” to conform to the definitions in the OTC model rule for additional NO_x control measures.

The proposed amendments to N.J.A.C. 7:27-19.1 would also amend the definitions of "anthracite coal," "bituminous coal," "lignite," "nonbanded coal," and "sub-bituminous coal" to correct the address from which the public may obtain the ASTM standard specifications, and also to clarify that the Department is incorporating the ASTM standard specifications as they may be supplemented or amended in the future.

The proposed amendments would amend the definition of an “emergency generator” to clarify and add criteria that must be met in order for a combustion source to be classified as an emergency generator. Under the amended rule, the combustion source could be operated only when normal testing and maintenance procedures, as recommended by the manufacturer and/or as required by a Federal law or regulation, were being performed, or when there is power outage or a voltage reduction issued by the PJM and posted on the PJM internet website. Allowing operation when there is a PJM-issued and -posted voltage reduction is a new provision. Also, a new provision would be added so that on days when air quality is forecast by the Department to be “unhealthy for sensitive groups” as defined in the EPA's Air Quality Index, the combustion source could not be operated for normal testing and maintenance.

The Department is proposing to amend certain existing definitions to make them consistent with the terminology used in the rule text and in the industry. The term “electric generating utility” would be replaced with “electric distribution company.” “Gas turbine” would be replaced with the term “combustion turbine.” “Non-utility boiler” would be replaced with “industrial/commercial/institutional boiler or "ICI boiler.” “Utility boiler” would be replaced with

“boiler serving an electric generating unit.” “Pennsylvania-New Jersey-Maryland Interconnection” or “PJM,” would be replaced with “PJM," with a revised definition reflecting the reorganization of the utilities group.

The Department proposes to amend the terms and definitions for "rich burn engine," "stationary combustion turbine," and "stationary reciprocating engine," to be consistent with the terminology used in the rule text and in the industry, and to conform to the definitions in the OTC model rule for additional NO_x control measures. The proposed amendments would amend existing definitions of the terms "continuous monitoring system" or "CEM," "electric generating unit," and "lb/mmBTU," to clarify their meanings.

N.J.A.C. 7:27-19.2 Purpose, scope and applicability

The proposed amendments incorporate the new and amended terms as defined at N.J.A.C. 7:27-19.1.

The Department is proposing a number of changes to the applicability provisions at N.J.A.C. 7:27-19.2(b) and (c) in order to make this subchapter applicable to additional equipment or source operations. The proposed amendments at N.J.A.C. 7:27-19.2(a) expand the applicability of N.J.A.C. 7:27-19.2(b) and make new N.J.A.C. 7:27-19.2(c) applicable to equipment located at some facilities that are not major NO_x facilities. Beginning 16 months from the operative date of these amendments, the newly proposed provisions of Subchapter 19 would apply to any ICI boiler or other indirect heat exchanger that has a maximum gross heat input rate of at least five million BTU per hour, any stationary combustion turbine that has a maximum gross heat input rate of at least 25 million BTU per hour that is located at a major NO_x facility, and any stationary reciprocating engine that has a maximum rated power output of 200 brake horsepower or, if new or modified, a maximum rated power output of 50 brake horsepower or greater and used for generating electricity. These newly regulated sources would be in addition to those sources regulated under the existing rule, which sources include boilers serving an electric generating unit, rotary dryer and glass manufacturing furnaces. These types of equipment and source operations subject to Subchapter 19 are described below in the summaries of the provisions applicable to each type of equipment or source operation.

The Department is also proposing an amendment to N.J.A.C. 7:27-19.2(d), which would make emergency generators subject to the new recordkeeping requirements of proposed N.J.A.C. 7:27-19.11. Emergency generators would continue to be exempt from all other provisions of the subchapter.

N.J.A.C. 7:27-19.3 General provisions

The proposed amendments at N.J.A.C. 7:27-19.3(b), (c) and (i) make grammatical changes, update cross references to other rules, and incorporate the new and amended terms as defined at N.J.A.C. 7:27-19.1.

The proposed amendments at N.J.A.C. 7:27-19.3(d) provide three months from the operative date of the new rules and amendments for regulated facilities subject to the new or more stringent NO_x emissions limits to apply for appropriate permits if necessary to comply with

the requirements of the subchapter. The three-month deadline is consistent with the period of time that the existing rules provided regulated facilities when the existing rules were first promulgated, and should provide sufficient time for regulated facilities to submit their applications.

The Department is proposing to amend N.J.A.C. 7:27-19.3(f) to provide alternative compliance options for those facilities with equipment or source operations listed in N.J.A.C. 7:27-19.2(c) that become subject to the requirements of Subchapter 19 on and after the date 16 months after the operative date of these amendments. Specifically, these compliance options are: an emission averaging plan; an alternative maximum allowable emission rate; and a plan for phased compliance (repowering or use of innovative technology).

The proposed amendments at N.J.A.C. 7:27-19.3(j) would update the Department addresses to which a person would send notices if required under this subchapter.

N.J.A.C. 7:27-19.4 Boilers serving electric generating units

The proposed amendments to N.J.A.C. 27-19.4 would incorporate the new and amended terms as defined at N.J.A.C. 7:27-19.1.

The proposed amendments to N.J.A.C. 7:27-19.4(a) would delete the list of compliance alternatives, and instead refer to amended N.J.A.C. 7:27-19.3(f), where the compliance alternatives would be identified. Proposed N.J.A.C. 7:27-19.4(c) contains the annual combustion adjustment requirements, which are not new requirements for this source category. The owners or operators of boilers serving an electric generating unit were already required at N.J.A.C. 7:27-16.8(b) to adjust the combustion process by May 1st of each year.

N.J.A.C. 7:27-19.5 Stationary combustion turbines

The proposed amendments to N.J.A.C. 7:27-19.5 would incorporate the new and amended terms as defined at N.J.A.C. 7:27-19.1.

The maximum allowable emission rates in place under the existing rules would continue in effect for 16 months under the proposed amendments to N.J.A.C. 7:27-19.5(a) and (b). Thereafter, only NO_x budget sources would be subject to the existing maximum emissions rates set forth in Tables 2 and 3 at N.J.A.C. 7:27-19.5(a) and (b). NO_x budget sources are those regulated by NO_x Budget Program at N.J.A.C. 7:27-31. All other stationary simple and combined or regenerative cycle combustion turbines that have a maximum gross heat input rate of at least 25 million BTU per hour, and that are not NO_x budget sources, would be subject to the new maximum allowable NO_x emission rates at N.J.A.C. 7:27-19.5(d). Compliance alternatives to N.J.A.C. 7:27-19.5(a) and (b) remain available under proposed amended N.J.A.C. 7:27-19.5(c).

The proposed maximum allowable NO_x emission rates at the new N.J.A.C. 7:27-19.5(d), which includes the proposed new Table 4, are based on the OTC Model Rule for Additional NO_x Control Measures, and are consistent with the emission rates that the industry can achieve for oil-fired turbines. The existing rules regulate stationary combustion turbines with maximum gross heat input rate of at least 30 million BTU per hour. Stationary combustion turbines with

maximum gross heat input rate of 25 to 30 million BTU, which currently are not regulated, would be newly subject to the emission standards set forth in the proposed new Table 4. Also, under the proposed rules, oil-fired stationary combustion turbines with a maximum gross heat input rate of at least 30 million BTU per hour would have to meet a more stringent NO_x limit (3.0 pounds of NO_x per MWh for simple cycle combustion turbines and 2.0 pounds of NO_x per MWh for combined cycle combustion turbines or regenerative cycle combustion turbines).

Newly-regulated sources would be subject to the same combustion process adjustments as existing sources, under proposed new N.J.A.C. 7:27-19.5(e).

N.J.A.C. 7:27-19.6 Emissions averaging

Proposed amendments to N.J.A.C. 27-19.6(b)1 would incorporate the new and amended terms as defined at N.J.A.C. 7:27-19.1.

Proposed new N.J.A.C. 7:27-19.6(k) provides appropriate addresses for an owner or operator to submit certain quarterly reports related to emissions averaging, and an amendment to N.J.A.C. 7:27-19.6(h) corrects a cross reference to the subsection containing the addresses.

N.J.A.C. 7:27-19.7 Industrial/commercial/institutional boilers and other indirect heat exchangers

Proposed amendments to N.J.A.C. 7:27-19.7 would incorporate the new and amended terms as defined at N.J.A.C. 7:27-19.1. The proposed amendments would also renumber the tables at N.J.A.C. 7:27-19.7(b) and (c), because of the addition of a new Table 4 at N.J.A.C. 7:27-19.5(d) (described above).

The maximum emission rates in place under the existing rules would continue in effect for 16 months under the proposed amendments to N.J.A.C. 7:27-19.7(a), (b), (c), (e) and (f). Thereafter, the new provisions at N.J.A.C. 7:27-19.7(g) and (h) would go into effect, establishing more stringent NO_x emissions limits (Table 7), and requiring owners or operators of any industrial/commercial/institutional (ICI) boiler or other indirect heat exchanger with at least five million BTU per hour heat input to annually adjust the combustion process in accordance with N.J.A.C. 7:27-19.16.

The annual combustion adjustment requirement is new for sources with at least five million, but less than 20 million BTU per hour heat input. The Department is proposing the requirement because adjustment to the combustion process minimizes emissions by reducing emission concentrations and by improving fuel efficiency. Annual adjustment of the combustion process is not a new requirement for ICI boilers or other indirect heat exchangers with at least 20 million BTU per hour heat input. The owners or operators of the larger equipment are required at existing N.J.A.C. 7:27-16.8 and 19.7 to make annual adjustments. The schedules of the adjustment of the combustion process for ICI boilers would be phased in to give the owners or operators, as well as the boiler service industry, sufficient time to implement the new requirement.

Sixteen months after the operative date of the proposed amendments, owners or operators of industrial/commercial/institutional boilers and other indirect heat exchangers with at least 50 million BTU per hour heat input, located at a major NO_x facility, would have to comply with the emissions limits specified in proposed new Table 7 at N.J.A.C. 7:27-19.7(h). With the exception of emission rates for natural gas fired boilers that are at least 100 million BTU heat input per hour or greater, the proposed emission rates for ICI boilers or other indirect heat exchangers with a heat input of at least 50 million BTU would be the same as under the existing rules. The proposed maximum emission rate for natural gas fired boilers that are at least 100 million BTU heat input or greater would be reduced from 0.20 to 0.10 pounds per million BTU. These maximum allowable NO_x emission rates are based on the OTC Model Rule for Additional NO_x Control Measures, and are consistent with New Jersey's April 2000 commitment to the EPA to further reduce NO_x emissions.

N.J.A.C. 7:27-19.8 Stationary reciprocating engines

The proposed amendments to N.J.A.C. 7:27-19.8 would incorporate the new and amended terms as defined at N.J.A.C. 7:27-19.1.

The proposed amendments at N.J.A.C. 7:27-19.8(d) would delete the list of compliance alternatives, and instead refer to amended N.J.A.C. 7:27-19.3(f), where the compliance alternatives would be identified.

The maximum allowable NO_x emissions rates at proposed N.J.A.C. 7:27-19.8(e) and Table 8 are new. Table 8 would establish maximum allowable NO_x emission rates for stationary reciprocating engines used for generating electricity and with a maximum rated power output of 200 brake horsepower. A group of two or more stationary reciprocating engines, each engine having a rated power output of at least 50 and less than 200 brake horsepower, with a combined rated power output of more than 200 brake horsepower, would also be subject to the maximum allowable NO_x emission rate set forth at Table 8 at N.J.A.C. 7:27-19.8(e)4. Proposed emission rates would be based upon the type of engine and the fuel it burns.

Engines with a maximum rated power output of 50 brake horsepower or more that are new or modified on or after 16 months from the operative date of these rules would also be subject to proposed emissions limits under N.J.A.C. 7:27-19.8(e)2 and 3, respectively. New engines could not emit NO_x at a rate greater than 0.70 grams of NO_x/bhp-hr. Modified engines would be subject to the same 0.70 grams of NO_x/bhp-hr emission limit, or, in the alternative, to a NO_x emission rate that is no more than 90 percent of the uncontrolled NO_x emission level.

These maximum allowable NO_x emission rates are based on the OTC Model Rule for Additional NO_x Control Measures, and on the OTC March 6, 2001 Distributed Generation Initiative. The proposed limits are consistent with the State's April 2000 commitment to the EPA to further reduce NO_x emissions. If an engine is additionally subject to State of the Art (SOTA) requirement for a new and modified source, lower limits could be required at the time of permitting.

Proposed N.J.A.C. 7:27-19.8(f) is also new, and would require owners or operators of stationary reciprocating engines with a maximum rated power output of 50 brake horsepower or greater to adjust the engine's combustion process in accordance with N.J.A.C. 7:27-19.16. Combustion adjustment is already required for the owners or operators of stationary reciprocating engines subject to VOC emission limits with a maximum rated power output of 500 brake horsepower or greater pursuant to N.J.A.C. 7:27-16.10(e).

N.J.A.C. 7:27-19.11 Emergency generators - recordkeeping

Proposed N.J.A.C. 7:27-19.11 is new, and would establish the recordkeeping requirements for emergency generators. Although emergency generators that meet the criteria set forth in the proposed amended definition of "emergency generator" at N.J.A.C. 7:27-19.1 would be exempt from the other requirements of Subchapter 19, they would be subject to the proposed recordkeeping requirements.

The OTC model rule, which is the model for the proposed new rule and amendments, includes requirements for injection timing retard (ITR) on emergency generators, which are mostly diesel. The model rule also suggests an annual adjustment of the degrees of retard to minimize NO_x. The Department estimates that there are approximately 6,000 emergency generators in New Jersey. Because they are only for emergencies, they are not frequently used. Accordingly, the cost of retrofitting ITR and requiring an annual adjustment would be significant compared to the low emissions reduction potential of this category. Further ITR may hinder the operation of the diesel emergency generators, which require fast, reliable starts. For these reasons, the Department decided not to follow the OTC model rule with regard to emergency generators. Instead, the Department would continue to exempt emergency generators from the substantive requirements of the proposed new rule and amendments, and would require only recordkeeping to ensure that the engines meet the definition of "emergency generator." N.J.A.C. 7:27-19.11. Since facilities normally keep records of maintenance for these engines, the additional burden of recordkeeping for periods of operation should not add significantly to the cost of compliance.

The recordkeeping requirement of five years is consistent with the requirements in N.J.A.C. 7:27-8 and 19, which require similar records to be maintained for five years. The five year period allows the Department sufficient time to conduct compliance reviews and take necessary enforcement action.

N.J.A.C. 7:27-19.13 Facility-specific NO_x emissions limit

The proposed amendments to N.J.A.C. 7:27-19.13 would incorporate the new and amended terms as defined at N.J.A.C. 7:27-19.1.

The proposed amendments to N.J.A.C. 7:27-19.13(b) would require the owner or operator of any facility, equipment or source operation subject to the new or more stringent NO_x emission limits to submit a proposed NO_x control plan within three months after the operative date of the amendments if a facility-specific NO_x emissions limit is being sought. The existing rule required

facilities in operation as of the operative date of the existing rule to submit a NO_x control plan within a similar period of time.

Similarly, the proposed amendments at N.J.A.C. 7:27-19.13(n) would provide the owners or operators of any facility, equipment or source operation subject to the new or more stringent NO_x emission limits 16 months from the operative date of the amendments to implement a NO_x control plan. This is the same amount of time that the existing rules provided from the date they were operative.

The proposed amendments to N.J.A.C. 7:29-19.13(o) correct the address to which owners or operators should submit their proposed NO_x control plans, or requests for an alternative maximum allowable emission rate.

N.J.A.C. 7:27-19.14 Procedures for obtaining approvals under this subchapter

Proposed amendments to N.J.A.C. 7:27-19.14 would incorporate the new and amended terms as defined at N.J.A.C. 7:27-19.1, and would correct the address at N.J.A.C. 7:27-19.14(b) to which owners or operators should submit their proposed NO_x control plans, or requests for an alternative maximum allowable emission rate.

N.J.A.C. 7:27-19.15 Procedures and deadlines for demonstrating compliance

Proposed amendments to N.J.A.C. 7:27-19.15(a)1i and ii would correct the start and end dates of the ozone season. The Department inadvertently neglected to change the start and end dates of the ozone season in this rule when it defined "ozone season" in N.J.A.C. 7:27-30 (see 28 NJR 1147(a), and 3414(a)) (subsequently repealed) and in N.J.A.C. 7:27-21.1 in 2003 (see 34 NJR 695(a), 35 NJR 1059(a)) as the portion of each year beginning May 1 and ending September 30.

The Department is proposing to amend N.J.A.C. 7:27-19.15(a)2 to require NO_x testing to take place at the same time as CO testing. In order to demonstrate compliance with the provisions of Subchapter 19, governing NO_x emissions, a facility would also have to demonstrate compliance with the CO limit in N.J.A.C. 7:27-16.9 or 16.10, or the permit CO limit, whichever is more stringent. Concurrent CO testing is required if any NO_x testing is conducted because reducing NO_x emissions may increase CO emissions.

Newly regulated sources in operation prior to the operative date of these proposed amendments would have 28 months from the operative date of the proposed amendments to demonstrate compliance with the emissions limits in this subchapter. N.J.A.C. 7:27-19.15(b). This is the same period of time that the existing rules provided to existing sources when the rules were adopted.

N.J.A.C. 7:27-19.16 Adjusting combustion processes

The proposed amendments to N.J.A.C. 7:27-19.16(a) through (d) set forth the combustion adjustment requirements that would apply to owners or operators of any equipment or source operation subject to N.J.A.C. 7:27-19.19, other than stationary combustion turbines and

reciprocating engines. In addition to the existing requirements at N.J.A.C. 7:27-19.16(a)1 through 3, the proposed amendments to N.J.A.C. 7:27-19.16(a) would require owners or operators to minimize emissions of NO_x and CO consistent with manufacturer's specifications (N.J.A.C. 7:27-19.16(a)4); record the NO_x, CO, and oxygen (O_2) concentrations both before and after the adjustment is made (N.J.A.C. 7:27-19.16(a)5); and convert the measurement of the concentrations to ponds per million BTU (N.J.A.C. 7:27-19.16(a)6).

The Department proposes to amend the recordkeeping requirements of N.J.A.C. 7:27-19.16(b). Many facilities now maintain computer records of combustion process adjustments, rather than paper records. The proposed amendments would allow a computer data system to serve as appropriate documentation. In addition to the existing requirements of N.J.A.C. 7:27-19.16(b)1 through 3, the proposed amended rule would require facilities to maintain records of corrective action taken as a result of combustion adjustment, the results of any tests made after the corrected action, and the type and amount of fuel used for the year prior to the combustion adjustment.

Reports of the annual combustion adjustment would be provided electronically to the Department within 30 days after the adjustment is completed, under proposed new N.J.A.C. 7:27-19.16(c) and (d). By reviewing reports of the results of the combustion adjustments and fuel use, the Department would be able to keep track of the net NO_x emission reduction that the combustion adjustment achieves, and ensure that regulated facilities perform the required adjustments. This tracking of NO_x reduction will help the Department document reasonably further progress toward achieving the NAAQS for ozone.

Stationary combustion turbines and reciprocating engines would be subject to the combustion process adjustment requirements under the proposed amendments at N.J.A.C. 7:27-19.16(g) and (h). In performing the combustion adjustments, the owners and operators of stationary combustion turbines and reciprocating engines would have to follow the manufacturer's recommended procedures; record the levels of NO_x, CO and O_2, measured both before and after the adjustment; and keep specific information relating to the adjustment and the fuels used in the equipment for the year prior to the adjustment by recording the results in a logbook or on a computer.

N.J.A.C. 7:27-19.18 Continuous emission monitoring

The proposed amendments at N.J.A.C. 7:27-19.18(e)2 would incorporate the new and amended terms as defined at N.J.A.C. 7:27-19.1.

N.J.A.C. 7:27-19.19 Recordkeeping and recording

The proposed amendments at N.J.A.C. 7:27-19.19(d)1 would incorporate the new and amended terms as defined at N.J.A.C. 7:27-19.1.

N.J.A.C. 7:27-19.20 Fuel switching

The proposed amendments at N.J.A.C. 7:27-19.20(c)1, (d) and (g)3 through 5 would incorporate the new and amended terms as defined at N.J.A.C. 7:27-19.1.

The proposed amendment to N.J.A.C. 27-19.20(g)4 would correct the ozone season end date to October 1.

N.J.A.C. 7:27-19.21 Phased compliance – repowering

The proposed amendments to N.J.A.C. 27-19.21(c)1, (e)9 and (h)2 would incorporate the new and amended terms as defined at N.J.A.C. 7:27-19.1.

Under the existing N.J.A.C. 7:27-19.21(b), sources seeking approval of a repowering plan to achieve NO_x emission reductions were given a period of time from the operative date of the rules in which to submit their plans to the Department. The proposed amendments to N.J.A.C. 7:27-19.21(b) would allow sources subject to new or more stringent NO_x emissions limits, three months from the operative date of the proposed new rule and amendments to submit their repowering plans to the Department if repowering is their selected means of compliance. In their repowering plans, sources subject to new or more stringent NO_x emissions limits would be required to specify a repowering date that is no later than four years from the operative date of the proposed new rule and amendments. N.J.A.C. 7:27-19.21(d)4. If repowering is not complete within four years from the operative date of the proposed new rule and amendments, then the source would have to cease operation under proposed amended N.J.A.C. 7:27-19.21(e)10.

Sources subject to new or more stringent NO_x emissions limits whose repowering plans the Department has approved would have to begin to comply with their repowering plans, determine the actual NO_x emissions from each combustion source included in the repowering plan, and comply with the recordkeeping requirements of N.J.A.C. 7:27-19.19 within 16 months after the operative date of the proposed new rule and amendments. N.J.A.C. 7:27-19.21(e)1, 4, and 6. This is a similar time period that the Department provided to sources under the existing rules.

N.J.A.C. 7:27-19.22 Phased compliance - impracticability of full compliance by May 31, 1995

The proposed amendments at N.J.A.C. 27-19.22(c)1 would incorporate the new and amended terms as defined at N.J.A.C. 7:27-19.1.

N.J.A.C. 7:27-19.23 Phased compliance - use of innovative control technology

The proposed amendments at N.J.A.C. 27-19.23(c)1 and (h)2 would incorporate the new and amended terms as defined at N.J.A.C. 7:27-19.1.

As with phased compliance for repowering, the Department would provide sources subject to a new or more stringent NOx emissions limit additional time to comply if using innovative control technology. Under the proposed amendments to N.J.A.C. 7:27-19.23(b), a source subject to a new or more stringent NO_x emissions limit would have three months from the operative date of the proposed new rule and amendments to submit to the Department its application for an innovative control technology plan. The application would have to show, in addition to the existing requirements for such a plan, that the plan could be implemented no sooner than 16 months, and no later than four years of the operative date of the proposed new rule and amendments. N.J.A.C. 7:27-19.23(c)4, and (d)2iii and 2iv.

Under the proposed amendments, sources subject to new or more stringent NO_x emissions limits whose innovative technology plans the Department has approved would have to begin to comply with their innovative control technology plans, determine the actual NO_x emissions from each combustion source included in the innovative control technology plan, and comply with the recordkeeping requirements of N.J.A.C. 7:27-19.19, within 16 months after the operative date of the proposed new rules and amendments. N.J.A.C. 7:27-19.23(e)1, 4, and 6. If the innovative control technology were not implemented within four years from the operative date of the proposed new rule and amendments, then the combustion source would have to cease operation. N.J.A.C. 7:27-19.23(e)9. These time periods are consistent with those provided in the existing rules.

N.J.A.C. 7:27-19.24 MEG alerts

The proposed amendments to N.J.A.C. 27-19.24(a), (b)1 and (b)3 would incorporate the new and amended terms as defined at N.J.A.C. 7:27-19.1.

N.J.A.C. 7:27-19.25 Exemption for emergency use of fuel oil

The proposed amendments at N.J.A.C. 7:27-19.25(d)1 would incorporate the new and amended terms as defined at N.J.A.C. 7:27-19.1.

N.J.A.C. 7:27-22 Operating Permits

These proposed amendments to the Operating Permit rules correspond to the amendments to N.J.A.C. 7:27-8, Permits and Certificates for Minor facilities (and Major Facilities Without an Operating Permit).

N.J.A.C. 7:27-22.1 Definitions

The Department is proposing the following new and amended definitions at N.J.A.C. 7:27-22.1.

The Department is proposing to add definitions of "brake horsepower," “Energy and Environmental Technology Verification Act” or “EETV Act,” "microturbine," "rated power output," and “Technology Acceptance and Reciprocity Partnership” or “TARP” to the list of definitions at N.J.A.C. 7:27-22.1, which definitions are the same as those added to N.J.A.C. 7:27-8.1.

In the definition of “exempt activity,” the Department is proposing to amend the existing provisions for fuel cell systems in paragraph 8 to additionally exempt from being a significant source a fuel cell system of any generating capacity fueled by hydrogen without a fuel processor, a fuel cell system less than 5,000 kilowatts generating capacity fueled by methane, or a fuel cell system less than 500 kilowatts generating capacity fueled by other fuels. The exemption, which is similar to the exemption from the requirement of obtaining preconstruction permitting and operating certificate that is incorporated into proposed amended N.J.A.C. 7:27-8.2, is intended to encourage the use of distributed generating equipment that emits low levels of air contaminants.

Under proposed new subparagraph 4i of the amended definition of “insignificant source operation,” a microturbine with less than 500 kilowatts electric generating capacity, fueled by natural gas, and verified to emit less than 0.40 pounds of NO_x per megawatt hour and less than 0.25 pounds of CO per megawatt hour, would be considered an insignificant source in the operating permit. Similarly, any piece of electric generating equipment, other than a fuel cell system or a microturbine, that has less than 500 kilowatts electric generating capacity and that has been verified to emit less than 0.40 pounds of NO_x per megawatt hour, 0.25 pounds of CO per megawatt hour, 0.10 pounds of PM per megawatt hour, and 0.01 pounds of SO_2 per megawatt hour, would be considered an insignificant source in the operating permit. By classifying these sources as "insignificant sources," the Department intends to encourage the use of equipment that emits low levels of air contaminants.

Proposed new subparagraph 4ii of the amended definition of “insignificant source operation,” would provide new alternatives for verifying the emission levels for a microturbine or for any other electric generating equipment that would be an insignificant source pursuant to subparagraph 4i. A facility could verify emissions using a process pursuant to the EETV Act or TARP; a verification process performed by the manufacturer; or if none of these were available or acceptable to the Department, a stack emission testing.

Proposed new subparagraph 4iii of the amended definition of “insignificant source operation,” would require the owner or operator of a microturbine or any other electric generating equipment that is an insignificant source pursuant to subparagraph 4i to maintain on site, and provide to the Department on request, a certified statement that the source meets the criteria of an insignificant source, in accordance with subparagraphs 4i and ii.

Proposed new subparagraph 4iv of the amended definition of “insignificant source operation,” would allow the Department, at its discretion, to require the owner or operator of a microturbine or any other electric generating equipment that would be insignificant source pursuant to subparagraph 4i to submit certified test report and/or supporting test to the Department and to perform source emission testing in accordance with N.J.A.C. 7:27-22.18(e).

The Department is adding the certification and verification requirements of subparagraph 4ii and iv in order that it may ensure that the sources claiming to be "insignificant sources" are the low-emitting sources that the Department intends to include in the definition, rather than "significant sources" subject to additional regulation.

To the definition of “significant source operation,” the Department is proposing to add stationary reciprocating engines with a maximum rated power output of 50 brake horsepower or greater if used for generating electricity to the list of categories of significant sources in paragraph 20 that must have a detailed compliance plan in an operating permit. The Department is adding a related amendment to N.J.A.C. 7:27-22.1, paragraph 11 in the "significant source operation" definition, to make it consistent with proposed amended N.J.A.C. 7:27-8.2(c).

N.J.A.C. 7:27A-3.10 Civil administrative penalties for violation of rules adopted pursuant to the Act

The proposed new rule and amendments to N.J.A.C. 7:27-8 and 22, described above, do not necessitate corresponding revisions to the penalty provisions of N.J.A.C. 7:27A-3.10. However, the proposed amendments at N.J.A.C. 7:27-16.8, relating to combustion process adjustment, and at N.J.A.C. 7:27-19, which set forth additional requirements and procedures for the control and prohibition of NO_x, do necessitate revisions to the penalty provisions at N.J.A.C. 7:27A-3.10(m)16 and 19. The proposed penalties are consistent with penalties in N.J.A.C. 7:27A-3 for violations of comparable air rules in N.J.A.C. 7:27. For example, the proposed new penalties for violation of the combustion adjustment process, failure to submit reports, and improper log or recordkeeping, correspond to existing penalties for similar violations of N.J.A.C. 7:27-16 and 19.

Social Impact

The proposed new rule and amendments would have a positive social impact. NO_x present in the atmosphere is a precursor to the formation of tropospheric (ground-level) ozone, acid rain, fine particulate, nitrogen deposition and haze. Adoption of these new control measures would aid the State in attaining and maintaining the NAAQS for ozone and fine particulate.

The general public would benefit from the proposed new rule and amendments because ground level ozone causes adverse health effects in New Jersey. Studies have shown that ozone, a known respiratory irritant, has severe and debilitating effects on lung capacity and can have detrimental effects on respiration (USEPA Fact Sheet on the New 8-Hour Ozone and Fine (2.5 microns) Particulate Matter Health Standards, July 1997 (USEPA 1997 fact Sheet)). Even at low levels, ozone can cause average humans to experience breathing difficulty, chest pains, coughing, and irritation to the nose, throat and eyes. For individuals who already have respiratory problems or who are predisposed to respiratory ailments, these symptoms can become much more severe, forcing those individuals to alter their lifestyles to avoid unnecessary exposure. In addition, studies of chronic ozone exposure performed on laboratory animals indicate that long-term exposure to ozone affects lung physiology and morphology (USEPA 1997 Fact Sheet). Exposure to ozone for prolonged periods of time can cause chronic respiratory injuries resulting in premature or accelerated aging of human lung tissue.

Since NO_x in the ambient atmosphere is a component of acid rain, reducing emissions of NO_x will help reduce acid rain damages to plants and trees, and injuries to aquatic life. Nitrogen compound deposition also leads to eutrophication of sensitive aquatic environments and to soil nitrogen saturation. Through a series of complex atmospheric reactions, NO_x also forms into fine particulate matter. High concentrations of fine particulate matter (called $PM_{2.5}$, which is particulate matter of 2.5 microns or less equivalent aerodynamics diameter) adversely affect human health and welfare. The health effects of high levels of fine particulate matter include increased risk of asthma, bronchitis and other respiratory ailments. High levels of fine particulate matter also reduce visibility in urban, rural, and sensitive (called Class I) areas, and contribute to regional haze. Therefore, the reductions in NO_x emissions resulting from compliance with these

proposed rules will help alleviate the acid rain problem, nitrogen deposition problem, haze problem and reduce the adverse health impacts from fine particulate in New Jersey, as well as other northeastern states (due to the prevailing winds).

The proposed amendments to the rules governing civil administrative penalties would have a positive social impact by encouraging compliance and discouraging noncompliance with the State's air pollution control laws and regulations.

Economic Impact

There are significant compliance costs associated with the proposed new rule and amendments. Costs of compliance are balanced by the anticipated improvement of air quality, which has a positive economic impact resulting from lower health costs, less materials degradation and less visibility impairment. A reduction in air pollution will lead to healthier and more productive workers. The Department is proposing the new rule and amendments to meet EPA requirements. Failure to achieve these reductions could subject New Jersey to economic sanctions, which would adversely affect all businesses and taxpayers in the State. The Department has concluded that the environmental benefits outweigh the compliance costs.

NO_x is a pollutant that reacts in sunlight to contribute to formation of ground level ozone. The cost of air pollution to the general public is significant. The American Lung Association has estimated the cost of health problems attributed to air pollution, including the loss of worker productivity, to be in the range of $4.43 billion to $93.49 billion per year, nationally. *(American Lung Association, et al. v. EPA*, Civil Case No. 4114-91, U.S. Court of Appeals, Second Circuit (October 22, 1991.)) In New Jersey, cost estimates of ground level ozone's contribution to respiratory illness total more than $59 million per year, and crop damage to corn, winter wheat, and soybean crops are estimated at $1 million to $2 million per year. (Final Report of New Jersey State Comparative Risk Project, July 2003). Significant reductions in emissions of air pollutants, as anticipated to result from the new rule and amendments, would reduce these costs to the general public.

NO_x emissions also have an effect on aquatic ecosystems by raising the level of nitrogen in the ecosystems. The effects of excess nitrogen in aquatic systems are most noticeable in marine and estuarine systems. High nitrogen levels contribute to the growth of problematic algae, resulting in the loss of submerged vegetation and fish and shellfish mortality.

The oxidizing properties of ozone, caused in part by NO_x emissions, lead to accelerated degradation of various man-made materials, such as rubber, plastics, dyes and paints. Damage to homes, such as degradation of paint and siding, are estimated at over $160 million per year. Aesthetic impacts from reduced visibility in New Jersey attributed to particulate matter can be assigned a dollar cost using established "willingness to pay" rates for improved visibility in recreational and residential areas. These costs are estimated at $45 million per year, however there are significant uncertainties associated with this estimate. (Final Report of the New Jersey State Comparative Risk Project, July 2003).

Costs of emission control technology to meet the more stringent NO_x limits required by this rulemaking have been estimated based on the EPA Alternative Control Technique (ACT) documents, which also formed the basis of the estimated economic impact of the existing NO_x rules. Although there are more recent economic references available, such as the report by E.H. Pechan and Associates, Inc. (Control Measure Development Support Analysis of Ozone Transport Commission Model Rules, March 31, 2001 (Pechan Report)), the Department considers the EPA references to be the most comprehensive and authoritative.

Costs are presented in terms of "cost effectiveness," which is defined as the annual operating cost (including capital recovery) of control technology, divided by the expected resultant NO_x reduction expressed in annual tons, resulting in a figure reflecting the cost per ton of NO_x reduced. Ranges are provided to cover the broad spectrum of equipment sizes and capacity factors and other site-specific differences in operation. The Department has used the Consumer Price Index (CPI) to adjust costs presented in the source documents to 2003 dollars (the most recent year for which the CPI is available).

If a facility demonstrates that technology to enable it to meet the standards set forth in these proposed rules is not available, or not technically feasible, or it demonstrates that the technology required to meet the limits is unreasonably costly, the facility may be able to use the compliance options of the existing rules, including case-by-case alternative emission limits and averaging plans.

Sources installed or modified after the effective date of the State of the Art (SOTA) manuals (July 1997) would likely already be complying with emission limits at least as strngent as those in this rulemaking. Therefore, such sources would not be affected by the technology or emissions requirements of these rules.

The compliance costs for each type of equipment covered by these new rules and amendments are discussed below. The analysis includes equipment subject to a permit issued before July 1997.

Industrial/Commercial/Institutional (ICI) Boilers and Other Indirect Fired Heat Exchangers

The proposed new rule and amendments establish tune up and emission reduction requirements for ICI boilers and other indirect fired heat exchangers based upon their heat input rating (million BTU/hr).

The proposed amendments at N.J.A.C. 7:27-16.8, 19.7 and 19.16 would lower the size threshold of the boilers that would be subject to annual adjustment of the combustion process (also called a "tune up") from 20 to five million BTU/hr. ICI boilers subject to the existing rules are tuned at least annually as part of routine maintenance. The owners of some presently unregulated sources also conduct regular tune ups. Accordingly, for those sources the primary

additional financial burden of compliance would be the cost of testing NO_x, CO, and O_2 both before and after the tune up. Newly-regulated sources that do not perform annual tune ups would incur the expense of the tune up and the NO_x, CO, and O_2 testing. The Department anticipates, based upon an EPA study (USEPA, Combustion Efficiency Optimization Manual for Operators of Oil-Fired and Gas-Fired Boilers, EPA 340/1-83-023, September 1983 (USEPA 1983 Boiler Manual)), that requiring ICI boilers of five million BTU/hr or larger to perform annual tune ups will result in a 15 to 35 percent decrease in NO_x emissions from these sources. This would result in Statewide NO_x reductions in the range of 4.0 to 9.0 tons per day. If the tune up results in a 25 percent reduction in NO_x emissions, the benefit would be about 6.5 tons per day.

Such testing, and the electronic reporting of results, would enable the Department to determine the net NO_x emission reduction benefits that the tune up requirement achieves. The tune up is also an annual compliance tool for the Department to verify that boilers subject to air quality permits are operating in conformance with these rules and their permits. Since the population of additional boilers that the proposed new rule and amendments would include in the tune up requirements is relatively large (approximately 2,400 units), the Statewide environmental benefits of the tune up are expected to be significant. By expanding the rules to include moderate size boilers (five million to 20 million BTU per hour), the Department anticipates that these boilers would, as a result of the annual combustion adjustment, run more efficiently and emit lower levels of NO_x.

Vendors have estimated the cost of the annual tune up and testing to be between $500.00 and $1,000 per boiler, with the higher cost attributable to those boilers fueled by two fuels. The Department believes that most of the cost of the tune up of ICI boilers would be recovered through fuel conservation, because the boilers would operate at a more efficient reduced excess air firing level established during the tune up. The Department considers this cost to be reasonable, considering the NO_x emissions reduction potential. Even if there were no fuel savings, the testing and tune up costs would be relatively low at about $600.00 per ton of NO_x reduced.

In addition to the tune up requirement, the proposed rule and amendments would continue to include an emissions limit component. The proposed rule and amendments would not change the maximum allowable NO_x emission rate for ICI boilers in the 50 to 100 million BTU/hr size range. (See N.J.A.C. 7:27-19.7(h).) Accordingly, the proposed new rule and amendments would not result in increased compliance costs to owners and operators of such boilers except for the testing associated with the tune up, and new recordkeeping/reporting requirements.

Natural gas fired ICI boilers with a maximum heat input rate of at least 100 million BTU/hr would be subject to a more stringent emissions limit. Allowable NO_x emissions would be reduced from 0.2 to 0.1 lb/million BTU. (See N.J.A.C. 7:27-19.7(h).) Based on the Pechan Report, the Department estimates that approximately 41 boilers Statewide may be affected by this change. ICI boilers in this size range that do not burn natural gas would be subject to

emissions limits that are the same as the existing rules. The Department anticipates that the emission reduction in gas fired ICI boilers can be achieved by modifying existing NO_x burners, or by installing new low NO_x burners. The Department anticipates, based upon the Pechan Report, that the proposed rules would result in a reduction of NO_x emissions of 1.9 tons per day from ICI boilers greater than 100 million BTU/hr. Because of the large potential NO_x reduction that would result, the Department considers the cost of installing low NO_x burners to be reasonable, ranging from $337.00 to $2,350 per ton of NO_x removed (USEPA, Alternative Control Techniques (ACT) Document - NO_x Emissions from Industrial/Commercial/Institutional (ICI) Boilers, EPA-453/R-94-022 (USEPA 1994 ACT Document), Table 6-7, March 1994).

Indirect fired heat exchangers other than boilers, such as process heaters, would be required to comply with the combustion adjustment and emissions limits of the proposed new rules and amendments. (See N.J.A.C. 7:27-19.7(g) and (h).) Although the Department has not yet been able to determine conclusively the number of affected units in the State, it believes that the number would be relatively small. In New Jersey there are few such heat exchangers of 100 million BTU/hr or greater, fired by natural gas. Many refinery heaters have already been retrofitted with low NO_x burners and achieve the proposed limit. For those units that are fired by natural gas, the technology and costs associated with compliance would be similar to those for the ICI boilers of equivalent size, as discussed above.

Stationary Combustion turbines

The existing NO_x rules do not regulate combustion turbines between 25 and 30 million BTU per hour. The Department, consistent with the recommendations of the OTC model rule, would expand the rules to regulate emissions of NO_x from these sources. N.J.A.C. 7:27-19.5(d). There are 43 turbines in New Jersey that are greater than 25 million BTU/hr, which are not regulated by NO_x budget program (Pechan report). Based on dry low NO_x burner retrofits for natural gas firing, the cost of compliance is estimated to be about $1,164 to $4,659 per ton of NO_x removed, dependent upon the turbine model and annual operating hours (USEPA, Alternative Control Techniques (ACT) Document - NO_x Emissions from Stationary Gas Turbines, EPA-453/R-93-007, (USEPA 1/1993 ACT Document) Table 6-7, January 1993). Turbines that are oil-fired, can meet the proposed emissions limit by injecting water or steam into the combustor at an estimated cost of $2,421 to $2,912 per ton of NO_x removed, depending upon the turbine model and annual operating hours (USEPA 1/1993 ACT Document Table 6-6).

Combustion turbines greater than 30 million BTU per hour would be required to meet a lower NO_x limit only if they are oil-fired. N.J.A.C. 7:27-19.5(d). Some turbines, particularly the larger sizes and those that are water injected, already meet this limit and therefore can comply without incurring additional costs. Those oil-fired turbines with emissions above the limit may choose to inject water or steam into the combustor at an estimated cost of $946.00 to $2,674 per ton of NO_x removed, depending upon the turbine model and annual operating hours (USEPA 1/1993 ACT Document Table 6-6).

The Department anticipates, based upon the Pechan Report, that the additional regulation of stationary combustion turbines greater than 25 million BTU/hr would result in additional NO_x reductions of approximately 1.2 tons per day.

Stationary Reciprocating Engines

Engines smaller than 500 brake horsepower are not regulated under the existing rules. The proposed new rule and amendments would regulate stationary reciprocating engines as small as 50 brake horsepower if used for generating electricity, whether or not located at a major NO_x facility. N.J.A.C. 7:27-19.8. Because of the increased attractiveness of distributed generation, the Department foresees an increase in the number of small engines used for electric generation in the future. These engines are high emitters of NO_x if left uncontrolled, and a proliferation would seriously degrade air quality in New Jersey. To counter this impact, the new rules and amendments would require engines as small as 50 brake horsepower (37 kW) to meet specified performance levels. Compliance costs for each stationary reciprocating engine category are summarized below.

Emission limits for all affected existing engines would be reduced for diesel mode operation from 8.0 to 2.3 grams of NO_x/bhp-hr and for lean burn mode operation from 2.5 to 1.5 grams of NO_x/bhp-hr. The proposed new rule and amendments would have lower NO_x emission limits for engines 50 brake horsepower or greater that are new or modified, whether or not located at a major NO_x facility, and which are used for generating electricity. The proposed new rules and amendments would establish a NO_x limit of 0.70 grams of NO_x/bhp-hr for all new engines and 0.70 grams of NO_x/bhp-hr or 90 percent NO_x control efficiency for modified engines. N.J.A.C. 7:27-19.8(e)2 and 3. It is expected that rich burn engines would not have difficulty meeting the limit, since rich burn engines can be equipped with three-way catalysts at a cost effectiveness of $4,220 to $9,150 per ton of NO_x removed (USEPA, Alternative Control Techniques (ACT) Document - Internal Combustion NO_x Part 1 & 2, EPA-453/R-93-032 (USEPA 7/1993 ACT Document), Figure 6-7, July 1993). Diesel and lean burn engines in this size range probably would require more expensive selective catalytic reduction (SCR) add on control to meet a limit of 0.70 grams of NO_x/bhp-hr. The add on control will cost between $9,150 and $22,500 per ton of NO_x removed, depending on the size of the engine (USEPA 7/1993 ACT Document, Figure 6-20). Higher costs per ton are reasonable for this source category because small electric generators tend to be used for peak shaving during high temperatures when ozone levels are high and because smaller electric generating units tend to be close to people.

Stationary reciprocating engines between 50 and 200 brake horsepower in a group totaling 200 brake horsepower or greater, if used for generating electricity, would be required to meet the same limits applicable to individual engines of 200 brake horsepower or greater. (See N.J.A.C. 7:27-19.8(e)4.) The costs associated with retrofitting these smaller engines are correspondingly higher than for engines of 500 brake horsepower or greater. For the low end of the size range, the cost to retrofit is estimated to be $2,815 to $5,631 per ton for lean burn engines employing the low emissions combustion (LEC) technique (USEPA 7/1993 ACT Document, Figure 6-9), $2,815 to $9,150 per ton of NO_x removed to retrofit a three-way catalyst in a rich

burn engine (USEPA 7/1993 ACT Document, Figure 6-7), and $22,500 to $26,700 per ton of NO_x removed for diesel SCR retrofits (USEPA 7/1993 ACT Document, Figure 6-20). The Department estimates that there are approximately 120 reciprocating engines between 50 and 200 brake horsepower in the State. However, it anticipates that there are few that are in the groups of 200 brake horsepower or greater (NESCAUM, Stationary Diesel Engines in the Northeast: An Initial Assessment of the Regional Population, Control Technology Options and Air Quality Policy Issues, Table III-19, June 2003). One important purpose of this provision is to prevent the use of numerous high emitting units below 200 brake horsepower to circumvent the emission limitations in the rule. Costs can be lowered by using larger units with the same level of control.

Stationary reciprocating engines between 200 and 500 brake horsepower, if used for generating electricity, would be regulated under the proposed new rule and amendments. (See N.J.A.C. 7:27-19.8(e)1.) Rich burn engines can be retrofitted with three-way catalytic converters at an estimated cost of $1,120 to $9,800 per ton of NO_x removed (USEPA 7/1993 ACT Document, Figure 6-7). Lean burn engines with LEC retrofits will cost an estimated $1,602 to $4,274 per ton of NO_x removed (EC/R Inc., Stationary Reciprocating Internal Combustion Engines; Updated Information on NO_x Emissions and Control Techniques, Final Report, August 2000). Based on the cost of SCR retrofits, diesel and dual fuel engines can be brought into compliance at an estimated cost of $5,628 to $9,800 per ton of NO_x removed (USEPA 7/1993 ACT Document, Figure 6-20). Lower cost alternatives might be available through conversion to modes that are less costly to control. For example, some lean burn engines can be converted to rich burn mode equipped with a three-way catalyst. Liquid fuel diesel engines can be converted to dual fuel mode operation using mostly natural gas, and their emissions reduced by LEC rather than SCR add on control.

In the existing rules for stationary reciprocating engines of 500 brake horsepower and greater, lean burn and diesel engines that are used to generate electricity would be subject to the proposed lower emissions limits. N.J.A.C. 7:27-19.8(e)1. For lean burn engines, the Department estimates compliance costs to be $704.00 to $2,112 per ton of NO_x removed, based on the cost of LEC retrofitting (USEPA 7/1993 ACT Document, Figure 6-7). Based on the cost of SCR retrofits, compliance costs for diesel and dual fuel engines are estimated to be $985.00 to $5,631 per ton of NO_x removed (USEPA 7/1993 ACT Document, Figure 6-20).

The Pechan Report estimates that there are 82 stationary reciprocating engines of 200 brake horsepower or greater, used for generating electricity at major NO_x facilities in New Jersey. The emission reductions expected from the proposed rules limiting emissions from these engines would be approximately 3.7 tons of NO_x per day. However, the proposed rule and amendments would regulate any engine that is used for generating electricity, whether or not the engine is located at a major NO_x facility. Therefore, New Jersey could expect to achieve greater than the 3.7 tons per day reduction in NO_x emissions that the Pechan Report estimates.

Adjustment of the Combustion Process for Stationary Combustion Turbines and Reciprocating Engines

Stationary combustion turbines with a maximum gross heat input rate of at least 25 million BTU/hr and reciprocating engines with a maximum rated power output of 50 brake horsepower or greater would be subject to the combustion process adjustment requirements under the proposed new rules and amendments at N.J.A.C. 7:27-19.16(g) and (h). In performing the combustion adjustments, the owners and operators of stationary combustion turbines and reciprocating engines would have to follow the manufacturer's recommended procedures; record the levels of NO_x, CO and O_2, measured both before and after the adjustment; and keep specific information relating to the adjustment and the fuels used in the equipment. Since combustion turbines and reciprocating engines are inspected, repaired and adjusted if necessary and feasible as part of their routine maintenance, the primary additional financial burden of compliance would be the cost of testing NO_x, CO and O_2, both before and after the tune up. The estimated costs of tune up and testing would be between $500 to $1,000, which is the same as the cost for boilers, discussed above.

Emergency generators

The proposed rule and amendments would continue to exempt emergency generators from the substantive requirements of the proposed new rule and amendments, and would require only recordkeeping to ensure that the engines meet the definition of "emergency generator." N.J.A.C. 7:27-19.11. Since facilities normally keep records of maintenance for these engines, the additional burden of recordkeeping for periods of operation should not add significantly to the cost of compliance. Allowing use of emergency generator during voltage reduction action by PJM also helps to better address emergency conditions and avoid blackouts, resulting in an economic benefit.

Environmental Impact

The proposed new rule and amendments would have a positive impact on the environment. The primary environmental benefit would be a reduction in the emissions of NO_x, which is a precursor emission to the formation of ground-level ozone. NO_x is a by-product of fossil fuel combustion and is emitted primarily by motor vehicles, utilities and major industrial facilities. In the presence of sunlight, volatile organic compounds (VOCs), NO_x and other compounds in the ambient air react to form ozone. Ozone is a known respiratory irritant. Short-term effects on healthy exercising adults and children from exposure to elevated ozone concentrations include painful breathing, coughing and loss of certain lung functions.

Increased ozone levels also cause damage to foliage. One of the earliest and most obvious manifestations of ozone impact on the environment is the impact on sensitive plants. Subsequent side effects include reduced plant growth and decreased crop yield. The oxidizing properties of ozone lead to accelerated degradation of various man-made materials as well, such as rubber, plastics, dyes and paints.

Also, reducing emissions of NO_x would have other multiple ecosystems and environmental benefits. NO_x in the ambient atmosphere is a component of acid rain. Acid rain

damages plants and trees, and injures aquatic life by acidifying lakes and streams. It also contributes to eutrophication of sensitive aquatic environments and to soil nitrogen saturation. It also forms into fine particulate matter. High concentrations of fine particulate matter (called $PM_{2.5}$) adversely affect human health and welfare. The health effects of high levels of fine particulate matter include increased risk of asthma, bronchitis and other respiratory ailments. High levels of fine particulate matter reduce visibility in urban, rural, and sensitive (called Class I) areas, and contribute to regional haze. Because of the prevailing winds, NO_x emitted in New Jersey affects not only New Jersey, but also surrounding states. Accordingly, the reductions in NO_x emissions resulting from compliance with these proposed rule and amendments would help alleviate the acid rain and fine particulate problem in New Jersey and other northeastern states.

The Department anticipates that the NO_x emission limits in the proposed new rule and amendments would reduce the amount of ozone in the ambient air and assist the State in attaining the NAAQS for ozone. The Department also anticipates that the proposed emissions limits would reduce the amount of ozone in the OTR, and other areas affected by the transport of NO_x, an ozone precursor. The resulting reduction in ambient ozone concentration should reduce the adverse health effects and damage to the environment described above.

As part of the regional effort to address the one-hour ozone additional emission reduction requirements, the OTC commissioned a study to quantify the NO_x emission reduction benefits prepared for use in a regional basis (E.H. Pechan and Associates, Inc., "Control Measure Development Support Analysis of Ozone Transport Commission Model Rules," March 31, 2001). This regional study estimate that the proposed NO_x model rules, if fully implemented will result in the reduction of NO_x emissions in New Jersey of approximately 11 tons per day in 2005 and 12 tons per day in 2007. The Pechan report also shows the estimated impact the OTC model rules may have on NO_x emissions in each of the states in the ozone transport region, as well as the ozone transport region as a whole.

After adjusting the estimates in the Pechan report to reflect the proposed new rule and amendments, the Department estimates a reduction in NO_x emissions from stationary sources in New Jersey of more than 6.8 tons per day in 2007. The emission reductions expected from industrial/commercial/institutional boilers greater than 100 million BTU/hr is approximately 1.9 tons of NO_x per day. Stationary combustion turbines greater than 25 million BTU/hr are expected to have NO_x reductions of approximately 1.2 tons per day. For stationary reciprocating engines, the Pechan report assumed all engines in the size range greater than 200 brake horsepower, regardless of fuel type and utilization (electrical and non-electrical generation), located at a major NO_x facility, would be regulated. There are 270 affected engines in this size category, and 82 are identified as generating electricity. The emission reductions expected from these 82 generating electricity engines are approximately 3.7 tons of NO_x per day. However, New Jersey proposed new rule and amendments would regulate engines that are used for generating electricity, whether or not located at a major NO_x facility. Such engines which are not located at a major NO_x facility would produce additional NO_x reduction benefits and New Jersey could expect to achieve greater than 3.7 tons per day.

In addition, the proposed new rule and amendments would extend coverage to engines below the 200 brake horsepower OTC model rule category and would regulate stationary reciprocating engines as small as 50 brake horsepower, used for generating electricity, whether or not located at a major NO_x facility. The Department foresees an increase in the number of small engines used for electric generation in the future because of the increased attractiveness of distributed generation. These engines are high emitters of NO_x if left uncontrolled, and a proliferation would seriously degrade air quality in New Jersey. Therefore, regulation of these engines would result in avoidance of NO_x emission increases. The Department does not believe that many engines in this size range are used for non-emergency electric generation, but to the extent this is already occurring, emission reductions would result.

The EPA has evaluated the air quality of the New Jersey counties within the Philadelphia-Wilmington-Trenton area (the Philadelphia area) and the New Jersey counties in the New York-New Jersey-Long Island area (the New York area), and declared both the Philadelphia and New York areas to be in non-attainment of the NAAQS. The Department estimates that the proposed rule and amendments will result in a 1.93 tons per day NO_x emissions reduction in the New Jersey counties in the Philadelphia Area, and a 4.49 tons per day reduction in NO_x in the New Jersey counties in the New York area. These benefits are less than those projected for the measure in the State's SIP of September 12, titled "Update to Meeting the Requirements of the Alternative Ozone Attainment Demonstration Policy: Additional Emission Reductions, Reasonably Available Control Measure (RACM) Analysis, and Mid-Course Review" (the Additional Measures SIP). The Additional Measures SIP projected 3.35 tons per day reduction in NO_x for the New Jersey counties in the Philadelphia area and 7.57 tons per day for the New Jersey counties in the New York area.

For the New Jersey counties in the New York area, the difference of 3.08 tons of NO_x per day (7.57 projected in the Additional Measures SIP minus 4.49 anticipated from these rules) does not pose a problem because the other five OTC model rules being adopted by New Jersey are projected to provide substantially more emission benefit than required (see Table 2 of the Additional Measures SIP). For the New Jersey counties in the Philadelphia area, however, the projected benefits from the OTC model rules just match the EPA's emission shortfall requirement of 65 tons per day of VOC and NO_x combined. (See Table 2 of the Additional Measures SIP.) Therefore, any reduction in NO_x emission benefit, in this case, 1.42 tons per day (3.35 tons projected in the Additional Measures SIP minus 1.93 tons per day anticipated from the new rule and amendments), needs to be offset by another emission benefit in order for New Jersey to be in compliance with its SIP.

In determining compliance with the state's SIP, the EPA allows a state to consider emission reductions in areas outside, but within 100 kilometers of a non-attainment area, but within 100 miles. Since the NO_x emission reductions in the New Jersey counties in the Philadelphia area will not be as great as projected in the Additional Measures SIP, New Jersey may look to Atlantic and Cape May counties for additional benefit. The Additional Measures SIP

projected a reduction of 2.38 tons per day of VOC in 2005. (See Additional Measures SIP, Table 6.) As discussed in the Additional Measures SIP, for the Philadelphia area VOC and NO_x reductions on a ton per day basis are very closely inter-changeable, in that one ton of NO_x is equal to 1.04 tons of VOC in term of their ozone reducing effect. Accordingly, a 2.38 tons per day reduction in VOC in Atlantic and Cape May counties would be equivalent to approximately 2.29 tons per day reduction in NO_x. Since EPA allows the State to credit a benefit in Atlantic and Cape May counties against emissions within the Philadelphia area, the reduction in VOC emissions in Atlantic and Cape May counties more than offsets the 1.42 tons per day shortfall in the Philadelphia area. Consequently, New Jersey is in compliance with its SIP commitments regarding the adoption of sufficient measures to meet emission shortfalls. Note that this does not consider the benefit of tune up, which is discussed below.

In addition, the Statewide environmental benefits of the tune up are expected to be significant since the population of additional boilers that the proposed new rule and amendments would include in the tune up requirements is relatively large (approximately 2,400 units). The Pechan report did not estimate the NO_x reductions from such tune up. By expanding the rules to include moderate size boilers (five million to 20 million BTU per hour), the Department anticipates that these boilers would, as a result of the annual combustion adjustment, run more efficiently and emit lower levels of NO_x. The NO_x emissions reduction potential ranges from 15 percent to 35 percent according to an EPA study (USEPA, 1983 Boiler Manual). This would result in Statewide NO_x reductions in the range of 4.0 to 9.0 tons per day. If the tune up resulted at a 25 percent reduction in NO_x emissions, the benefit would be 6.5 tons per day.

Federal Standards Statement

Executive Order No. 27 (1994) and N.J.S.A. 52:14B-1 et seq. (P.L.1995, c.65) require State agencies that adopt, readopt, or amend State regulations that exceed any Federal standards or requirements to include in the rulemaking document a Federal Standards Analysis.

The Department has performed a comparison of N.J.A.C. 7:27-19 with analogous Federal provisions, namely New Source Performance Standards (NSPS), 40 CFR Part 60; NO_x SIP Call; and Acid Rain NO_x Emission Reduction Program, 40 CFR Part 76. The proposed rule and amendments have been promulgated pursuant to the CAA, and are intended to implement substantive Federal standards. The proposed new rule and amendments are needed to fulfill a requirement that the EPA imposed pursuant to the CAA requiring New Jersey to adopt sufficient control measures to reduce emissions of NO_x in order to attain the national ozone ambient air quality standard by the mandated attainment dates. Therefore, proposal of the new rule and amendments are consistent with Federal requirements.

Based on its review of these Federal regulations, the Department has determined that the proposed new rule and amendments do not exceed the standards or requirements imposed by Federal law, but rather implements them. Accordingly, pursuant to Executive Order No. 27 (1994) and N.J.S.A. 52:14B-1 et seq. (P.L. 1995, c.65), further analysis is not required.

Jobs Impact

The Department does not expect the proposed new rule and amendments to have a significant impact on employment and jobs in New Jersey, or cause a noticeable change in business creation, elimination or expansion, or business competitiveness in the State. The additional costs that the new rule and amendments would generate are not anticipated to affect industry operations in such a way as to affect employment in a negative manner. The resulting need for new air pollution control equipment to meet the rules' limits and increased testing requirements may increase activity in the job market.

Agriculture Industry Impact

Pursuant to the requirements of P.L. 1998, c.48, adopted on July 2, 1998, the Department has evaluated the proposed new rule and amendments to determine the nature and extent of their impact on the agriculture industry.

The proposed new rule and amendments are expected to have a positive impact on the agriculture industry of New Jersey. The air quality improvements expected to be realized in New Jersey as a result of the additional NO_x control measures, in concert with other ambient ozone control strategies, are expected to have a positive impact on the agriculture industry in New Jersey by reducing the damage that high concentrations of ground-level ozone have on sensitive crops.

The primary environmental benefit would be a reduction in NO_x, which is a precursor to the formation of tropospheric (ground-level) ozone that is breathed by people and animals and comes in contact with crops and other vegetation. Ground-level ozone interferes with various plants' ability to produce and store nutrients (USEPA 1997 Fact Sheet), which causes the plants to become more susceptible to disease, insects, other pollutants, and harsh weather. This impacts annual crop production throughout the United States, resulting in significant losses, and injures native vegetation and ecosystems.

The proposed new rule and amendments would have a positive environmental impact by reducing emissions of NO_x, thereby reducing the formation of ground-level ozone. Therefore, the reduction of NO_x from the proposed new rule and amendments would result in a positive impact on agriculture industry.

Regulatory Flexibility Analysis

As required by the New Jersey Regulatory Flexibility Act, N.J.S.A. 52:14B-16 et seq., the Department has evaluated the reporting, recordkeeping and other compliance requirements that the proposed new rules and amendments would impose upon small businesses. The Regulatory Flexibility Act defines the term "small business" as "any business which is a resident in this State, independently owned and operated and not dominant in its field, and which employs fewer than 100 full-time employees." Based upon this definition, some of the facilities that would be subject to the proposed new rule and amendments are owned and operated by

small businesses. For a discussion of the proposed compliance requirements, see the Summary, above. For a discussion of the proposed compliance costs, see the Economic Impact, below.

The Department has taken measures to minimize the adverse impact of the proposed new rule and amendments upon small businesses. For this purpose the Department included several compliance options in the proposed new rule and amendments. The effective date for compliance with the proposed NO_x limits is 16 months after the operative date of the new rule and amendments, which gives industry time to comply with the amended rules. The proposed new rule and amendments would allow compliance options such as an emissions averaging plan, an alternative maximum allowable emission rate, repowering, and innovative technology.

It is not mandatory or essential to employ professionals or consultants in order for small businesses to comply with the proposed rule and amendments. However, the Department anticipates that they would choose to employ professionals or consultants to assist them to comply with the proposed rules and amendments.

In light of these accommodations and the moderate cost to comply with the proposed new rule and amendments, when compared to the overall benefits attributable to the anticipated resulting reduction in NO_x emissions, the Department has determined that the effect of the proposed new rule and amendments on small businesses would be reasonable. Moreover, no further exemption from coverage can be provided to small businesses if the full effect of this rulemaking is to be achieved. New Jersey is under a Federal mandate, under the authority of the CAA, to reduce NO_x emissions. Failure to achieve these reductions could subject New Jersey to economic sanctions, which would adversely affect all businesses in the State, including small businesses. The Department has determined that to exempt small businesses from any requirements or to reduce any requirements would compromise the goals of the rules and the emission reductions needed to reach the attainment of the ozone standards.

Smart Growth Impact

Executive Order No.4 (2002) requires State agencies that adopt, amend or repeal State regulations to include in the rulemaking document a Smart Growth Impact statement that describes the impact of the proposed rules on the achievement of smart growth and implementation of the State Development and Redevelopment Plan (State Plan). The proposed new rule and amendments to the State's Control and Prohibition of Air Pollution From Oxides of Nitrogen rules are to be implemented evenly Statewide and, therefore, do not relate to the State's official land use and development policies in a way that would either encourage or discourage any development or redevelopment in this State contrary to the guiding principles of the State Plan. As a result, the Department does not expect this rulemaking to have an impact on the State's achievement of smart growth, or implementation of the State Plan.

Since the proposed rule and amendments will help protect air quality, the proposed rule and amendments support the conservation and environmental protection goals and policies underlying the State Plan.

References

American Lung Association, et al. v. EPA, Civil Case No.4114-91, U.S. Court of Appeals, Second, October 22, 1991

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U.S. Environmental Protection Agency, Alternative Control Techniques Document- NO_x Emissions from Stationary Gas Turbines, EPA-453/R-93-007, January 1993

U.S. Environmental Protection Agency, Combustion Efficiency Optimization Manual for Operators of Oil-Fired and Gas-Fired Boilers, EPA 340/1-83-023, September 1983

U.S. Environmental Protection Agency, Fact Sheet on the New 8-Hour Ozone and Fine (2.5 microns) Particulate Matter Health Standards, EPA July 1997

Full text of the proposal follows (additions indicated in boldface thus; deletions indicated in brackets [thus]):

CHAPTER 27
AIR POLLUTION CONTROL

SUBCHAPTER 8. PERMITS AND CERTIFICATES FOR MINOR FACILITIES (AND MAJOR FACILITIES WITHOUT AN OPERATING PERMIT)

7:27-8.1 Definitions

The following words and terms, when used in this subchapter, shall have the following meanings, unless the context clearly indicates otherwise:

...

"Brake horsepower" means a measure of mechanical power generated by a reciprocating engine determined by a brake attached to the shaft coupling.

…

“Energy and Environmental Technology Verification Act” or “EETV Act” means N.J.S.A. 13:1D-134 et seq., that authorizes the Department to develop and implement an innovative energy and environmental technology verification and certification process.

...

"Microturbine" means a combustion turbine with output of 25 kW to 500 kW.

…

“Rated power output” means the maximum electrical or equivalent mechanical power output stated on the nameplate affixed to an engine or turbine by the manufacturer.

...

“Technology Acceptance and Reciprocity Partnership” or “TARP” means a workgroup of the Environmental Council of States (ECOS). The workgroup was formed to promote the reciprocal evaluation, acceptance, and approval of innovative environmental

technologies.

...

7:27-8.2 Applicability

(a)-(b) (No change.)

(c) Any equipment or source operation that may emit one or more air contaminants directly or indirectly into the outdoor air and belongs to one of the categories listed below, is a significant source (and therefore requires a preconstruction permit and an operating certificate), unless it is exempted from being a significant source pursuant to (d)**,** **[**or**]** (e) **or (f)** below:

1. Commercial fuel burning equipment**, except for a source listed in (c)21 below,** that has a maximum rated heat input of 1,000,000 BTU per hour or greater to the burning chamber;

2. - 18. (No change.)

19. Equipment in which the combined weight of all raw materials used exceeds 50 pounds in any one hour, provided:

i. (No change.)

ii. In determining the weight of the raw materials used, the weight of the following shall be excluded:

(1) - (3) (No change.)

(4) Paper, metal, or plastic that is twisted, bent, or folded, in the equipment, provided that the twisting, bending, or folding, does not cause visible emissions or air pollution; **[**and**]**

20. Welding equipment, if the weight of the welding rod or welding wire used in the process is greater than 12 pounds in any calendar day **[**.**]; and**

21. Any stationary reciprocating engine with a maximum rated power output of 50 brake horsepower or greater, used for generating electricity.

(d) Even if a source is listed in (c) above, any of the following is not a significant source (and therefore does not need a **preconstruction** permit and **operating** certificate) if it is:

1. -10. (No change.)

11. A fuel cell system **[**that uses hydrogen without a fuel processor, or a fuel cell system that uses a natural gas fuel processor and that has a power output no greater than 500 kilowatts;**]** **of:**

i. Any generating capacity size fueled by hydrogen without a fuel processor;

ii. Less than 5,000 kilowatts generating capacity fueled by methane; or

iii. Less than 500 kilowatts generating capacity fueled by fuels other than hydrogen or methane;

12. -13. (No change.)

(e) (No change.)

(f) Equipment or a source operation that would be classified as a significant source solely because it meets the criteria in (c)1 above is not a significant source (and therefore does not need a preconstruction permit and operating certificate) provided that it meets the criteria at (f)1 through 4 below:

1. The equipment or source operation is one of the following:

i. A microturbine with less than 500 kilowatts generating capacity that is fueled by natural gas and that has been verified according to the requirements in (f)2 below to emit less than:

(1) 0.40 pounds of NO_x per megawatt hour; and

(2) 0.25 pounds of CO per megawatt hour; or

ii. Any piece of electric generating equipment, other than a fuel cell system or a microturbine, with less than 500 kilowatts generating capacity and that has been verified according to the requirements in (f)2 below to emit less than:

(1) 0.40 pounds of NO_x per megawatt hour;

(2) 0.25 pounds of CO per megawatt hour;

(3) 0.10 pounds of PM per megawatt hour; and

(4) 0.01 pounds of SO_2 per megawatt hour;

2. A facility with a source identified in (f)1 above shall verify its emissions and demonstrate conformance with the emission levels in (f)1 above using (f)2i or ii below. If verification process is not available pursuant to (f)2i below, or manufacturer testing has not been conducted in accordance with (f)2ii below or has been conducted in accordance with (f)2ii below but has been determined to be not acceptable with (f)2iv below, then the facility shall demonstrate conformance using (f)2iii below:

i. An applicable verification process approved by the Department pursuant to the EETV Act, or through TARP, available from the Department's Bureau of Sustainable Communities and Innovative Technologies at (609) 292-9692 or www.state.nj.us/dep/dsr/bscit.htm;

ii. The manufacturer's test protocol, provided the facility maintains on-site for inspection by the Department a copy of the protocol, test data and the test report, and available for Department review or request, and producing documents from the equipment manufacturer that the manufacturer has:

(1) Performed representative source emission testing on a model of equipment;

(2) Had the source emission testing and the test report reviewed and certified by a licensed professional engineer;

(3) Conducted a minimum of three consecutive one-hour test runs, in which the average of the test runs shall not have exceeded the emission limits stated at (f)1i and ii above; and

(4) Converted each test run to pounds per megawatt hour before averaging; or

iii. Stack emission testing, provided the facility has:

(1) Developed and used, a stack emission testing protocol using the protocol templates in Technical Manual 1004, available at the Department's website www.state.nj.us/dep/bts.html;

(2) Conducted a minimum of three consecutive one-hour test runs, in which the average of the test runs shall not exceed the emission limits stated at (f)1i and ii above; and

(3) Converted the results of each test run to pounds per megawatt hour before averaging.

iv. The Department may determine that the manufacturer's testing of a model of the equipment, under (f)2ii above, is not acceptable. The Department's basis for rejecting the manufacturer testing may include, but need not be limited to, inappropriate test methods, invalid test data, or test data that indicate emissions above the specified limits;

3. The owner or operator of the source shall have available on site a statement, certified in accordance with N.J.A.C.7:27-1.39, by the responsible official, that the equipment or source operation meets all the criteria in (f)1 and 2 above. This certification shall be provided to the Department upon request; and

4. If the Department has reason to believe, as a result of an inspection or otherwise, that the equipment or a source operation is emitting NO_x above the specified limits, the Department, at its discretion, may require the owner or operator of the equipment or a source operation to submit the certified test report and/or supporting test data to the Department. The Department, at its discretion, may also require the owner or operator of a source to perform source emission testing in accordance with N.J.A.C. 7:27-8.4(f).

Recodify existing (f)-(i) as **(g)-(j)** (No change in text.)

SUBCHAPTER 16. CONTROL AND PROHIBITION OF AIR POLLUTION BY VOLATILE ORGANIC COMPOUNDS

7:27-16.1 Definitions

The following words and terms, when used in this subchapter, have the following meanings, unless the context clearly indicates otherwise.

...

"Brake horsepower" means a measure of mechanical power generated by a reciprocating engine determined by a brake attached to the shaft coupling.

…

"Boiler serving an electric generating unit" means a steam generating unit used for generating electricity including a unit serving a cogeneration facility.

...

"Combined cycle **[**gas**]** **combustion** turbine" means a **[**gas**]** **combustion** turbine **[**in which**]** **that recovers** heat **[**is recovered**]** from the **[**turbine's**]** **turbine** exhaust gases to heat water or generate steam.

...

"Combustion turbine" means an internal combustion engine that uses liquid or gaseous fuel, in which blades are driven by combustion gases to generate mechanical energy in the form of a rotating shaft that drives an electric generator or other equipment.

...

"Electric distribution company" means a public utility, as the term is defined in N.J.S.A. 48:2-13, that transmits or distributes electricity to end users within this State.

"Electric distribution system" means that portion of an electric system, which delivers electricity from transformation points on the transmission system to points of connection at a customer's premises. An electric distribution system generally carries less than 69 kilovolts of electricity.

"Electric generating unit" means a combustion or steam generating source used for generating electricity that delivers all or part of its power to the electric power distribution grid for commercial sale.

"Emergency" means any situation that arises from sudden and reasonably unforeseeable events beyond the control of an owner or operator of a facility, such as system capacity shortage or an act of God, that requires immediate corrective action to prevent system collapse or to restore normal operations at the facility. Emergency does not include equipment failure or other failure to comply with any environmental law caused by improperly designed equipment, lack of preventive maintenance, careless or improper operation, or operator error.

"Emergency generator" means a combustion source that:

1. Is located at a facility and produces mechanical or thermal energy, or

electrical power exclusively for use at the facility;

2. Is the source of mechanical or thermal energy or electrical power during an emergency when the primary source of energy or power is unavailable;

3. Is operated only:

i. When normal testing and maintenance procedures, as recommended by the manufacturer and/or as required by a Federal law or regulation, are being performed;

ii. When there is power outage or the primary source of mechanical or thermal energy fails because of an emergency; or

iii. When there is a voltage reduction issued by PJM and posted on the PJM internet website (www.pjm.com) under the "emergency procedures" menu;

4. Is never used in a circumstance other than an emergency, except as specified in subparagraph 3i above;

5. Shall not be operated for normal testing and maintenance procedures as specified at subparagraph 3i above on days when the Department forecasts air quality to be at least as hazardous as "unhealthy for sensitive groups" as defined in the U.S. EPA's Air Quality Index. Air quality forecasts are available by free subscription to the Department's Automated Forecast Notification System (information at http://www.state.nj.us/dep/airmon/maillist.htm); and

6. Is not used as a source of energy or power after the primary energy or power source either has become operable again, or should have become operable had the owner or operator made a reasonable, timely effort to repair it.

...

["Gas turbine" means an internal combustion engine fueled by liquid or gaseous fuel, in which blades are driven by combustion gases, and which generates mechanical energy in the form of a rotating shaft which is used to drive an electric generator or other industrial equipment.**]**

...

"Industrial/commercial/institutional boiler" or "ICI boiler" means an indirect heat exchanger that generates steam to supply heat to an industrial, commercial, or institutional

operation. This term does not include boilers that serve electric generating units.

...

"Internal combustion engine" means either a reciprocating engine or a combustion turbine in which power, produced by heat and/or pressure from combustion is converted to mechanical work.

...

["Non-utility boiler" means any steam generating unit which is not a utility boiler.**]**

...

"PJM" means PJM Interconnection, LLC, or any successor to PJM as the Regional Transmission Organization, approved by the Federal Energy Regulatory Commission (FERC), serving a region that includes New Jersey as well as all or parts of other states.

…

"Power outage" means an interruption in the provision of electricity to customers because normally available sources of electrical energy are unavailable, provided the unavailability is due to circumstances beyond the control of both the customer and the power supplier.

...

"Rated power output" means the maximum electrical or equivalent mechanical power output stated on the nameplate affixed to an engine or turbine by the manufacturer.

...

"Reciprocating engine" means an engine with a crankshaft.

...

"Regenerative cycle **[**gas**]** **combustion** turbine" means a **[**gas**]** **combustion** turbine **[**which**]** **that** recovers heat from its exhaust gases and uses that heat to preheat the **inlet** combustion air which is **[**drawn**]** **fed** into the **[**gas**]** **combustion** turbine.

...

"Simple cycle **[**gas**]** **combustion** turbine" means a **[**gas**]** **combustion** turbine **[**which**]** **that** does not recover heat from its exhaust gases.

...

"Stationary **[**gas**]** **combustion** turbine" means any simple cycle **[**gas**]** **combustion** turbine, regenerative cycle **[**gas**]** **combustion** turbine, or **combustion turbine portion of a** combined cycle **[**gas turbine**]** **steam/electric generating system** that **[**is**]:**

1. **Is** not self-propelled **[**. The term includes a gas turbine of any of these types which is**], but may be** mounted on a vehicle for portability**; or**

2. **Is self-propelled on tracks at a facility, but does not in the course of its normal operation leave the facility**.

"Stationary **[**internal combustion**]** **reciprocating** engine" means **[**any**]** **an** internal combustion engine that is **a reciprocating engine that remains for more than 30 days at a single site (for example, any building, structure, facility, or installation), and:**

1. **Is** not self-propelled **[**. This term includes internal combustion engines which are**], but may be** mounted on **[**vehicles**]** **a vehicle** for portability**; or**

2. **Is self-propelled on tracks at a facility, but does not in the course of its normal operation leave the facility. This term does not include locomotive engines or construction engines**.

...

["Utility boiler" has the meaning defined in N.J.A.C. 7:27-19.**]**

...

"Voltage reduction" means a reduction in customer supply voltage of at least five percent by an electric distribution company in order to reduce load on an electric distribution system.

...

7:27-16.8 Boilers

(a) (No change.)

(b) The owner or operator of any **[**utility**]** boiler **serving an electric generating unit**, regardless of size, or any **[**non-utility**]** **industrial/commercial/institutional** boiler with a

maximum gross heat input rate of **[**50,000,000 British thermal units or more**]** **at least 50 million BTU** per hour **or greater** shall:

1. -2. (No change.)

3. Adjust its combustion process in accordance with **the procedure set forth at** N.J.A.C. 7:27-**[**16.24**]19.16 [**as follows**]** **and the following schedule**:

i. For any **[**utility**]** boiler **serving an electric generating unit**, regardless of size, **[**or any non-utility boiler with a maximum gross heat input rate of at least 250,000,000 British thermal units per hour,**]** by May 1 of each year **[**beginning in 1995**]**; or

ii. For any **[**non-utility**]** **industrial/commercial/institutional** boiler **or other indirect heat exchanger** with a maximum gross heat input rate of at least **[**50,000,000 British thermal units per hour but less than 250,000,000 British thermal units per hour,**]** **50 million BTU per hour or greater:**

(1) If not located at a major NO_x facility, in the same quarter of each calendar year beginning in (calendar year 16 months after the operative date of this amendment); or

(2) If located at a major NO_x facility, or required by this section prior to (the operative date of this amendment) to adjust the combustion process, in the same quarter of each calendar year **[**beginning in 1995**]**.

(c) The owner or operator of any **[**non-utility**]** **industrial/commercial/institutional** boiler **or other indirect heat exchanger** with a maximum gross heat input rate at least **five million BTU per hour but less than 50 million BTU per hour, shall adjust the combustion process annually in accordance with the procedure set forth at N.J.A.C. 7:27-19.16 and the following schedule:**

1. For an industrial/commercial/institutional boiler or other indirect heat exchanger with a maximum gross input heat of at least five million BTU per hour, but less than 10 million BTU per hour, whether or not located at a major NO_x facility, in the same quarter of each calendar year, beginning in (calendar year 52 months after the operative date of this amendment); and

2. For an industrial/commercial/institutional boiler or other indirect heat exchanger with a maximum gross input heat of at least 10 million BTU per hour, but less than 20 million BTU per hour, whether or not located at a major NO_x facility, in the same quarter of each calendar year, beginning in

(calendar year 28 months after the operative date of this amendment); or

3. **For an industrial/commercial/institutional boiler or other indirect heat exchanger with a maximum gross input heat of at least** **[**20,000,000 British thermal units**]** **20 million BTU** per hour **[**and**], but** less than **[**50,000,000 British thermal units**]** **50 million BTU** per hour**:**

i. **If not located at a major NO_x facility, in the same quarter of each calendar year beginning in (calendar year 16 months after the operative date of this amendment); or**

ii. **If located at a major NO_x facility, or required by this section prior to (the operative date of this amendment) to** **[**shall**]** adjust the combustion process**,** **[**in accordance with N.J.A.C. 7:27-16.24**]** **in the same quarter of** each calendar year **[**beginning in 1995**]**.

(d) (No change.)

(e) **[**The**]** **Except as set forth in (c)1 and 2, above, the** owner or operator of any **[**utility**]** boiler **serving an electric generating unit** or **[**non-utility**]** **industrial/commercial/institutional** boiler subject to this section shall demonstrate compliance with this subchapter in accordance with the procedures at N.J.A.C. 7:27-16.23 before May 31, 1996.

(f) The owner or operator of any **[**utility**]** boiler **serving an electric generating unit** subject to this section shall install a continuous emissions monitoring system for CO in accordance with the procedures set forth at N.J.A.C. 7:27-19.18 before May 31, 1995.

(g) The owner or operator of any **[**non-utility**]** **industrial/commercial/institutional** boiler with a maximum gross heat input rate of greater than **[**250,000,000 British thermal units**]** **250 million BTU** per hour shall install a continuous monitoring system for CO in accordance with the procedures set forth at N.J.A.C. 7:27-19.18 before May 31, 1995.

(h)-(k) (No change.)

7:27-16.9 Stationary **[**gas**]** **combustion** turbines

(a) The provisions of this section apply to any stationary **[**gas**]** **combustion** turbine **[**which**]** **that** is subject to the provisions of N.J.A.C. 7:27-19**, except emergency generators**.

(b) The owner or operator of any stationary **combustion** turbine shall cause it to emit CO in concentrations that do not exceed 250 parts per million by volume, dry basis (ppmvd) at 15 percent oxygen.

(c) The owner or operator of any stationary **[**gas**]** **combustion** turbine shall cause it to emit VOC in concentrations that do not exceed 50 ppmvd at 15 percent oxygen.

(d) Any owner or operator of a stationary **[**gas**]** **combustion** turbine subject to this section shall achieve compliance with this section by May 31, 1995, and maintain compliance with this section thereafter.

(e) The owner or operator of any stationary **[**gas**]** **combustion** turbine subject to this section shall demonstrate compliance with this subchapter in accordance with the procedures at N.J.A.C. 7:27-16.23 before May 31, 1996.

(f) **[**Any**]** **The** owner or operator of any stationary **[**gas**]** **combustion** turbine subject to this section **with a maximum gross heat input rate of at least 25 million BTU per hour,** shall adjust the combustion process in accordance with the procedure set forth at N.J.A.C. 7:27-**[**16.24**]****19.16** **[**before May 1 of each year beginning in 1995**]** **and the following schedule:**

1. For a stationary combustion turbine that has a maximum gross heat input rate of at least 25 million BTU but less than 30 million BTU per hour, according to manufacturer's recommended maintenance schedules beginning in (calendar year 16 months after the operative date of this amendment); or

2. For a stationary combustion turbine that has a maximum gross heat input rate of at least 30 million BTU per hour or greater, or required by this section prior to (the operative date of this amendment) to adjust the combustion process, according to manufacturer's recommended maintenance schedules.

(g)-(j) (No change.)

7:27-16.10 Stationary **[**internal combustion**]** **reciprocating** engines

(a) The provisions of this section apply to any stationary **[**internal combustion**]** **reciprocating** engine **[**which**]** **that** is subject to the provisions of N.J.A.C. 7:27-19**, except emergency generators**.

(b) The owner or operator of any stationary **[**internal combustion**]** **reciprocating** engine subject to this section shall cause it to emit CO in concentrations that do not exceed 500 parts per million by volume, dry basis (ppmvd) at 15 percent oxygen.

(c) Any owner or operator of a stationary **[**internal combustion**]** **reciprocating** engine subject to this section shall achieve compliance with this section by May 31, 1995, and maintain compliance with this section thereafter.

(d) The owner or operator of any stationary **[**internal combustion**]** **reciprocating** engine subject to this section shall demonstrate compliance with this subchapter in accordance with the procedures at N.J.A.C. 7:27-16.23 before May 31, 1996.

(e) **[**Any**]** **The** owner or operator of any stationary **[**internal combustion**]** **reciprocating** engine subject to this section **with a maximum rated power output of at least 50 brake horsepower or greater, whether or not located at a major NO_x facility,** shall adjust the combustion process in accordance with the procedure set forth at N.J.A.C. 7:27-**[**16.24**]****19.16** **[**before May 1 of each year beginning in 1995**]** **and the following schedule:**

1. For a stationary reciprocating engine that has a maximum rated power output of at least 50 brake horsepower but less than 500 brake horsepower used for generating electricity, adjust the combustion process according to manufacturer's recommended maintenance schedules beginning in (calendar year 16 months after the operative date of this amendment); or

2. For a stationary reciprocating engine that has a maximum rated power output of at least 500 brake horsepower or greater, or required by this section prior to (the operative date of this amendment) to adjust the combustion process, according to manufacturer's recommended maintenance schedules.

(f)-(h) (No change.)

7:27-16.16 Other source operations

(a) The provisions of this section apply to any source operation, except source operations in the following categories (Note: Source operations in those categories designated by an asterisk (*) which have the potential to emit three pounds per hour or more of VOC and which are located at a major VOC facility are regulated by N.J.A.C. 7:27-16.17.):

1. -7. (No change.)

8. Stationary **[**gas**]** **combustion** turbines;

9. Stationary **[**internal combustion**]** **reciprocating** engines;

10. -19. (No change.)

(b)-(g) (No change.)

7:27-16.24 **[**Adjusting combustion processes**]** **(Reserved)**

[When any provision of this subchapter requires the adjustment of a combustion process for any equipment or source operation, the owner or operator of the equipment or source operation shall do so in accordance with the terms and conditions of N.J.A.C. 7:27-19.16.**]**

SUBCHAPTER 19. CONTROL AND PROHIBITION OF AIR POLLUTION FROM OXIDES OF NITROGEN

7:27-19.1 Definitions

The following words and terms, when used in this subchapter, shall have the meanings given below unless the context clearly indicates otherwise.

...

"Anthracite coal" means coal that is classified as anthracite according to the ASTM Standard Specification for Classification of Coals by Rank, ASTM D 388-77, incorporated herein by reference**, as amended or supplemented**. This specification can be obtained from the American Society for Testing and Materials, **[**1916 Race Street, Philadelphia, PA 19103**]** **100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA 19428-2959**.

…

"Bituminous coal" means coal that is classified as bituminous according to the ASTM Standard Specification for Classification of Coals by Rank, ASTM D 388-77, **incorporated herein by reference, as amended or supplemented**. This specification can be obtained from the American Society for Testing and Materials, **[**1916 Race Street, Philadelphia, PA 19103**]** **100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA 19428-2959**.

"Boiler serving an electric generating unit" means a steam generating unit used for generating electricity including a unit serving a cogeneration facility.

...

"Brake horsepower" means a measure of mechanical power generated by a reciprocating engine determined by a brake attached to the shaft coupling.

“Brake horsepower-hour” or “bhp-hr" means a unit of energy or work, equal to the work done by a mechanism with a power output of one brake horsepower over a period of one hour.

...

"British thermal unit **[**(BTU)**]**" **or "BTU"** means the quantity of heat required to raise the temperature of one avoirdupois pound of water one degree Fahrenheit at 39.1 degrees Fahrenheit.

"Budget source" means those sources regulated in N.J.A.C. 7:27-31.

...

["Continuous emissions monitor" or "CEM" means a device which continuously measures the emissions from one or more source operations.

"Continuous monitoring system" or "CMS" means a system designed to continuously measure various parameters at a facility which may affect or relate to a facility's emissions. Components of a CMS include, but are not limited to, any continuous emissions monitor (CEM), continuous opacity monitor (COM), continuous process monitor (CPM), or any other constantly operating measuring device and recording device approved by the Department to perform one or more of the functions of a CMS.**]**

"CFR" means the **United States** Code of Federal Regulations.

"Clean Air Act" or "CAA" means the Federal Clean Air Act, 42 U.S.C. §§ 7401 et seq., as amended and supplemented.

...

"Combined cycle **[**gas**]** **combustion** turbine" means a **[**gas**]** **combustion** turbine **[**in which**]** **that recovers** heat **[**is recovered**]** from the **[**turbine's**]** **turbine** exhaust gases to heat water or generate steam.

...

"Combustion turbine" means an internal combustion engine fueled by liquid or gaseous fuel, in which blades are driven by combustion gases to generate mechanical energy in the form of a rotating shaft that drives an electric generator or other industrial equipment.

...

"Continuous emissions monitor" or "CEM" means a device that continuously measures the emissions from one or more source operations.

"Continuous monitoring system" or "CMS" means a system designed to continuously measure various parameters at a facility, which parameters may affect or relate to a facility's emissions. Components of a CMS include, but are not limited to, any continuous emissions monitor (CEM), continuous opacity monitor (COM), continuous

process monitor (CPM), or any other constantly operating measuring device and recording device approved by the Department to perform one or more of the functions of a CMS. Ambient monitors, which measure the impact or concentration of air contaminants emitted by the source operation or facility in nearby areas, are not considered part of a facility's CMS.

...

"Dry bottom **[**utility**]** boiler **serving an electric generating unit**" means a **[**utility**]** boiler **serving an electric generating unit [**equipped with an ash disposal hopper bottom with sufficient cooling surface so that ash particles, when removed from the hopper, are**] in which ash is removed from the boiler** in a solid state.

...

"Dual fuel engine" means compression ignited stationary internal combustion engine that is capable of burning liquid fuel and gaseous fuel.

"Duct burner" means an item of equipment used with a combined cycle **[**gas**] combustion** turbine or a stationary **[**internal combustion**] reciprocating** engine to increase the steam generating capacity of heat recovery steam generators. A duct burner consists of pipes and small burners that are placed in the exhaust duct upstream of the heat recovery steam generator; the duct burner allows firing of additional fuel to increase the exhaust heat energy. A duct burner is a type of indirect heat exchanger.

"Electric distribution company" means a public utility, as the term is defined in N.J.S.A. 48:2-13, that transmits or distributes electricity to end users within this State.

"Electric distribution system" means that portion of an electric system, which delivers electricity from transformation points on the transmission system to points of connection at a customer's premises. An electric distribution system generally carries less than 69 kilovolts of electricity.

"Electric generating unit" means a combustion **or steam generating** source used for generating electricity that delivers all or part of its power to the electric power distribution grid for commercial sale.

["Electric generating utility" means any person who is subject to regulation as a public utility (as defined in N.J.S.A. 48:2-13) for its provision of electric power to another person or any person who would be subject to such regulation were it not for that person's status as a municipality.**]**

"Emergency" means any situation that arises from sudden and reasonably

unforeseeable events beyond the control of an owner or operator of a facility, such as system capacity shortage or an act of God, that requires immediate corrective action to prevent system collapse or to restore normal operations at the facility. Emergency does not include equipment failure or other failure caused by improperly designed equipment, lack of preventive maintenance, careless or improper operation, or operator error.

...

"Emergency generator" means a combustion source **[**used to provide**]** **that:**

1. **Is located at a facility and produces** mechanical**[,]** **or** thermal **energy,** or electrical **[**energy only**]** **power exclusively for use at the facility;**

2. **Is the source of mechanical or thermal energy, or electrical power during an emergency when the primary source of energy is unavailable;** **[**when the facility's primary source of that energy has been rendered inoperable by circumstances beyond the control of the owner or operator of the facility. The term does not include equipment**]**

3. **Is operated only:**

i. **When normal testing and maintenance procedures, as recommended by the manufacturer and/or as required by a Federal law or regulation, are being performed;**

ii. **When there is power outage or the primary source of mechanical or thermal energy fails because of an emergency; or**

iii. **When there is a voltage reduction issued by PJM and posted on the PJM internet website (www.pjm.com) under the "emergency procedures" menu;**

4. **Is never** used in **a** circumstance**[**s**]** other than **[**emergencies**]** **an emergency, except as specified at subparagraph 3i above** **[**such as during high electric demand days. The term also does not include equipment which continues to be used**];**

5. **Shall not be operated for normal testing and maintenance procedures as specified at subparagraph 3i above on days when the Department forecasts air quality to be at least as hazardous as "unhealthy for sensitive groups" as defined in the U.S. EPA's Air Quality Index. Air quality forecasts are available by free subscription to the Department's Automated Forecast Notification System (information at http://www.state.nj.us/dep/airmon/maillist.htm); and**

6. **Is not used as a source of energy or power** after the primary energy **or power** source either has become operable again**,** or should have become operable had the owner or operator made **a** reasonable**, timely** effort**[**s**]** to repair it.

...

"Fuel-bound nitrogen" means the nitrogen content, in weight fraction, of a fuel.

...

"Gas" or "gaseous fuel" means any gaseous substance that can be used to create useful heat and/or mechanical energy.

["Gas turbine" means an internal combustion engine fueled by liquid or gaseous fuel, which generates mechanical energy in the form of a rotating shaft which is used to drive an electric generator or other industrial equipment.**]**

...

["Horsepower hour" means a unit of energy or work, equal to the work done by a mechanism with a power output of one horsepower over a period of one hour.**]**

...

"Industrial/commercial/institutional boiler" or "ICI boiler" means an indirect heat exchanger that generates steam to supply heat to an industrial, commercial, or institutional operation. This term does not include boilers that serve electric generating units.

...

"Internal combustion engine" means either a reciprocating engine or a combustion turbine in which power, produced by heat and/or pressure from combustion is converted to mechanical work.

...

"Lb/MMBTU" means pound per million British Thermal Units**[**.**], which is based on higher heating value.**

"Lean-burn **[**stationary internal combustion**]** engine" means a stationary **[**internal combustion**]** **reciprocating** engine **[**which**]** **that** operates at an air-to-fuel ratio **that is** fuel-lean of stoichiometric and **that** cannot operate with an exhaust oxygen concentration **of** less than one

percent.

"Lignite" means coal that is classified as lignite A or B according to the ASTM Standard Specification for Classification of Coals by Rank, ASTM D 388-77, **incorporated herein by reference, as amended or supplemented**. This specification can be obtained from the American Society for Testing and Materials, **[**1916 Race Street, Philadelphia, PA 19103**]** **100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA 19428-2959**.

...

"Maximum allowable emission rate" means the maximum amount of an air contaminant **[**which**]** **that** may be emitted into the **[**outdoor**]** **ambient** air **[**at any instant in time or**]** during **[**any**]** **one of the following:**

1. **A** prescribed interval of time**, such as one hour or one day;**

2. **Unit of activity, such as the burning of one gallon of fuel; or**

3. **Unit of output, such as the generation of one megawatt hour of electricity**.

...

"Modify" or "modification" means any physical change, or change in the method of operation of existing equipment or control apparatus, that increases the amount of actual emission of any air contaminant emitted by that equipment or control apparatus or that results in the emission of any air contaminant not previously emitted. This term shall not include normal repair and maintenance.

...

"Natural gas" means:

1. **A naturally occurring mixture of hydrocarbon and nonhydrocarbon gases found in geologic formations beneath the earth's surface, of which the principal constituent is methane; or**

2. **Liquid petroleum gas, as defined by the ASTM Standard Specification for Liquid Petroleum Gases, D1835-82, incorporated herein by reference, as amended and supplemented. This specification can be obtained from the American Society for Testing and Materials, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA 19428-2959.**

...

"NESHAP" means a National Emission Standard for a Hazardous Air Pollutant as promulgated under 40 CFR **Part** 61 **or 40 CFR Part 63**.

...

"Nonbanded coal" means coal that is classified as nonbanded according to the ASTM Standard Definition of Terms Relating to Megascopic Description of Coal and Coal Beds and Microscopical Description and Analysis of Coals, ASTM D 2796-77, incorporated herein by reference**, as amended or supplemented**. This document may be obtained from the American Society for Testing and Materials, **[**1916 Race Street, Philadelphia, PA 19103**] 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA 19428-2959**.

…

["Non-utility boiler" means any steam generating unit which is not a utility boiler.**]**

...

"Operating certificate" **or "certificate"** means a "Certificate to Operate Control Apparatus or Equipment" issued by the Department pursuant to **[**the Air Pollution Control Act of 1954, specifically**] N.J.S.A. 26:2C-1 et seq., and in particular** N.J.S.A. 26:2C-9.2, **and implementing rules at N.J.A.C. 7:27-8 [**which is valid for a period of five years from the date of issuance, unless sooner revoked by the Department**]**.

...

"Output" means, with respect to an internal combustion engine, the shaft work output from the engine plus the energy reclaimed by any useful heat recovery system.

...

["Pennsylvania-New Jersey-Maryland Interconnection" or "PJM" means the combination of electric generating utilities, linked physically and through contractual arrangements, for coordinated electricity planning and operation in an area that as of 1994 includes New Jersey, Maryland, Pennsylvania, Virginia, Delaware and the District of Columbia.**]**

"PJM" means PJM Interconnection, LLC, or any successor to PJM as the Regional Transmission Organization, approved by the Federal Energy Regulatory Commission (FERC), serving a region that includes New Jersey as well as all or parts of other states.

...

"Power outage" means an interruption in the provision of electricity to customers because normally available sources of electrical energy are unavailable, provided the unavailability is due to circumstances beyond the control of both the customer and the power supplier.

…

"Preconstruction permit" **or "permit"** means a **[**legally valid permit, authorizing construction, installation, reconstruction, or modification of a significant source,**]** **"Permit to Construct, Install, or Alter Control Apparatus or Equipment"** issued by the Department **[**under N.J.A.C. 7:27-8 pursuant to the New Jersey Air Pollution Control Act and**]** **pursuant to N.J.S.A. 26C-1 et seq.,** in particular N.J.S.A. 26:2C-9.2**, and implementing rules at N.J.A.C. 7:27-8**

...

"Rated power output" means the maximum electrical or equivalent mechanical power output stated on the nameplate affixed to an engine or turbine by the manufacturer.

...

"Reciprocating engine" means an engine with a crankshaft.

...

"Regenerative cycle **[**gas**]** **combustion** turbine" means a **[**gas**]** **combustion** turbine **[**which**]** **that** recovers heat from its exhaust gases and uses that heat to preheat the **inlet** combustion air which is **[**drawn**]** **fed** into the **[**gas**]** **combustion** turbine.

"Repowering" means the series of actions described in **paragraphs** 1 and 2 below by an owner or operator:

1. The permanent ceasing of the operations of the steam generator in a steam generating unit, the **[**gas**]** **combustion** turbine in a simple-cycle or combined-cycle **[**gas**]** **combustion** turbine, or any other combustion source; and

2. (No change.)

"Rich-burn **[**stationary internal combustion**]** engine" means a stationary **[**internal combustion**]** **reciprocating** engine **[**in which the concentration of oxygen in the exhaust is no greater than one percent**]** **that is not a lean-burn engine**.

...

"Simple cycle **[**gas**]** **combustion** turbine" means a **[**gas**]** **combustion** turbine **[**which**]** **that** does not recover heat from its exhaust gases.

...

"Source operation" **or "source"** means any process**,** or any identifiable part thereof**,** that emits or can reasonably be anticipated to emit any air contaminant either directly or indirectly into the outdoor atmosphere. **A source operation may include one or more pieces of equipment or control apparatus.**

...

"State implementation plan **[**(SIP)**]**" **or "SIP"** means a plan **[**for the attainment of any NAAQS**]** **or portion thereof, or any revision thereto**, prepared by a state and approved by the EPA pursuant to **[**Section 110 of the Clean Air Act (42 USC 1857 et seq.)**]** **42 U.S.C. §7410, which includes enforceable emission limitations or other control measures, means or techniques, and provides for implementation, maintenance, and enforcement of one or more NAAQS**.

"Stationary **[**gas**]** **combustion** turbine" means any simple cycle **[**gas**]** **combustion** turbine, regenerative cycle **[**gas**]** **combustion** turbine**,** or **combustion turbine portion of a** combined cycle **[**gas turbine**]** **steam/electric generating system** that **[**is**]:**

1. **Is** not self-propelled **[**. The term includes a gas turbine of any of these types which is**], but may be** mounted on a vehicle for portability**; or**

2. **Is self-propelled on tracks at a facility, but does not in the course of its normal operation leave the facility**.

"Stationary **[**internal combustion**]** **reciprocating** engine" means **[**any**]** **an** internal combustion engine that is **a reciprocating engine that remains for more than 30 days at a single site (for example, any building, structure, facility, or installation), and:**

1. **Is** not self-propelled **[**. This term includes internal combustion engines which are**], but may be** mounted on **[**vehicles**]** **a vehicle** for portability**; or**

2. **Is self-propelled on tracks at a facility, but does not in the course of its normal operation leave the facility. This term does not include locomotive engines or construction engines**.

...

"Subbituminous coal" means coal that is classified as subbituminous according to the ASTM Standard Specification for Classification of Coals by Rank, ASTM D 388-77**, incorporated herein by reference, as amended or supplemented**. This document may be obtained from the American Society for Testing and Materials, **[**1916 Race Street, Philadelphia, PA 19103**] 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA 19428-2959**.

...

["Utility boiler" means a steam generating unit owned by an electric generating utility which is used for generating electricity for commercial use.**]**

...

"Voltage reduction" means a reduction in customer supply voltage of at least five percent by an electric distribution company in order to reduce load on an electric distribution system.

"Wet bottom **[**utility**]** boiler" means a **[**utility**]** boiler **serving an electric generating unit** in which the ash is removed from the boiler in a molten state.

7:27-19.2 Purpose, scope and applicability

(a) This subchapter establishes requirements and procedures concerning the control and prohibition of air pollution by oxides of nitrogen. The **general** purpose of this subchapter is to require **the owner or operator of [**any**] certain** stationary source **operations [**or group of sources, located within a contiguous area and under common control, that emits or has the potential to emit at least 25 tons of NO_x per year,**]** to **[**implement**] use** reasonably available control technology (RACT) to **prevent or** control NO_x emissions. EPA defines RACT to mean the lowest emission limitation that a particular source is capable of meeting by the application of air pollution control technology which is reasonably available considering technological and economic feasibility.

(b) The following types of equipment and source operations are subject to the provisions of this subchapter:

1. Any **[**utility**]** boiler **serving an electric generating unit, located at a major NO_x facility**;

2. **[**Any non-utility**] Until (16 months after the operative date of this amendment), any industrial/commercial/institutional** boiler or other indirect heat exchanger **[**which**] that** has a maximum gross heat input rate of at least 20 million BTU[s] per hour**, located at a major NO_x facility. On and after (16 months after the operative date of this amendment), the applicability of this**

subchapter to an industrial/commercial/institutional boiler or other indirect heat exchanger shall be determined by (c)1 below;

3. **[**Any**]** **Until (16 months after the operative date of this amendment), any** stationary **[**gas**]** **combustion** turbine **[**which**]** **that** has a maximum gross heat input rate of at least 30 million BTU[s] per hour**, located at a major NO_x facility. On and after (16 months after the operative date of this amendment), the applicability of this subchapter to an stationary combustion turbine shall be determined by (c)2 below**;

4. Any stationary **[**internal combustion**]** **reciprocating** engine capable of producing an output of **[**more than**]** 500 **brake** horsepower **or more and located at a major NO_x facility. In addition, on and after (16 months after the operative date of this amendment), the applicability of this subchapter to a stationary reciprocating engine or group of stationary reciprocating engines, used for generating electricity, shall be determined by (c)3 and 4 below**;

5. Any rotary dryer **[**having the potential to emit at least 25 tons of NO_x per year, and**]** located at an asphalt plant;

6. Any glass manufacturing furnace producing commercial container glass, and having a maximum potential production rate of at least 14 tons of glass removed from the furnace per day and **[**has**]** **having** the potential to emit more than 10 tons of NO_x per year;

7. Any glass manufacturing furnace producing specialty container glass, and having a maximum potential production rate of at least seven tons of glass removed from the furnace per day and **[**has**]** **having** the potential to emit more than 10 tons of NO_x per year; **[**and**]**

8. Any glass manufacturing furnace producing borosilicate recipe glass, and having a maximum potential production rate of at least five tons of glass removed from the furnace per day, and **[**has**]** **having** the potential to emit more than 10 tons of NO_x per year**[**.**]****; and**

[(c)**]** **9.** Any **[**major NO_x facility containing any**]** **other** equipment or source operation not specifically listed **[**in (b)**]** **at (b)1 through 8** above **or (c) below** **[**, which equipment or source operation**]** **that** has the potential to emit more than 10 tons of NO_x per year **[**is subject to the provisions of this subchapter**]**.

(c) On and after (16 months after the operative date of this amendment), in addition to the types of equipment and source operations listed at (b) above, the following types of equipment or source operations shall be subject to the provisions of this

subchapter:

1. Any industrial/commercial/institutional boiler or other indirect heat exchanger that has a maximum gross heat input rate of at least five million BTU per hour, whether or not it is located at a major NO_x facility;

2. Any stationary combustion turbine that has a maximum gross heat input rate of at least 25 million BTU per hour, located at a major NO_x facility;

3. Any stationary reciprocating engine used for generating electricity, whether or not it is located at a major NO_x facility, that has a maximum rated power output of:

i. Two hundred brake horsepower or greater; or

ii. Fifty brake horsepower or greater, if the engine has either commenced operation at the facility or is modified on or after (16 months after the operative date of this amendment); and

4. Any group of two or more stationary reciprocating engines used for generating electricity, each of which has a rated power output of 50 brake horsepower or greater but less than 200 brake horsepower, and whose total combined power output is 200 brake horsepower or greater, whether or not the group of engines is located at a major NO_x facility.

(d) Notwithstanding the provisions of (b) and (c) above, any **equipment that is solely used as an** emergency generator **[**which is subject to a Federally enforceable limitation or condition restricting its operations to less than 500 hours during any consecutive 12 month period, and which does not have the potential to emit at least 25 tons of NO_x during its annual period of operations,**]** is **[**not**]** subject **only** to **[**this subchapter**]** **the recordkeeping requirements applicable to emergency generators set forth at N.J.A.C. 7:27-19.11**.

(e) (No change.)

(f) The owner or operator of a facility containing any equipment or source operation listed in (b)**1 through 8** above may apply to the Department for an exemption from this subchapter. The following conditions apply to such exemptions:

1. -3. (No change.)

7:27-19.3 General provisions

(a) (No change.)

(b) The emission limitations specified in this subchapter **[**become**]** **became** operative on May 31, 1995, **[**except as provided in N.J.A.C. 7:27- 19.4(c) and 19.10(d)**]** **unless otherwise specified**.

(c) For any alteration of equipment or source operations necessary to comply with the NO_x emission limits in this subchapter, which alteration does not involve a reconstruction of the equipment or source operation, the use of control measures which incorporate current advances in the art of air pollution control for those types of control measures shall be deemed to satisfy the requirements of N.J.A.C. 7:27-8.12 or 22.35. For example, if a **[**utility**]** boiler **serving an electric generating unit** achieves compliance with an emission limit under this subchapter by installing a low-NO_x burner, the requirements of N.J.A.C. 7:27-8.12 or 22.35 are satisfied if the low-NO_x burner installed incorporates current advances in the art of air pollution control for low-NO_x burners.

(d) By **[**April 23, 1994**]** **(three months after the operative date of this amendment)**, the owner or operator of any facility, equipment or source operation **[**which is in operation prior to January 23, 1994 and**]** **that** is subject to **[**this subchapter**]** **NO_x emissions limit at N.J.A.C. 7:27-19.5(d), 19.7(h), or 19.8(e)** shall:

1. Apply for permits for all equipment and control apparatus necessary for compliance with this subchapter; and

2. If the owner or operator seeks to comply with this subchapter pursuant to the facility-specific NO_x emission limit provision of N.J.A.C. 7:27-19.13, submit to the Department a facility-specific NO_x control plan pursuant to N.J.A.C. 7:27-19.13.

(e) (No change.)

(f) In lieu of complying with the applicable emission limits set forth at N.J.A.C. 7:27-19.4, 19.5, 19.7, 19.8, 19.9 or 19.10, the owner or operator of **[**a utility boiler, stationary gas turbine, non-utility boiler, indirect-fired heat exchanger, stationary internal combustion engine, asphalt plant or glass manufacturing furnace**]** **any equipment or source operation listed in N.J.A.C. 7:27-19.2(b)** may comply with one of the following, or with a combination of (f)1 and 3 below**[**:**]**. **The owner or operator of any equipment or source operation listed in N.J.A.C. 7:27-19.2(c) may comply with (f)1, 2 or 4 below:**

1. An emissions averaging plan approved by the Department pursuant to N.J.A.C. 7:27-19.6 and 19.14, which includes the combustion source in question as an averaging unit;

2. An alternative maximum allowable emission rate for the unit, approved by the

Department pursuant to N.J.A.C. 7:27-19.13;

3 A seasonal fuel switching plan for the unit, approved by the Department pursuant to N.J.A.C. 7:27-19.14 and 19.20; or

4. A plan for phased compliance for the unit, approved by the Department pursuant to N.J.A.C. 7:27-19.14 and N.J.A.C. 7:27-19.21**[**, 19.22**]** or 19.23.

(g)-(h) (No change.)

(i) The owner or operator of any facility, equipment or source operation which commences operation on or after January 23, 1994**,** shall ensure that such facility, equipment of source operation complies with the **[**requirements**]** **applicable requirement(s)** of this subchapter from the date of commencement of operation **or from the date the requirement is operative, whichever is later**.

(j) A person required to provide **a** notice to the Department under this subchapter shall send the notice to the applicable address listed below:

1. If the notice concerns a combustion source located in **[**Burlington County,**]** Mercer County, Middlesex County, Monmouth County**, [**or**]** Ocean County, **or Union County,** the person shall send the notice to:

Department of Environmental Protection
Central Regional Office
Air and Environmental Quality Compliance & Enforcement
Horizon Center
Rt.130, Building 300
[PO Box 407**]**
Robbinsville, NJ **[**08625-0407**]** **08691**

2. If the notice concerns a combustion source located in Bergen County, Essex County, **or** Hudson County **[**or Union County**]**, the person shall send the notice to:

Department of Environmental Protection
Metro Regional Office
Air and Environmental Quality Compliance & Enforcement
2 Babcock Place
West Orange, NJ 07052-5504

3. If the notice concerns a combustion source located in Hunterdon County, Morris County, Passaic County, Somerset County, Sussex County or Warren County,

the person shall send the notice to:

Department of Environmental Protection
Northern Regional Office
Air and Environmental Quality Compliance & Enforcement
1259 Route 46 East**, Building 2**
Parsippany, NJ 07054-4191

4. If notice concerns a combustion source located in Atlantic County, **Burlington County,** Camden County, Cape May County, Cumberland County, Gloucester County or Salem County, the person shall send the notice to:

Department of Environmental Protection
Southern Regional Office
Air and Environmental Quality Compliance & Enforcement
[20 East Clementon Road**] One Port Center**
[3rd Floor, Suite 302**] 2 Riverside Drive, Suite 201**
[Gibbsboro**] Camden**, NJ **[**08026-1175**] 08103**

5. If the notice concerns an averaging plan **pursuant to N.J.A.C. 7:27-19.6**, the person shall determine the county in which the averaging unit with the biggest potential to emit NO_x is located, and send the notice to the address applicable to that county under **[**(i)**] (j)**1 through 4 above.

7:27-19.4 **[**Utility boilers**] Boilers serving electric generating units**

(a) The owner or operator of **[**a utility**] any** boiler **serving an electric generating unit** shall cause it to emit NO_x at a rate no greater than the applicable maximum allowable NO_x emission rate specified in Table 1 below, unless the owner or operator **[**of the utility boiler**]** is complying with **[**one of the following, or with a combination of (a)1 and 3 below:**] N.J.A.C. 7:27-19.3(f).**

[1. An emissions averaging plan approved by the Department pursuant to N.J.A.C. 7:27-19.6 and 19.14, which includes the combustion source in question as an averaging unit;

2. An alternative maximum allowable emission rate for the unit, approved by the Department pursuant to N.J.A.C. 7:27-19.13;

3. A seasonal fuel switching plan for the unit, approved by the Department pursuant to N.J.A.C. 7:27-19.14 and 19.20; or

4. A plan for phased compliance for the unit, approved by the Department pursuant

to N.J.A.C. 7:27-19.14 and N.J.A.C. 7:27-19.21, 19.22 or 19.23.**]**

TABLE 1

Maximum Allowable NO_x Emission Rates
for **[**Utility**]** Boilers **Serving Electric Generating Units**
(pounds per million BTU)

(No change in table.)

(b) The owner or operator of any **[**utility**]** boiler **serving an electric generating unit [**subject to this subchapter**]** shall install on the boiler a continuous emissions monitoring system satisfying the requirements of N.J.A.C. 7:27-19.18.

(c) The owner or operator of any boiler serving an electric generating unit shall adjust the boiler's combustion process before May 1st of each calendar year in accordance with N.J.A.C. 7:27-19.16.

7:27-19.5 Stationary **[**gas**]** **combustion** turbines

(a) **[**No**]** **Until (16 months after the operative date of this amendment) the owner or operator of any** stationary simple cycle **[**gas**]** **combustion** turbine **[**which**]** **that** has a maximum gross heat input rate of at least 30 million BTU[s] per hour **[**may**]** **shall cause it to** emit NO_x at a rate **no** greater than the applicable maximum allowable NO_x emission rate specified in Table 2 below, unless the owner or operator is complying with **[**one of the following, or with a combination of (a)1 and 3 below:**] N.J.A.C. 7:27-19.3(f). On and after (16 months after the operative date of this amendment), the rates in Table 2 shall apply only to a NO_x budget source.**

[1. An emissions averaging plan approved by the Department pursuant to N.J.A.C. 7:27-19.6 and 19.14, which includes the combustion source in question as an averaging unit;

2. An alternative maximum allowable emission rate for the unit, approved by the Department pursuant to N.J.A.C. 7:27-19.13;

3. A seasonal fuel switching plan for the unit, approved by the Department pursuant to N.J.A.C. 7:27-19.14 and 19.20; or

4. A plan for phased compliance for the unit, approved by the Department pursuant to N.J.A.C. 7:27-19.14 and N.J.A.C. 7:27-19.21, 19.22 or 19.23.**]**

TABLE 2

Maximum Allowable NO_x Emission Rate for
Simple Cycle **[**Gas**]** **Combustion** Turbines
(Pounds per million BTU)

(No change in table.)

(b) **[**No**]** **Until (16 months after the operative date of this amendment), the owner or operator of any** combined cycle **[**gas**]** **combustion** turbine or **a** regenerative cycle **[**gas**]** **combustion** turbine **[**which**]** **that** has a maximum gross heat input rate of at least 30 million BTU[s] per hour **[**may**]** **shall cause it to** emit NO_x at a rate **no** greater than the applicable maximum allowable NO_x emission rate specified in Table 3 below, unless the owner or operator is complying with **[**one of the following, or with a combination of (b) 1 and 3 below:**]** **N.J.A.C. 7:27-19.3(f). On and after (16 months after the operative date of this amendment), the rates in Table 3 shall apply only to a NO_x budget source.**

[1. An emissions averaging plan approved by the Department pursuant to N.J.A.C. 7:27-19.6 and 19.14, which includes the combustion source in question as an averaging unit;

2. An alternative maximum allowable emission rate for the unit, approved by the Department pursuant to N.J.A.C. 7:27-19.13;

3. A seasonal fuel switching plan for the unit, approved by the Department pursuant to N.J.A.C. 7:27-19.14 and 19.20; or

4. A plan for phased compliance for the unit, approved by the Department pursuant to N.J.A.C. 7:27-19.14 and N.J.A.C. 7:27-19.21, 19.22 or 19.23.**]**

TABLE 3

Maximum Allowable NO_x Emission Rate for
Combined Cycle or Regenerative Cycle **[**Gas**]** **Combustion** Turbines
(Pounds per million BTU)

(No change in table.)

(c) In lieu of complying with the emission limits set forth in (a) and (b) above, the owner or operator of a stationary **[**gas**]** **combustion** turbine may **[**elect to**]** comply with **all of** the **following** requirements **[**of this subsection. The owner or operator of the turbine shall

satisfy all of the requirements listed in (c) 1 through 6 below**]**:

1. The owner or operator of the stationary **[**gas**]** **combustion** turbine shall apply for and obtain the Department's written approval, in accordance with N.J.A.C. 7:27-19.14 and based on the standards in N.J.A.C. 7:27-19.14 and (c) 2 and 3 below;

2. (No change.)

3. The owner or operator shall establish that there is no commercially available dry low-NO_x combustor suitable for use in the specific stationary **[**gas**]** **combustion** turbine;

4. -6. (No change.)

(d) On and after (16 months after the operative date of this amendment), the owner or operator of any stationary combustion turbine that has a maximum gross heat input rate of at least 25 million BTU per hour shall cause it to emit NO_x at a rate no greater than the applicable maximum allowable NO_x emission rate specified in Table 4 below, unless the owner or operator is complying with N.J.A.C. 7:27-19.3(f); except that a NO_x budget source shall be subject to the maximum allowable NO_x emission rates at Tables 2 and 3 above.

TABLE 4
Maximum Allowable NO_x Emission Rate for Stationary Combustion Turbines

Type of Turbine	Type of Fuel	Maximum Allowable NO_x Emission Rate
Combined cycle combustion turbine or a regenerative cycle combustion turbine	Gas	1.3 pounds of NO_x per MWh
	Oil	2.0 pounds of NO_x per MWh
Simple cycle combustion turbine	Gas	2.2 pounds of NO_x per MWh
	Oil	3.0 pounds of NO_x per MWh

(e) The owner or operator of any stationary combustion turbine that has a maximum gross heat input rate of at least 25 million BTU per hour shall adjust the turbine's combustion process in accordance with the procedure set forth at N.J.A.C. 7:27-19.16 and the following schedule:

1. For any stationary combustion turbine that has a maximum gross heat input rate of at least 25 million BTU but less than 30 million BTU per hour, according to manufacturer's recommended maintenance schedules beginning in (calendar year 16 months after the operative date of this amendment); or

2. For any stationary combustion turbine that has a maximum gross heat input rate of at least 30 million BTU per hour or greater, or required prior to (the operative date of this amendment) to adjust the combustion process, according to manufacturer's recommended maintenance schedules.

7:27-19.6 Emissions averaging

(a) (No change.)

(b) An owner or operator of two or more source operations or items of equipment may request that the Department authorize an averaging plan for two or more averaging units designated by the owner or operator. The owner or operator seeking authorization for averaging shall submit a written application to the Department in accordance with N.J.A.C. 7:27-19.14(a), (b) and (c). The owner or operator shall include the following information in the application:

1. Information sufficient to identify each averaging unit, including its location, a brief description of the unit (for example, "dry-bottom coal-fired **[**utility**]** boiler **serving an electric generating unit**" or "oil-fired simple-cycle **[**gas**]** **combustion** turbine"), its permit number, any other identifying numbers, and any other information necessary to distinguish it from other equipment owned or operated by the applicant;

2. -9. (No change.)

(c)-(g) (No change.)

(h) The owner or operator of a designated set shall submit quarterly reports to the Department on April 30, July 30, October 30 and January 30 of each year, for the immediately preceding calendar quarter ending March 31, June 30, September 30 and December 31, respectively. The owner or operator shall submit the report to the Department at the address set forth in **[**(l)**]** **(k)** below. The owner or operator shall include the following information in the quarterly report:

1. -5. (No change.)

(i)-(j) (No change.)

(k) A person required to submit a quarterly report to the Department under (h) above shall send the quarterly report to the applicable address listed below:

1. If the averaging unit with the highest NO_x emission limit is located in Mercer County, Middlesex County, Monmouth County, Ocean County, or Union County, the person shall send the quarterly report to:

Department of Environmental Protection
Central Regional Office
Air and Environmental Quality Compliance & Enforcement
Horizon Center
Rt.130, Building 300
Robbinsville, NJ 08691

2. If the averaging unit with the highest NO_x emission limit is located in Bergen County, Essex County, or Hudson County, the person shall send the quarterly report to:

Department of Environmental Protection
Metro Regional Office
Air and Environmental Quality Compliance & Enforcement
2 Babcock Place
West Orange, NJ 07052-5504

3. If the averaging unit with the highest NO_x emission limit is located in Hunterdon County, Morris County, Passaic County, Somerset County, Sussex County or Warren County, the person shall send the quarterly report to:

Department of Environmental Protection
Northern Regional Office
Air and Environmental Quality Compliance & Enforcement
1259 Route 46 East, Building 2
Parsippany, NJ 07054-4191

4. If the averaging unit with the highest NO_x emission limit is located in Atlantic County, Burlington County, Camden County, Cape May County, Cumberland County, Gloucester County or Salem County, the person shall send the quarterly report to:

Department of Environmental Protection
Southern Regional Office
Air and Environmental Quality Compliance & Enforcement
One Port Center
2 Riverside Drive, Suite 201
Camden, NJ 08103

7:27-19.7 **[**Non-utility boilers**]** **Industrial/commercial/institutional boilers** and other indirect heat exchangers

(a) Beginning in calendar year 1995, **and until (16 months after the operative date of this amendment),** the owner or operator of **[**a non-utility**]** **an industrial/commercial/institutional** boiler or other indirect heat exchanger with a maximum gross heat input rate of at least 20 million but less than 50 million BTU[s] per hour shall:

1. Annually adjust the **boiler's** combustion process in accordance with N.J.A.C. 7:27-19.16, each calendar year; or

2. Cause the boiler or other indirect heat exchanger to emit NO_x at a rate no greater than the applicable maximum allowable NO_x emission rate specified in Table**[**4**]** **5** below, and establish compliance with this requirement by continuous emissions monitoring pursuant to N.J.A.C. 7:27-19.15(a)1.

(b) Beginning on May 31, 1995, **and until (16 months after the operative date of this amendment),** the owner or operator of **[**a non-utility**]** **an industrial/commercial/institutional** boiler or other indirect heat exchanger with a maximum gross heat input rate of at least 50 million but less than 100 million BTU[s] per hour shall cause the boiler or other indirect heat exchanger to emit NO_x at a rate no greater than the applicable maximum allowable NO_x emission rate specified in Table **[**4**]** **5** below, and comply with the **[**applicable**]** requirements of **[**(d)**]** **(e)** below.

TABLE **[**4**]** **5**

Maximum Allowable NO_x Emission Rates for **[**Non-Utility**]**
Industrial/Commercial/Institutional Boilers and other Indirect Heat Exchangers
Subject to N.J.A.C. 7:27-19.7(b)
(pounds per million BTU)

(No change on table.)

(c) Beginning on May 31, 1995, **and until (16 months after the operative date of this amendment),** the owner or operator of **[**a non-utility**]** **an industrial/commercial/institutional** boiler or other indirect heat exchanger with a maximum gross heat input rate of at least 100 million BTU[s] per hour shall cause the boiler or other indirect heat exchanger to emit NO_x at a rate no greater than the applicable maximum allowable NO_x emission rate specified in Table **[**5**]** **6** below, and comply with the applicable requirements of (d) **or (e)** below.

TABLE **[**5**]** **6**

Maximum Allowable NO_x Emission Rates for **[**Non-Utility**]**
Industrial/Commercial/Institutional Boilers and other Indirect Heat Exchangers
Subject to N.J.A.C. 7:26-19.7(c)
(pounds per million BTU)

(No change in table.)

(d) In addition to complying with (c) above, the owner or operator of any **industrial/commercial/institutional** boiler or other indirect heat exchanger with a maximum gross heat input rate of at least 250 million BTU[s] per hour shall install a continuous emissions monitoring system in accordance with N.J.A.C. 7:27-19.18.

(e) **Until (16 months after the operative date of this amendment), [**In**]** **in** addition to complying with (b) or (c) above, as applicable, the owner or operator of **[**a non-utility**]** **an industrial/commercial/institutional** boiler or other indirect heat exchanger with a maximum gross heat input rate of at least 50 million BTU[s] per hour but less than 250 million BTU[s] per hour shall either:

1. Annually adjust the **boiler's** combustion process in accordance with N.J.A.C. 7:27-19.16, each calendar year; or

2. (No change.)

[(e)**](f)** **Until (16 months after the operative date of this amendment), [**In**]** **in** lieu of complying with a NO_x emission limit under (b) or (c) above, the owner or operator of **[**a non-utility**]** **an industrial/commercial/institutional** boiler or other indirect heat exchanger may comply with **[**one of the following, or with a combination of (e)1 and (3) below:**]** **N.J.A.C. 7:27-19.3(f).**

[1. An emissions averaging plan approved by the Department pursuant to N.J.A.C. 7:27-19.6 and 19.14, which includes the combustion source in question as an averaging unit;

2. An alternative maximum allowable emission rate for the unit, approved by the Department pursuant to N.J.A.C. 7:27-19.13;

3. A seasonal fuel switching plan for the unit, approved by the Department pursuant to N.J.A.C. 7:27-19.14 and 19.20; or

4. A plan for phased compliance for the unit, approved by the Department pursuant to N.J.A.C. 7:27-19.14 and N.J.A.C. 7:27-19.21, 19.22 or 19.23.**]**

(g) On and after (16 months after the operative date of this amendment), the owner or operator of an industrial/commercial/institutional boiler or other indirect heat exchanger with a maximum gross input heat of at least five million BTU per hour, whether or not it is located at a major NO_x facility, shall adjust the combustion process annually in accordance with the procedure set forth at N.J.A.C. 7:27-19.16 and the following schedule:

1. For an industrial/commercial/institutional boiler or other indirect heat exchanger with a maximum gross input heat of at least five million BTU per hour, in the same quarter of each calendar year, beginning in (calendar year 52 months after the operative date of this amendment);

2. For an industrial/commercial/institutional boiler or other indirect heat exchanger with a maximum gross input heat of at least 10 million BTU per hour, but less than 20 million BTU per hour, in the same quarter of each calendar year beginning in (calendar year 28 months after the operative date of this amendment); or

3. For an industrial/commercial/institutional boiler or other indirect heat exchanger with a maximum gross input heat of at least 20 million BTU per hour or greater, in the same quarter of each calendar year beginning in (calendar year 16 months after the operative date of this amendment).

(h) On and after (16 months after the operative date of this amendment), an industrial/commercial/institutional boiler or other indirect heat exchanger of at least 50 million BTU per hour, located at a major NO_x facility shall cause the boiler or other indirect heat exchanger to emit NO_x at a rate no greater than the applicable maximum allowable NO_x emission rate specified in Table 7 below, unless the owner or operator is complying with N.J.A.C. 7:27-19.3(f).

TABLE 7

Maximum Allowable NO_x Emission Rates for

Industrial/Commercial/Institutional Boilers or other Indirect Heat Exchangers

Heat Input Rate (million BTU per hr)	**Fuel Type**	**Maximum Allowable NO_x Emission Rate (pounds per million BTU)**
at least 50 but < 100	**Natural gas**	**0.10**
	#2 Fuel oil	**0.12**
	Refinery fuel gas and other gaseous fuels	**0.20**
	Other liquid fuels	**0.30**
at least 100 or greater	**Natural gas**	**0.10**
	Refinery fuel gas and other gaseous fuels	**0.20**
	Fuel oil	**0.20**

7:27-19.8 Stationary **[**internal combustion**]** **reciprocating** engines

(a) The owner or operator of a rich-burn stationary **[**internal combustion**]** **reciprocating**

engine capable of producing an output of **[**more than**]** 500 **brake** horsepower **or more**, fueled by gaseous fuel, shall cause it to emit no more than 1.5 grams of NO_x per **[**horsepower hour**]** **bhp-hr**. **Beginning (16 months after the operative date of this amendment), a rich-burn stationary reciprocating engine capable of producing an output of 500 brake horsepower or more, fueled by gaseous fuel, and used for generating electricity, shall be subject to (e) below, and not to this subsection.**

(b) The owner or operator of a lean-burn stationary **[**internal combustion**]** **reciprocating** engine capable of producing an output of **[**more than**]** 500 **brake** horsepower **or more**, fueled by gaseous fuel, shall cause it to emit no more than 2.5 grams of NO_x per **[**horsepower hour**]** **bhp-hr**. **Beginning (16 months after the operative date of this amendment), a lean-burn stationary reciprocating engine capable of producing an output of 500 brake horsepower or more, fueled by gaseous fuel, and used for generating electricity, shall be subject to (e) below, and not to this subsection.**

(c) The owner or operator of a lean-burn stationary **[**internal combustion**]** **reciprocating** engine capable of producing an output of **[**more than**]** 500 **brake** horsepower **or more**, fueled by liquid fuel, shall cause it to emit no more than 8.0 grams of NO_x per **[**horsepower hour**]** **bhp-hr**. **Beginning (16 months after the operative date of this amendment), a lean-burn stationary reciprocating engine capable of producing an output of 500 brake horsepower or more, fueled by liquid fuel, and used for generating electricity, shall be subject to (e) below, and not to this subsection.**

(d) In lieu of complying with a NO_x emission limit under (a), (b) or (c) above, the owner or operator of a stationary **[**internal combustion**]** **reciprocating** engine may comply with **[**one of the following, or with a combination of (d)1 and 3 below:**]** **N.J.A.C. 7:27-19.3(f).**

[1. An emissions averaging plan approved by the Department pursuant to N.J.A.C. 7:27-19.6 and 19.14, which includes the combustion source in question as an averaging unit;

2. An alternative maximum allowable emission rate for the unit, approved by the Department pursuant to N.J.A.C. 7:27-19.13;

3. A seasonal fuel switching plan for the unit, approved by the Department pursuant to N.J.A.C. 7:27-19.14 and 19.20; or

4. A plan for phased compliance for the unit, approved by the Department pursuant to N.J.A.C. 7:27-19.14 and N.J.A.C. 7:27-19.21, 19.22 or 19.23.**]**

(e) On and after (16 months after the operative date of this amendment), the owner or operator of a stationary reciprocating engine used for generating electricity whether or not it is located at a major NO_x facility, shall meet the following requirements,

unless the owner or operator is complying with N.J.A.C, 7:27-19.3(f):

1. For an engine that has a maximum rated power output of 200 brake horsepower or greater, cause it to emit NO_x at a rate no greater than the applicable maximum allowable NO_x emission rate specified in Table 8 below;

TABLE 8

Maximum Allowable NO_x Emission Rates for Stationary Reciprocating Engines With a Maximum Rated Power Output of 50 Brake Horsepower or Greater Used for Generating Electricity

Fuel/Engine Type	Maximum Allowable NO_x Emission Rate (grams per Bhp-hr)
Spark-Ignited Rich Burn	1.5
Spark-Ignited Lean Burn	1.5 or an emission rate which is equivalent to 80 percent NO_x reduction from the uncontrolled NO_x emission level
Compression Ignition Diesel Fuel	2.3
Compression Ignition Dual-Fuels (gas and diesel fuel)	2.3

2. For an engine that has a maximum rated power output of 50 brake horsepower or greater and that has commenced operation at the facility on or after (16 months after the operative date of this amendment), cause it to emit NO_x at a rate no greater than 0.70 grams per bhp-hr;

3. For an engine that has a maximum rated power output of 50 brake horsepower or greater and that has been modified on or after (16 months after the operative date of this amendment), cause it to emit NO_x at a rate no greater than 0.70 grams per bhp-hr or an emission rate which is equivalent to a 90 percent NO_x reduction from the uncontrolled NO_x emission level;

4. For a group of two or more stationary reciprocating engines, each of which

has a rated power output of 50 brake horsepower or greater, but less than 200 brake horsepower, and whose total combined power output is 200 brake horsepower or greater, cause it to emit NO_x at a rate no greater than the applicable maximum allowable NO_x emission rate specified in Table 8 above.

(f) The owner or operator of any stationary reciprocating engine that has a maximum rated power output of at least 50 brake horsepower or greater, used for generating electricity, and whether or not it is located at a major NO_x facility, shall adjust the engine's combustion process in accordance with the procedures set forth at N.J.A.C. 7:27-19.16 and the following schedule:

1. For stationary reciprocating engine that has a maximum rated power output of at least 50 brake horsepower but less than 500 brake horsepower used for generating electricity, according to manufacturer's recommended maintenance schedules beginning in (calendar year 16 months after the operative date of this amendment); or

2. For stationary reciprocating engine that has a maximum rated power output of at least 500 brake horsepower or greater, or required prior to (the operative date of this amendment) to adjust the combustion process, according to manufacturer's recommended maintenance schedules.

7:27-19.11 Emergency generators - recordkeeping

(a) The owner or operator of an emergency generator shall maintain on site and record in a logbook or computer data system, the following information for each and every time the emergency generator is operated:

1. The reason for its operation;

2. The date(s) of operation and the start up and shut down time;

3. The total operating time;

4. The name of operator; and

5. If a voltage reduction is the reason for the use of emergency generator, a copy of the voltage reduction notification from PJM.

(b) The owner or operator of an emergency generator shall maintain the records required under (a) above for a period of no less than five years after the record was made and shall make the records readily available to the Department or the EPA upon request.

7:27-**[**19.11 through 7:27-**]** 19.12 (Reserved)

7:27-19.13 Facility-specific NO_x emissions limits

(a) This section establishes procedures and standards for the establishment of facility-specific NO_x emissions limits in the following circumstances:

1. If a major NO_x facility contains any source operation or item of equipment of a category not listed in N.J.A.C. 7:27-19.2(b) **or (c)** (that is, any source operation or item of equipment other than a **[**utility**]** boiler **serving an electric generating unit**, **[**a non-utility**]** **an industrial/commercial/institutional** boiler, a stationary **[**gas**]** **combustion** turbine, a stationary **[**internal combustion**]** **reciprocating** engine, a rotary dryer located at an asphalt plant, or a glass manufacturing furnace) **[**which**]** **that** has the potential to emit more than 10 tons of NO_x per year, except as provided in (p) below; or

2. If the owner or operator of a source operation or item of equipment listed in N.J.A.C. 7:27-19.2(b) **or (c)** seeks approval of an alternative maximum allowable emission rate, which would apply to the equipment or source operation in lieu of the emission limit **[**which**]** **that** would otherwise apply under this subchapter.

(b) The owner or operator of a major NO_x facility described in (a)1 above shall obtain the Department's written approval of a facility-specific NO_x control plan in accordance with this section. For any facility, equipment or source operation **[**which**]** **that** is in operation prior to January 23, 1994, the owner or operator shall submit to the Department in writing a proposed NO_x control plan for the facility by April 23, 1994 or by a later date approved by the Department pursuant to N.J.A.C. 7:27-19.3(e). **For any facility, equipment or source operation that is subject to a NO_x emissions limit under this subchapter as set forth at N.J.A.C. 7:27-19.5(d), 19.7(h), or 19.8(e), the owner or operator shall submit to the Department in writing a proposed NO_x control plan for the facility by (three months after the operative date of this amendment).** In the proposed NO_x control plan, the owner or operator shall include:

1. A list of each source operation or item of equipment at the facility **[**which**]** **that** has the potential to emit more than 10 tons of NO_x per year and is not listed in N.J.A.C. 7:27-19.2(b) **or (c)**. In the list, the owner or operator shall briefly describe the source operation or item of equipment, and list its permit number and any other identifying numbers; and

2. (No change.)

(c)-(m) (No change.)

(n) The owner or operator of a facility described in (a)1 above shall implement the NO_x control plan (including, without limitation, complying with the emission limits set forth in the plan) approved by the Department by May 31, 1995**, or by (16 months after the operative date of this amendment) for any facility, equipment or source operation that is subject to a NO_x emissions limit under this subchapter as set forth at N.J.A.C. 7:27-19.5(d), 19.7(h), or 19.8(e)**, and maintain compliance with the plan and all conditions of the Department's approval thereafter. The owner or operator of a source operation or item of equipment for which the Department has approved an alternative maximum allowable emission rate shall cause it to emit NO_x at a rate no greater than the approved alternative rate.

(o) The owner or operator submitting a proposed NO_x control plan or request for an alternative maximum allowable emission rate shall send it to the Department at the following address:

Chief, Bureau of **[**Air Quality Engineering**]** **Preconstruction Permitting**
Division of Air Quality
Department of Environmental Protection
401 East State Street
PO Box 027
Trenton, New Jersey 08625-0027

(p) A major NO_x facility satisfies the requirements of this section if its only equipment or source operations with the potential to emit 10 tons or more of NO_x per year are **[**non-utility boilers or**]** thermal oxidizers. The owner or operator of such a facility is not required to submit a facility-specific NO_x control plan for the facility.

7:27-19.14 Procedures for obtaining approvals under this subchapter

(a) This section establishes the procedure for obtaining any of the following from the Department:

1. -3. (No change.)

4. Approval of compliance with the requirements of N.J.A.C. 7:27-19.5(c) for a stationary **[**gas**]** **combustion** turbine;

5. -6. (No change.)

(b) The person seeking an approval listed in (a) above shall submit a written application to the Department at the following address:

Chief, Bureau of **[**Air Quality Engineering**]** **Preconstruction Permitting**
Division of Air Quality **[**Regulation**]**
Department of Environmental Protection
401 East State Street
PO Box 027
Trenton, NJ 08625-0027

(c) The person seeking the approval under (a) above shall include the following information in the application submitted under (b) above:

1. -4. (No change.)

5. For requests submitted under N.J.A.C. 7:27-19.5(c), a proposed maximum allowable emission rate for the subject stationary **[**gas**]** **combustion** turbine;

6. -7. (No change.)

(d)-(j) (No change.)

7:27-19.15 Procedures and deadlines for demonstrating compliance

(a) The owner or operator of equipment or a source operation subject to an emission limit under this subchapter shall demonstrate compliance with the emission limit as follows:

1. If a continuous emissions monitoring system has been installed on the equipment or source operation, or if any other provision of this subchapter requires emissions from the equipment or source operation to be monitored by a continuous emissions monitoring system under N.J.A.C. 7:27-19.18, the owner or operator shall calculate the average NO_x emission rate using the data from such a system for the NO_x concentration in the flue gas and either the flue gas flow rate or the fuel flow rate. To calculate the emission rate using the NO_x concentration and fuel flow rate, the owner or operator shall use the conversion procedure set forth in the Acid Rain regulations at 40 CFR **[**part**]** 75, Appendix F, or an alternative procedure that the Department determines will yield the same result. Compliance with the limit shall be based upon the average of emissions:

i. Between May 1 and September **[**15**]** **30**, over each calendar day; and

ii. From **[**September 16**]** **October 1** through April 30 of the following year, over the 30-day period ending on each such day; or

2. If no continuous emissions monitoring system has been or is required to be

installed on the equipment or source operation, compliance with the limit shall be based upon the average of three one-hour tests, each performed over a consecutive 60-minute period specified by the Department, and performed in compliance with N.J.A.C. 7:27-19.17. **Any NO_x testing conducted pursuant to this section shall be conducted concurrently with CO testing. The applicable NO_x emission limits in this subchapter will not be considered to have been met unless the concurrent CO testing demonstrates compliance with the CO limit in N.J.A.C. 7:27-16.8, 16.9, 16.10, 16.11, or the permit limit for CO, whichever is more stringent, is also met.**

(b) For any equipment or source operation subject to this subchapter **[**which**] that** was in operation before January 1, 1995, the owner or operator shall demonstrate compliance with this subchapter in accordance with (a)1 or 2 above by May 31, 1996, and thereafter at the frequency set forth in the permit for such equipment or source operation**, except that the owner or operator of any facility, equipment or source operation that is subject to a NO_x emissions limit under this subchapter as set forth at N.J.A.C. 7:27-19.5(d), 19.7(h), or 19.8(e), and that is in operation before (the operative date of this amendment) shall demonstrate compliance with this subchapter in accordance with (a)1 or 2 above by (28 months after the operative date of this amendment)**.

(c)-(d) (No change.)

7:27-19.16 Adjusting combustion processes

(a) When any provision of this subchapter requires the adjustment of a combustion process for any equipment or source operation**, other than stationary combustion turbines and reciprocating engines**, the owner or operator of the equipment or source operation shall:

1. Inspect the burner, and clean or replace any components of the burner as necessary **[**to minimize total emissions of NO_x and CO**]**;

2. Inspect the flame pattern and make any adjustments to the burner necessary to optimize the flame pattern **consistent with the manufacturer's specifications**; **[**and**]**

3. Inspect the system controlling the air-to-fuel ratio, and ensure that it is correctly calibrated and functioning properly**[**. For turbines with fixed air-to-fuel nozzles that cannot be adjusted, the owner or operator shall instead inspect and clean the fuel nozzles annually, recalibrating and repairing as necessary.**];**

4. Minimize total emissions of NO_x and CO consistent with the manufacturer's specifications;

5. Measure the concentrations in the effluent stream of NO_x, CO and O_2 in ppmvd, before and after the adjustment is made; and

6. Convert the emission values of the NO_x, CO and O_2 concentrations measured pursuant to (a)5 above to pounds per million BTU (lb/MM BTU) according to the following formula:

$$\text{lb/MM BTU} = \frac{\text{ppmvd} \times \text{MW} \times \text{F dry factor} \times O_2 \text{ correction factor}}{387{,}000{,}000}$$

Where:

ppmvd is the concentration in parts per million by volume, dry basis, of NO_x or CO

MW is the Molecular Weight for:
NO_x = 46 lb/lb-mole; CO = 28 lb/lb-mole

F dry factor for:
Natural gas = 8,710 dscf/MM BTU
Residual or fuel oil = 9,190 dscf/MM BTU

$$O_2 \text{ correction factor:} \quad \frac{(20.9\%)}{(20.9\% - O_2 \text{ measured})}$$

O_2 measured is percent oxygen on a dry basis.

[(b) An exceedance of an emission limit which occurs during an adjustment of the combustion process under (a)2 or 3 above, as a result of the adjustment, is not a violation of this chapter. Before the combustion adjustment begins, and after it has been completed, the maximum emission rate of any contaminant shall not exceed the maximum allowable emission rate applicable under this chapter or under an operating permit issued pursuant to N.J.A.C. 7:27-22 or an applicable certificate issued pursuant to N.J.A.C. 7:27-8.**]**

[(c)**](b)** The owner or operator of the **[**adjusted**]** equipment or source operation **adjusted pursuant to (a) above** shall **[**record**]** **ensure that** each adjustment **[**conducted under (a) above**]** **is recorded** in a **[**permanently bound**]** log book or **[**other format approved in writing by the Department, containing**]** **computer data system and retained for a minimum of five years, to be made readily accessible to the Department upon request. Such record shall contain** the following information for each adjustment:

1.-2. (No change.)

3. The NO_x **[**concentration**]** **and CO concentrations** in the effluent stream, in **[**either ppmv or**]** ppmvd, **before and** after each **actual** adjustment was made;

[4. The CO concentration in the effluent stream, in either ppmv or ppmvd, after each adjustment was made;**]**

[5.**]4.** The concentration of O_2 **(in percent dry basis)** at which the CO and NO_x concentrations **[**pursuant to (c)3 and 4**]** were measured **pursuant to (a)5 above** ; **[**and**]**

5. A description of any corrective action taken;

6. Results from any subsequent tests performed after taking any corrective action, including concentrations and converted emission values in pounds per million BTU (lb/MM BTU);

7. The type and amount of fuel used over the 12 months prior to the annual adjustment; and

[6.**]** **8.** (No change in text.)

(c) The owner or operator shall ensure that an annual adjustment combustion process report is submitted electronically to the Department according to the schedule listed in (d) below, and in the format the Department specifies at its website. The report shall contain the following information:

1. The concentrations of NO_x and CO in the effluent stream in ppmvd, and O_2 in percent dry basis, measured before and after the adjustment of the combustion process pursuant to (a)5 above;

2. The converted emission values in lb/MM BTU for the measurements taken before and after the adjustment of the combustion process;

3. A description of any corrective actions taken as a part of the combustion adjustment; and

4. The type and amount of fuel used over the 12 months prior to the annual adjustment.

(d) The owner or operator of an industrial/commercial/institutional boiler or other

indirect heat exchanger shall ensure that the annual adjustment combustion process report required in (c) above is submitted to the Department within 30 days after the adjustment of the combustion process is completed, based on the gross heat input of the boiler or heat exchanger as follows:

1. For an industrial/commercial/institutional boiler or other indirect heat exchanger with a gross heat input of at least five million but less than 10 million BTU per hour, beginning in (calendar year 76 months after the operative date of this amendment);

2. For an industrial/commercial/institutional boiler or other indirect heat exchanger with a gross heat input of at least 10 million but less than 20 million BTU per hour, beginning in (calendar year 52 months after the operative date of this amendment); and

3. For an industrial/commercial/institutional boiler or other indirect heat exchanger with a gross heat input of at least 20 million BTU per hour, beginning in (calendar year 40 months after the operative date of this amendment);

(e) The owner or operator of the adjusted equipment or source operation shall ensure that the operating parameter settings are established and recorded after the combustion process is adjusted and that these settings are maintained until the next annual adjustment.

(f) An exceedance of an emission limit that occurs during an adjustment of the combustion process under (a) above or (g) below is not a violation of this subchapter if it occurs as a result of the adjustment. After the combustion adjustment has been completed, the maximum emission rate of any contaminant shall not exceed the maximum allowable emission rate applicable under this subchapter or under an operating permit issued pursuant to N.J.A.C. 7:27-22 or an applicable certificate issued pursuant to N.J.A.C. 7:27-8.

(g) The owner or operator of a stationary combustion turbine or reciprocating engine shall ensure that the adjustment of the combustion process is carried out according to the manufacturer's recommended procedures and maintenance schedule.

(h) The owner or operator of a stationary combustion turbine or reciprocating engine adjusted pursuant to (g) above shall ensure that each adjustment is recorded in a log book or computer data system and retained for a minimum of five years, to be made readily accessible to the Department upon request. Such record shall contain the following information for each adjustment:

1. The date of the adjustment and the times at which it began and ended;

2. The name, title, and affiliation of the person who performed the procedure and adjustment;

3. The type of procedure and maintenance performed;

4. The concentrations of NO_x, CO and O_2, measured before and after the adjustment was made; and

5. The type and amount of fuel use over the 12 months prior to the adjustment.

7:27-19.18 Continuous emissions monitoring

(a)-(d) (No change.)

(e) The Department shall approve an alternative monitoring plan only if:

1. (No change.)

2. Under the plan, a continuous emissions monitoring system will be installed on each **[**utility**]** boiler **serving an electric generating unit** at the facility if required under 40 CFR 75 or 76.

(f) - (m) (No change.)

7:27-19.19 Recordkeeping and recording

(a)-(c) (No change.)

(d) For each combustion source listed in (c) above, the owner or operator shall record the following information for each day from May 1 through September 30, for the 30-day period ending on October 1, and for each 30-day period ending on each subsequent day through April 30 of the following year:

1. Information sufficient to identify the combustion source, including a brief description (for example, "dry-bottom coal-fired **[**utility**]** boiler **serving an electric generating unit**"), its location, its permit number, the company stack designation, and any other identifying numbers, and any other information necessary to distinguish it from other equipment owned or operated by the owner or operator;

2. -6. (No change.)

(e)-(g) (No change.)

7:27-19.20 Fuel switching

(a)-(b) (No change.)

(c) An owner or operator seeking approval of a plan for fuel switching shall submit an application to the Department by June 22, 1995, in accordance with N.J.A.C. 7:27-19.14(a), (b) and (c). In addition to the information required under N.J.A.C. 7:27-19.14(c), the owner or operator shall include in the application the following information regarding each combustion source that is to combust a cleaner fuel seasonally:

1. Information sufficient to identify the combustion source, including a brief description, (for example, "dry-bottom coal-fired **[**utility**]** boiler **serving an electric generating unit**" or "oil-fired simple-cycle **[**gas**]** **combustion** turbine"), its location, its permit number, its company stack designation, any other identifying numbers, and any other information necessary to distinguish it from other equipment owned or operated by the applicant;

2. -8. (No change.)

(d) The maximum daily and annual NO_x emission rate for a combustion source included in the fuel switching plan is determined as follows (except that for a coal-fired, wet-bottom **[**utility**]** boiler **serving an electric generating unit** that uses the tangential or face firing method, only (d)1 through 3 apply):

1. -7. (No change.)

(e)-(f) (No change.)

(g) Beginning in calendar year 1995, the owner or operator shall operate each combustion source included in the plan in compliance with the following:

1. -2. (No change.)

3. During each calendar day from May 1 through September 30 of each year, the combustion source shall emit NO_x at an average rate no higher than the maximum allowable NO_x emission rate determined under (d) above; provided however, that a coal-fired, wet-bottom **[**utility**]** boiler **serving an electric generating unit** that uses the tangential or face firing method, the maximum allowable NO_x emission rate shall be 1.0 lb/MMBTU;

4. During the 30-day period ending on **[**September 16**]** **October 1** of each year, and each 30-day period ending on each subsequent day thereafter until April 30 of the following year, the combustion source shall emit NO_x at an average rate no higher than the rate under N.J.A.C. 7:27-19.4, 19.5, 19.7, 19.8, 19.9 or 19.10 that would apply if the combustion source were combusting the primary fuel that it had used in the base year; provided however, that a coal-fired, wet-bottom **[**utility**]** boiler **serving an electric generating unit** that uses the tangential or face firing method shall emit NO_x at a rate no higher than 1.5 lb/MMBTU; and

5. During each calendar year, the combustion source shall emit NO_x at an average rate no higher than the maximum NO_x emission rate determined under (d) above; provided however, that a coal-fired, wet-bottom **[**utility**]** boiler **serving an electric generating unit** that uses the tangential or face firing method shall emit NO_x at a rate no higher than 1.5 lb/MMBTU. Compliance with this requirement shall be determined based on averaging over each calendar year.

(h)-(l) (No change.)

7:27-19.21 Phased compliance - repowering

(a) (No change.)

(b) By June 22, 1995 **(or by (three months after the operative date of this amendment) for any facility, equipment or source operation that is subject to a NO_x emission limit under this subchapter as set forth at N.J.A.C. 7:27-19.5(d), 19.7(h), or 19.8(e))**, an owner or operator seeking approval of a repowering plan shall submit to the Department an application for approval of the repowering plan pursuant to N.J.A.C. 7:27-19.14, including a repowering plan pursuant to (c) below. If an owner or operator fails to submit the application by **[**June 22,1995**]** **the applicable date**, the Department may reject the application. The Department may elect to process a late application, based on how late the application is, the nature and extent of the owner or operator's efforts to submit the application on time, whether the owner or operator advised the Department before the application due date that a late application would be submitted, and the extent of the emission reductions promised in the late application. If the Department elects to process a late application, the pendency of the application shall not be a defense to a violation of a NOx emission limit to which the source is subject in the absence of an approved plan.

(c) The owner or operator shall include the following information in the repowering plan with respect to each combustion source included in the plan:

1. Information sufficient to identify the combustion source, including a brief description (for example, "dry-bottom coal-fired **[**utility**]** boiler **serving an**

electric generating unit"), its location, its permit number, the company stack designation, and any other identifying numbers, and any other information necessary to distinguish it from other equipment owned or operated by the owner or operator;

2. -14. (No change.)

(d) The Department shall approve a repowering plan only if the following requirements are satisfied:

1. -3. (No change.)

4. The completion date listed in (c)2v above is no later than May 1, 1999**, except that any facility, equipment or source operation that is subject to a NO_x emissions limit under this subchapter as set forth at N.J.A.C. 7:27-19.5(d), 19.7(h), or 19.8(e) shall specify a completion date that is no later than (four years after the operative date of this amendment)**;

5. -18. (No change.)

(e) An owner or operator who has obtained the Department's approval of a repowering plan shall:

1. Beginning on May 31, 1995 **(or on (16 months after the operative date of this amendment) for any facility, equipment or source operation that is subject to a NO_x emissions limit under this subchapter as set forth at N.J.A.C. 7:27-19.5(d), 19.7(h), or 19.8(e))**, operate all combustion sources included in the approved repowering plan in a manner that complies with the plan and with all conditions of the Department's approval;

2. -3. (No change.)

4. Beginning on May 31, 1995 **(or on (16 months after the operative date of this amendment) for any facility, equipment or source operation that is subject to a NO_x emissions limit under this subchapter as set forth at N.J.A.C. 7:27-19.5(d), 19.7(h), or 19.8(e))**, determine the actual NO_x emissions from each combustion source included in the repowering plan in accordance with N.J.A.C. 7:27-19.15(a);

5. (No change.)

6. Beginning on May 31, 1995 **(or on (16 months after the operative date of this amendment) for any facility, equipment or source operation that is subject to**

a NO_x emissions limit under this subchapter as set forth at N.J.A.C. 7:27-19.5(d), 19.7(h), or 19.8(e)), comply with the recordkeeping and reporting requirements of N.J.A.C. 7:27-19.19;

7. -8. (No change.)

9. If the plan includes a **[**utility**]** boiler **serving an electric generating unit**, cause the repowered **[**utility**]** boiler **serving an electric generating unit** to emit NO_x at a rate no higher than the applicable maximum allowable NO_x listed in Table **[**6**]** **9** below (provided however, that the NO_x emission limits in Table **[**6**]** **9** shall not be construed to limit the owner or operator's obligations under (e)8 above); and

10. If repowering of any combustion source included in the plan is not completed by May 1, 1999 **(or by (four years after the operative date of this amendment) for any facility, equipment or source operation that is subject to a NO_x emissions limit under this subchapter as set forth at N.J.A.C. 7:27-19.5(d), 19.7(h), or 19.8(e))**, cease operating the combustion source **[**to be repowered by May 1, 1999**]**.

TABLE **[**6**]** **9**

Maximum Allowable NO_x Emission Rates for **[**Utility**]**
Boilers **Serving Electric Generating Units**
Which Have Been Repowered
(pounds per million BTU)

(No change in table.)

(f)-(g) (No change.)

(h) Before the Department approves a repowering plan, the owner or operator shall enter into a Federally enforceable agreement containing the following provisions:

1. (No change.)

2. Information sufficient to identify the combustion source, including a brief description (for example, "dry-bottom coal-fired **[**utility**]** boiler **serving an electric generating unit**"), its location, its permit number, the company stack designation, and any other identifying numbers, and any other information necessary to distinguish it from other equipment owned or operated by the owner or operator;

3. -6. (No change.)

7:27-19.22 Phased compliance - impracticability of full compliance by May 31, 1995

(a)-(b) (No change.)

(c) The owner or operator shall include the following information in the phased compliance plan with respect to each combustion source included in the plan:

1. Information sufficient to identify the combustion source, including a brief description (for example, "dry-bottom coal-fired **[**utility**]** boiler **serving an electric generating unit**"), its location, its permit number, the company stack designation, and any other identifying numbers, and any other information necessary to distinguish it from other equipment owned or operated by the owner or operator;

2. -4. (No change.)

(d)-(g) (No change.)

7:27-19.23 Phased compliance - use of innovative control technology

(a) (No change.)

(b) By June 22, 1995 **(or by (three months after the operative date of this amendment) for any facility, equipment or source operation that is subject to a NO_x emissions limit under this subchapter as set forth at N.J.A.C. 7:27-19.5(d), 19.7(h), or 19.8(e))**, an owner or operator seeking approval of an innovative control technology plan shall submit to the Department an application pursuant to N.J.A.C. 7:27-19.14 and the plan itself pursuant to (c) below. If an owner or operator fails to submit the application by **[**June 22, 1995**]** **the applicable date**, the Department may reject the application. The Department may elect to process a late application, based on how late the application is, the nature and extent of the owner or operator's efforts to submit the application on time, whether the owner or operator advised the Department before the application due date that a late application would be submitted, and the extent of the emission reductions promised in the late application. If the Department elects to process a late application, the pendency of the application shall not be a defense to a violation of a NO_x emission limit to which the source would be subject in the absence of an approved plan.

(c) The owner or operator shall include the following information in the innovative control technology plan with respect to each combustion source included in the plan:

1. Information sufficient to identify the combustion source, including a brief description (for example, "dry-bottom coal-fired **[**utility**]** boiler **serving an**

electric generating unit"), its location, its permit number, the company stack designation, and any other identifying numbers, and any other information necessary to distinguish it from other equipment owned or operated by the owner or operator;

2. - 3. (No change.)

4. Information establishing that the proposed innovative control technology is technically sound and sufficiently developed to be implemented by May 1, 1999 **(or by (four years after the operative date of this amendment) for any facility, equipment or source operation that is subject to a NO_x emissions limit under this subchapter as set forth at N.J.A.C. 7:27-19.5(d), 19.7(h), or 19.8(e))**;

5. -16. (No change.)

(d) The Department shall approve an innovative control technology plan only if the following requirements are satisfied:

1. (No change.)

2. The innovative control technology proposed for each combustion source in the plan:

i.-ii. (No change.)

iii. Is sufficiently developed so that it can be implemented by May 1, 1999 **(or by (four years after the operative date of this amendment) for any facility, equipment or source operation that is subject to a NO_x emissions limit under this subchapter as set forth at N.J.A.C. 7:27-19.5(d), 19.7(h), or 19.8(e))**; and

iv. Cannot practicably be implemented by May 31, 1995 **(or by (16 months after the operative date of this amendment) for any facility, equipment or source operation that is subject to a NO_x emissions limit under this subchapter as set forth at N.J.A.C. 7:27-19.5(d), 19.7(h), or 19.8(e))**.

3. -7. (No change.)

(e) An owner or operator who has obtained the Department's approval of an innovative control technology plan shall:

1. Beginning on May 31, 1995 **(or on (16 months after the operative date of this amendment) for any facility, equipment or source operation that is subject to**

a NO_x emissions limit under this subchapter as set forth at N.J.A.C. 7:27-19.5(d), 19.7(h), or 19.8(e)), operate all combustion sources included in the approved plan in a manner that complies with the plan and with all conditions of the Department's approval;

2. -3. (No change.)

4. Beginning on May 31, 1995 **(or on (16 months after the operative date of this amendment) for any facility, equipment or source operation that is subject to a NO_x emissions limit under this subchapter as set forth at N.J.A.C. 7:27-19.5(d), 19.7(h), or 19.8(e))**, determine the actual NO_x emissions from each combustion source included in the innovative control technology plan in accordance with N.J.A.C. 7:27-19.15(a);

5. (No change.)

6. Beginning on May 31, 1995 **(or on (16 months after the operative date of this amendment) for any facility, equipment or source operation that is subject to a NO_x emissions limit under this subchapter as set forth at N.J.A.C. 7:27-19.5(d), 19.7(h), or 19.8(e))**, comply with the recordkeeping and reporting requirements of N.J.A.C. 7:27-19.19;

7. -8. (No change.)

9. If the innovative control technology for any combustion source included in the plan is not implemented by May 1, 1999, cease operating the combustion source by May 1, 1999**, except if any owner or operator of a facility, equipment or source operation that is subject to a NO_x emissions limit under this subchapter as set forth at N.J.A.C. 7:27-19.5(d), 19.7(h), 19.8(e) does not implement by (four years after the operative date of this amendment) the innovative control technology for the combustion source included in its innovative control technology plan, the equipment or source must comply with the applicable NO_x emissions limit set forth in this subchapter by (four years after the operative date of this amendment)**.

(f)-(g) (No change.)

(h) Before the Department approves an innovative control technology plan, the owner or operator shall enter into a Federally enforceable agreement containing the following provisions:

1. (No change.)

2. Information sufficient to identify the combustion source, including a brief description (for example, "dry-bottom coal-fired **[**utility**]** boiler **serving an electric generating unit**"), its location, its permit number, the company stack designation, and any other identifying numbers, and any other information necessary to distinguish it from other equipment owned or operated by the owner or operator;

3. -6. (No change.)

7:27-19.24 MEG alerts

(a) During a MEG alert that occurs on or before November 15, 2005, an electric generating unit that is operating at emergency capacity may exceed the NO_x emissions limits applicable under this chapter, including any limits set forth in the unit's permit. This exemption includes up to 12 hours per year of performance testing per boiler or **[**gas**]** **combustion** turbine, provided this testing is not performed during the ozone season. This exemption is available only if the owner or operator of an electric generating unit complies with the requirements of this section.

(b) Within two working days after the end of the MEG alert, the owner or operator of the electric generating unit shall notify the Department by way of a report confirming the occurrence of the MEG alert. The owner or operator of the electric generating unit shall certify the report in accordance with N.J.A.C. 7:27-**[**8.24**]** **1.39**. In the report, the owner or operator of the electric generating unit shall include the following information:

1. Information sufficient to identify each electric generating unit that operated at emergency capacity, including a brief description (for example, "dry-bottom coal-fired **[**utility**]** boiler **serving an electric generating unit**"), its location, its permit number, any other identifying numbers, and any other information necessary to distinguish it from other equipment also owned or operated by the owner or operator of the electric generating unit;

2. (No change.)

3. For each electric generating unit listed in (b)1 above, the date and time at which the electric **[**generating utility**]** **distribution company** began to operate the electric generating unit at emergency capacity;

4. -7. (No change.)

7:27-19.25 Exemption for emergency use of fuel oil

(a)-(c) (No change.)

(d) The owner or operator shall keep records of curtailment periods and incorporate such records into the required quarterly reports submitted to the Department. Such records shall include the following information:

1. Information sufficient to identify each combustion source for which the owner or operator claims an exemption under this section, including a brief description of the source (for example, "dry-bottom coal-fired **[**utility**]** boiler **serving an electric generating unit**"), its location, its permit number, any other identifying numbers, and any other information necessary to distinguish it from other equipment also owned or operated by the owner or operator of the electric generating unit;

2. -4. (No change.)

SUBCHAPTER 22 OPERATING PERMITS

7:27-22.1 Definitions

The following words and terms, when used in this subchapter, shall have the following meanings, unless the context clearly indicates otherwise:

...

"Brake horsepower" means a measure of mechanical power generated by a reciprocating engine determined by a brake attached to the shaft coupling.

…

"Energy and Environmental Technology Verification Act" or "EETV Act" means N.J.S.A. 13:1D-134 et seq., that authorizes the Department to develop and implement an innovative energy and environmental technology verification and certification process.

...

"Exempt activity" means one of the following:

1. -7. (No change.)

8. A fuel cell system **[**that uses hydrogen without a fuel processor, or a fuel cell system that uses a natural gas fuel processor and that has a power output no greater than 500 kilowatts;**]** **of:**

i. Any generating capacity size fueled by hydrogen without a fuel processor;

ii. Less than 5,000 kilowatts generating capacity fueled by methane; or

iii. Less than 500 kilowatts generating capacity fueled by fuels other than hydrogen or methane;

9. -14. (No change.)

...

"Insignificant source operation" means equipment or a source operation which is one of the following:

1. (No change.)
2. A stationary storage tank or mixing or blending vessel, provided that 2i, ii, and iii below are satisfied:

i.-ii. (No change.)

iii. The owner or operator of the tank or vessel has readily available upon Department request a statement certified in accordance with N.J.A.C. 7:27-1.39, signed by the responsible official, as defined at N.J.A.C. 7:27-1.4, that:

(1)-(2) (No change.)

(3) Attests that the tank or vessel is in compliance with all other applicable State or Federal air pollution requirement; **[**or**]**

3. Any equipment or a source operation which may emit air contaminant(s) directly or indirectly into the outdoor air and which is not defined either as a significant source operation or an exempt activity**[**.**]; or**

4. Equipment or a source operation that would be classified as a significant source solely because it meets the criteria in paragraph 11 in the definition of "significant source," is not a significant source provided that it meets the criteria at subparagraphs4i through iv below:

i. The equipment or source operation is one of the following:

(1) A microturbine with less than 500 kilowatts generating capacity that is fueled by natural gas and that has been verified according to the requirements in subparagraph 4ii below to emit less than:

(A) 0.40 pounds of NO_x per megawatt hour; and

(B) 0.25 pounds of CO per megawatt hour; or

(2) Any piece of electric generating equipment, other than a fuel cell system or a microturbine, with less than 500 kilowatts generating capacity and that has been verified according to the requirements in subparagraph 4ii below to emit less than:

(A) 0.40 pounds of NO_x per megawatt hour;

(B) 0.25 pounds of CO per megawatt hour;

(C) 0.10 pounds of PM per megawatt hour; and

(D) 0.01 pounds of SO_2 per megawatt hour;

ii. A facility with a source identified in subparagraph 4i above shall verify its emissions and demonstrate conformance with emission levels in subparagraph 4i above using one of the options listed in subparagraph 4ii(1) or (2) below. If verification process is not available pursuant to subparagraph 4ii(1) below, or manufacturer testing has not been conducted in accordance with subparagraph 4ii(2) below or has been conducted in accordance with subparagraph 4ii(2) below but has been determined to be not acceptable under subparagraph 4ii(4) below, then the facility shall demonstrate conformance using subparagraph 4ii(3) below:

(1) An applicable verification process approved by the Department pursuant to the EETV Act, or through TARP, available from the Department's Bureau of Sustainable Communities and Innovative Technologies at (609) 292-9692 or www.state.nj.us/dep/dsr/bscit.htm;

(2) The manufacturer's test protocol, provided the facility maintains on-site for inspection by the Department a copy of the protocol, test data and the test report, and available for Department review or request, and producing documents from the equipment manufacturer that the manufacturer has:

(A) Performed representative source emission testing on a model of equipment;

(B) Had the source emission testing and the test report reviewed and certified by a licensed professional engineer;

(C) Conducted a minimum of three consecutive one-hour test runs, in which the average of the test runs shall not have exceeded the emission limits stated at subparagraphs 4i(A) and (B) above; and

(D) Converted each test run to pounds per megawatt hour before averaging; or

(3) Stack emission testing provided the facility has:

(A) Developed and used, a stack emission testing protocol using the protocol templates in Technical Manual 1004, available at the Department's website www.state.nj.us/dep/bts.html;

(B) Conducted a minimum of three consecutive one-hour test runs, in which the average of the test runs shall not exceed the emission limits stated at 4i(A) and (B) above; and

(C) Converted the results of each test run to pounds per megawatt hour before averaging.

(4) The Department may determine that the manufacturer's testing of a model of the equipment, under subparagraph 4ii(2) above, is not acceptable. The Department's basis for rejecting the manufacturer testing may include, but need not be limited to inappropriate test methods, invalid test data, or test data that indicate emissions above the specified limits.

iii. The owner or operator of the source shall have available on site a statement, certified in accordance with N.J.A.C.7:27-1.39, by the responsible official, that the source meets all the criteria in subparagraph 4i and ii above. This certification shall be provided to the Department upon request; and

iv. If the Department has reason to believe, as a result of an inspection or otherwise, that equipment or a source operation is emitting NO_x above

the specified limits, the Department, at its discretion, may require the owner or operator of a source to submit the certified test report and/or supporting test data to the Department. The Department, at its discretion, may also require the owner or operator of a source to perform source emission testing in accordance with N.J.A.C. 7:27-22.18(e).

...

"Microturbine" means a combustion turbine with output of 25 kW to 500 kW.

…

"Rated power output" means the maximum electrical or equivalent mechanical power output stated on the nameplate affixed to an engine or turbine by the manufacturer.

...

"Significant source operation" means any source operation which is one the following unless the source operation is explicitly specified, in the definition of "exempt activity," as an exempt activity, and unless the source operation is explicitly specified, in paragraphs 1 **[**or**]**, 2 **or 4** of the definition of "insignificant source," as an insignificant source:

1. -10. (No change.)

11. Commercial fuel burning equipment**, except for a source listed in paragraph 20 below,** that has a maximum rated heat input of 1,000,000 BTU per hour or greater to the burning chamber;

12. -17. (No change.)

18. Equipment that is used in a graphic arts operation including, but not limited to, newspaper, lithographic, gravure, flexographic, letterpress and screen printing, in which the quantity of ink, fountain solution, or cleaning material used in any one hour is equal to or greater than one half gallon; **[**or**]**

19. Welding equipment, if the weight of the welding rod or welding wire used in the process is greater than 12 pounds in any calendar day**[.]; or**

20. Any stationary reciprocating engine with a maximum rated power output of 50 brake horsepower or greater, used for generating electricity.

...

"Technology Acceptance and Reciprocity Partnership" or "TARP" means a

workgroup of the Environmental Council of States (ECOS). The workgroup was formed to promote the reciprocal evaluation, acceptance, and approval of innovative environmental technologies.

…

CHAPTER 27A
AIR ADMINISTRATION PROCEDURES AND PENALTIES

SUBCHAPTER 3. CIVIL ADMINISTRATIVE PENALTIES AND REQUESTS FOR ADJUDICATORY HEARINGS

7:27-3.10 Civil administrative penalties for violation of rules adopted pursuant to the Act

(a)-(l) (No change.)

(m) The violations of N.J.A.C. 7:27 and the civil administrative penalty amounts for each violation are as set forth in the following Civil Administrative Penalty Schedule. The numbers of the following subsections correspond to the numbers of the corresponding subchapter in N.J.A.C. 7:27. The rule summaries for the requirements set forth in the Civil Administrative Penalty Schedule in this subsection are provided for informational purposes only and have no legal effect.

CIVIL ADMINISTRATIVE PENALTY SCHEDULE

1. -15. (No change.)

16. The violations of N.J.A.C. 7:27-16, Control and Prohibition of Air Pollution by Volatile Organic Compounds (VOC), and the civil administrative penalty amounts for each violation, per source, are as set forth in the following table:

…

Citation	**First Offense**	**Second Offense**	**Third Offense**	**Fourth and Each Subsequent Offense**
N.J.A.C. 7:27-16.8(b)1 or 2				
Class **[**Non-utility and Utility Boilers**]** **Boiler Serving an Electric Generating Unit or Industrial/Commercial/Institutional Boilers**				
Actual Emission (pounds per million BTU):				
Boiler Heat Input Capacity--Less than 100 MMBTU				

Citation	First Offense	Second Offense	Third Offense	Fourth and Each Subsequent Offense
1. Less than 25 percent over the allowable standard	$2,000 [3]	$4,000 [3]	$10,000 [3]	$30,000 [3]
2. From 25 through 50 percent over the allowable standard	$4,000 [3]	$8,000 [3]	$20,000 [3]	$50,000 [3]
3. Greater than 50 percent over the allowable standard	$8,000 [3]	$16,000 [3]	$40,000 [3]	$50,000 [3]
Boiler Heat Input Capacity--From 100-250 MMBTU				
1. Less than 25 percent over the allowable standard	$6,000 [3]	$12,000 [3]	$30,000 [3]	$50,000 [3]
2. From 25 through 50 percent over the allowable standard	$8,000 [3]	$16,000 [3]	$40,000 [3]	$50,000 [3]
3. Greater than 50 percent over the allowable standard	$10,000 [3]	$20,000 [3]	$50,000 [3]	$50,000 [3]
Boiler Heat Input Capacity--Greater than 250 MMBTU				
1. Less than 25 percent over the allowable standard	$8,000 [3]	$16,000 [3]	$40,000 [3]	$50,000 [3]
2. From 25 through 50 percent over the allowable standard	$10,000 [3]	$20,000 [3]	$50,000 [3]	$50,000 [3]
3. Greater than 50 percent over the allowable standard	$10,000 [3]	$20,000 [3]	$50,000 [3]	$50,000 [3]

Citation	Class	First Offense	Second Offense	Third Offense	Fourth and Each Subsequent Offense
N.J.A.C. 7:27-16.8(b)3 **[**or (c)**]**	Adjust Combustion	$2,000	$4,000	$10,000	$30,000
N.J.A.C. 7:27-16.8(c)1	**Adjust Combustion 5-10 million BTU per hour**	**$500**	**$1,000**	**$2,500**	**$7,500**
N.J.A.C. 7:27-16.8(c)2	**Adjust Combustion 10-20 million BTU per hour**	**$1,000**	**$2,000**	**$5,000**	**$15,000**
N.J.A.C. 7:27-16.8(c)3	**Adjust Combustion 20-50 million BTU per hour**	**$2,000**	**$4,000**	**$10,000**	**$30,000**
N.J.A.C. 7:27-16.8(e)	Demonstrate Compliance	$2,000	$4,000	$10,000	$30,000
N.J.A.C. 7:27-16.8(f) or (g)	Failure to Install CEM	$10,000	$20,000	$50,000	$50,000

Citation	First Offense	Second Offense	Third Offense	Fourth and Each Subsequent Offense
N.J.A.C. 7:27-16.9(b) and (c)				
CLASS Stationary **[**Gas**]** **Combustion** Turbine				
Actual Emission (pounds per million BTU):				
3-10 MW Turbine				
1. Less than 25 percent over the allowable standard	$2,000 [3]	$4,000 [3]	$10,000 [3]	$30,000 [3]

Citation	First Offense	Second Offense	Third Offense	Fourth and Each Subsequent Offense
2. From 25 through 50 percent over the allowable standard	$4,000 [3]	$8,000 [3]	$20,000 [3]	$50,000 [3]
3. Greater than 50 percent over the allowable standard	$8,000 [3]	$16,000 [3]	$40,000 [3]	$50,000 [3]
11-50 MW Turbine				
1. Less than 25 percent over the allowable standard	$6,000 [3]	$12,000 [3]	$30,000 [3]	$50,000 [3]
2. From 25 through 50 percent over the allowable standard	$8,000 [3]	$16,000 [3]	$40,000 [3]	$50,000 [3]
3. Greater than 50 percent over the allowable standard	$10,000 [3]	$20,000 [3]	$50,000 [3]	$50,000 [3]
Greater than 50 MW Turbine				
1. Less than 25 percent over the allowable standard	$8,000 [3]	$16,000 [3]	$40,000 [3]	$50,000 [3]
2. From 25 through 50 percent over the allowable standard	$10,000 [3]	$20,000 [3]	$50,000 [3]	$50,000 [3]
3. Greater than 50 percent over the allowable standard	$10,000 [3]	$20,000 [3]	$50,000 [3]	$50,000 [3]

…

Citation	First Offense	Second Offense	Third Offense	Fourth and Each Subsequent Offense
N.J.A.C. 7:27-16.10(b)				
Class Stationary **[**Internal Combustion**]** **Reciprocating** Engine				
Actual Emission (grams per **brake** horsepower hr):				
1000 **[**Hp**]** **bhp** or less				
1. Less than 25 percent over the allowable standard	$2,000 [3]	$4,000 [3]	$10,000 [3]	$30,000 [3]
2. From 25 through 50 percent over the allowable standard	$4,000 [3]	$8,000 [3]	$20,000 [3]	$50,000 [3]
3. Greater than 50 percent over the allowable standard	$8,000 [3]	$16,000 [3]	$40,000 [3]	$50,000 [3]
Greater than 1000 **[**Hp**]** **bhp**				
1. Less than 25 percent over the allowable standard	$6,000 [3]	$12,000 [3]	$30,000 [3]	$50,000 [3]
2. From 25 through 50 percent over the allowable standard	$8,000 [3]	$16,000 [3]	$40,000 [3]	$50,000 [3]
3. Greater than 50 percent over the allowable standard	$10,000 [3]	$20,000 [3]	$50,000 [3]	$50,000 [3]

...

17. -18. (No change.)

19. The violations of N.J.A.C. 7:27-19, Control and Prohibition of Air Pollution from Oxides of Nitrogen, and the civil administrative penalty amounts for each violation, are as set forth in the following table:

Citation	Class	First Offense	Second Offense	Third Offense	Fourth and Each Subsequent Offense
N.J.A.C. 7:27-19.3(d)	Failure to Submit Application or Plan	$2,000	$4,000	$10,000	$30,000
N.J.A.C. 7:27-19.4(a)	**[**Utility Boilers**]** **Boilers Serving an Electric Generating Unit**				
Actual Emissions (pounds per million BTU per hour):					
1. Less than 25 percent over the allowable standard		$8,000	$16,000	$40,000	$50,000
2. From 25 through 50 percent over the allowable standard		$10,000	$20,000	$50,000	$50,000
3. Greater than 50 percent over the allowable standard		$10,000	$20,000	$50,000	$50,000
N.J.A.C. 7:27-19.4(b)	All **[**Utility**]** Boilers **Serving an Electric Generating Unit** Failure to Install CEM	$10,000	$20,000	$50,000	$50,000
N.J.A.C. 7:27-19.4(c)	**Adjust Combustion**	**$2,000**	**$4,000**	**$10,000**	**$30,000**
N.J.A.C. 7:27-19.5(a) or (b)	Stationary **[**Gas**]** **Combustion** Turbines				
Actual Emission (pounds per million BTU):					
3-10 MW Turbine					
1. Less than 25 percent over the allowable standard		$2,000	$4,000	$10,000	$30,000
2. From 25 through 50 percent over the allowable standard		$4,000	$8,000	$20,000	$50,000
3. Greater than 50 percent over the allowable standard		$8,000	$16,000	$40,000	$50,000
11-50 MW Turbine					
1. Less than 25 percent over the allowable standard		$6,000	$12,000	$30,000	$50,000
2. From 25 through 50 percent over the allowable standard		$8,000	$16,000	$40,000	$50,000
3. Greater than 50 percent over the allowable standard		$10,000	$20,000	$50,000	$50,000
Greater than 50 MW Turbine					
1. Less than 25 percent over the allowable standard		$8,000	$16,000	$40,000	$50,000
2. From 25 through 50 percent over the allowable standard		$10,000	$20,000	$50,000	$50,000
3. Greater than 50 percent over the allowable standard		$10,000	$20,000	$50,000	$50,000
N.J.A.C. 7:27-19.5(c)5	Conditions of Approval	$2,000	$4,000	$10,000	$30,000
N.J.A.C. 7:27-19.5 (c)6	Adjust Combustion Process	$2,000	$4,000	$10,000	$30,000

Citation	Class	First Offense	Second Offense	Third Offense	Fourth and Each Subsequent Offense
N.J.A.C. 7:27-19.5(d)	**Actual Emission (pounds per megawatt hour):**				
3-10 MW Turbine					
1. Less than 25 percent over the allowable standard		**$2,000**	**$4,000**	**$10,000**	**$30,000**
2. From 25 through 50 percent over the allowable standard		**$4,000**	**$8,000**	**$20,000**	**$50,000**
3. Greater than 50 percent over the allowable standard		**$8,000**	**$16,000**	**$40,000**	**$50,000**
11-50 MW Turbine					
1. Less than 25 percent over the allowable standard		**$6,000**	**$12,000**	**$30,000**	**$50,000**
2. From 25 through 50 percent over the allowable standard		**$8,000**	**$16,000**	**$40,000**	**$50,000**
3. Greater than 50 percent over the allowable standard		**$10,000**	**$20,000**	**$50,000**	**$50,000**
Greater than 50 MW Turbine					
1. Less than 25 percent over the allowable standard		**$8,000**	**$16,000**	**$40,000**	**$50,000**
2. From 25 through 50 percent over the allowable standard		**$10,000**	**$20,000**	**$50,000**	**$50,000**
3. Greater than 50 percent over the allowable standard		**$10,000**	**$20,000**	**$50,000**	**$50,000**
N.J.A.C. 7:27-19.5(e)	**Adjust Combustion Process**	**$2,000**	**$4,000**	**$10,000**	**$30,000**
N.J.A.C. 7:27-19.6(d)1 and 2	Emissions Averaging				
Actual Emission (pounds per million BTU):					
1. Less than 25 percent over the allowable standard		$8,000	$16,000	$40,000	$50,000
2. Twenty-five percent or greater percent over the allowable standard		$10,000	$20,000	$50,000	$50,000
N.J.A.C. 7:27-19.6(f)1 or 2	Record Keeping of Compliance Demonstration	$500	$1,000	$2,500	$7,500
N.J.A.C. 7:27-19.6(g)	Log	$500	$1,000	$2,500	$7,500
N.J.A.C. 7:27-19.6(h)	Quarterly Reports	$500	$1,000	$2,500	$7,500
N.J.A.C. 7:27-19.6(i)	Notice of Noncompliance	$500	$1,000	$2,500	$7,500
N.J.A.C. 7:27-19.6(j)1	Provide Notice of Ceased Operations	$500	$1,000	$2,500	$7,500
N.J.A.C. 7:27-19.7(a)	Adjust combustion process	$2,000	$4,000	$10,000	$30,000
N.J.A.C. 7:27-19.7(b) or (c)	**[**Non-Utility**]** **Industrial/Commercial/ Institutional** boilers and other indirect heat exchangers				
Actual Emission (pounds per million BTU):					

Citation	Class	First Offense	Second Offense	Third Offense	Fourth and Each Subsequent Offense
Less than 25 MMBTU per hour					
1. Less than 25 percent over the allowable standard		$2,000	$4,000	$10,000	$30,000
2. From 25 through 50 percent over the allowable standard		$4,000	$8,000	$20,000	$50,000
3. Greater than 50 percent over the allowable standard		$8,000	$16,000	$40,000	$50,000
25-50 MMBTU per hour					
1. Less than 25 percent over the allowable standard		$6,000	$12,000	$30,000	$50,000
2. From 25 through 50 percent over the allowable standard		$8,000	$16,000	$40,000	$50,000
3. Greater than 50 percent over the allowable standard		$10,000	$20,000	$50,000	$50,000
Greater than 50 MMBTU per hour					
1. Less than 25 percent over the allowable standard		$8,000	$16,000	$40,000	$50,000
2. From 25 through 50 percent over the allowable standard		$10,000	$20,000	$50,000	$50,000
3. Greater than 50 percent over the allowable standard		$10,000	$20,000	$50,000	$50,000
N.J.A.C. 7:27-19.7(d) **or (e)**	Heat input rate of 250 MMBTU per hour or greater				
	Failure to install CEM	$10,000	$20,000	$50,000	$50,000
	Heat input rate of 50 MMBTU to less than 250 MMBTU per hour				
	Adjust combustion process or install CEM	$2,000	$4,000	$10,000	$30,000
N.J.A.C. 7:27-19.7(g)1	**Adjust Combustion 5-10 million BTU per hour**	**$500**	**$1,000**	**$2,500**	**$7,500**
N.J.A.C. 7:27-19.7(g)2	**Adjust Combustion 10-20 million BTU per hour**	**$1,000**	**$2,000**	**$5,000**	**$15,000**
N.J.A.C. 7:27-19.7(g)3	**Adjust Combustion 20 million BTU per hour or greater**	**$2,000**	**$4,000**	**$10,000**	**$30,000**
N.J.A.C. 7:27-19.7(h)	**Actual Emissions (pounds per million BTU)**				
1. Less than 25 percent over the allowable standard		**$8,000**	**$16,000**	**$40,000**	**$50,000**
2. From 25 through 50 percent over the allowable standard		**$10,000**	**$20,000**	**$50,000**	**$50,000**
3. Greater than 50 percent over the allowable standard		**$10,000**	**$20,000**	**$50,000**	**$50,000**
N.J.A.C. 7:27-19.8(a), (b) or (c)	Stationary **[**Internal Combustion**]** **Reciprocating** Engines				

Citation	Class	First Offense	Second Offense	Third Offense	Fourth and Each Subsequent Offense
Actual Emission (grams per **brake** horsepower hour):					
1000 **[**Hp**]bhp** or less					
1. Less than 25 percent over the allowable standard		$6,000	$12,000	$30,000	$50,000
2. From 25 through 50 percent over the allowable standard		$8,000	$16,000	$40,000	$50,000
3. Greater than 50 percent over the allowable standard		$10,000	$20,000	$50,000	$50,000
Greater than 1000 **[**Hp**]bhp**					
1. Less than 25 percent over the allowable standard		$8,000	$16,000	$40,000	$50,000
2. From 25 through 50 percent over the allowable standard		$10,000	$20,000	$50,000	$50,000
3. Greater than 50 percent over the allowable standard		$10,000	$20,000	$50,000	$50,000
N.J.A.C. 7:27-19.8(e)	**Actual Emissions (grams per brake horsepower hour)**				
200 bhp or greater, used for generating electricity					
1. Less than 25 percent over the allowable standard		**$2,000**	**$4,000**	**$10,000**	**$30,000**
2. From 25 through 50 percent over the allowable standard		**$4,000**	**$8,000**	**$20,000**	**$50,000**
3. Greater than 50 percent over the allowable standard		**$8,000**	**$16,000**	**$40,000**	**$50,000**
Less than 200 bhp, used for generating electricity					
1. Less than 25 percent over the allowable standard		**$500**	**$1,000**	**$2,500**	**$7,500**
2. From 25 through 50 percent over the allowable standard		**$1,000**	**$2,000**	**$5,000**	**$15,000**
3. Greater than 50 percent over the allowable standard		**$2,000**	**$4,000**	**$10,000**	**$30,000**
N.J.A.C. 7:27-19.8(f)	**Adjust Combustion**				
50 - 200 bhp		**$500**	**$1,000**	**$2,500**	**$7,500**
200 - 500 bhp		**$1,000**	**$2,000**	**$5,000**	**$15,000**
500 bhp or greater		**$2,000**	**$4,000**	**$10,000**	**$30,000**
N.J.A.C. 7:27-19.9(a)	Asphalt Plants				
Maximum Actual Emission					
1. Less than 25 percent over the allowable standard		$2,000	$4,000	$10,000	$30,000
2. From 25 through 50 percent over the allowable standard		$4,000	$8,000	$20,000	$50,000
3. Greater than 50 percent over the allowable standard		$8,000	$16,000	$40,000	$50,000
N.J.A.C. 7:27-19.9(b)	Adjust combustion process	$2,000	$4,000	$10,000	$30,000

Citation	Class	First Offense	Second Offense	Third Offense	Fourth and Each Subsequent Offense
N.J.A.C. 7:27-19.10(a) or (b)	Glass Manufacturing Furnaces				
Maximum Actual Emission:					
For less than 10 pounds per hour:					
1. Less than 25 percent over the allowable standard		$2,000	$4,000	$10,000	$30,000
2. From 25 through 50 percent over the allowable standard		$4,000	$8,000	$20,000	$50,000
3. Greater than 50 percent over the allowable standard		$8,000	$16,000	$40,000	$50,000
From 10 pounds through 22.8 pounds per hour:					
1. Less than 25 percent over the allowable standard		$6,000	$12,000	$30,000	$50,000
2. From 25 through 50 percent over the allowable standard		$8,000	$16,000	$40,000	$50,000
3. Greater than 50 percent over the allowable standard		$10,000	$20,000	$50,000	$50,000
From greater than 22.8 pounds per hour:					
1. Less than 25 percent over the allowable standard		$8,000	$16,000	$40,000	$50,000
2. From 25 through 50 percent allowable standard		$10,000	$20,000	$50,000	$50,000
3. Greater than 50 percent over the allowable standard		$10,000	$20,000	$50,000	$50,000
N.J.A.C. 7:27-19.10(c)1	Determine baseline NO_x emission rate	$2,000	$4,000	$10,000	$30,000
N.J.A.C. 7:27-19.10(c)2	Submit Emission Reduction Plan	$10,000	$20,000	$50,000	$50,000
N.J.A.C. 7:27-19.10(c)3	Implement Emission Reduction Plan	$10,000	$20,000	$50,000	$50,000
N.J.A.C. 7:27-19.10(c)4	Reduce Emissions 30**[**%**]** **percent**				
Maximum Actual Emission:					
For less than 10 pounds per hour:					
1. Less than 25 percent over the allowable standard		$2,000	$4,000	$10,000	$30,000
2. From 25 through 50 percent over the allowable standard		$4,000	$8,000	$20,000	$50,000
3. Greater than 50 percent over the allowable standard		$8,000	$16,000	$40,000	$50,000
From 10 pounds through 22.8 pounds per hour:					
1. Less than 25 percent over the allowable standard		$6,000	$12,000	$30,000	$50,000
2. From 25 through 50 percent over the allowable standard		$8,000	$16,000	$40,000	$50,000
3. Greater than 50 percent over the allowable standard		$10,000	$20,000	$50,000	$50,000
From greater than 22.8 pounds per hour:					
1. Less than 25 percent over the allowable standard		$8,000	$16,000	$40,000	$50,000

Citation	Class	First Offense	Second Offense	Third Offense	Fourth and Each Subsequent Offense
2. From 25 through 50 percent over the allowable standard		$10,000	$20,000	$50,000	$50,000
3. Greater than 50 percent over the allowable standard		$10,000	$20,000	$50,000	$50,000
N.J.A.C. 7:27-19.10(e)	Adjust combustion process	$2,000	$4,000	$10,000	$30,000
N.J.A.C. 7:27-19.11(a), (b)	**Emergency Generators Record Keeping**	**$500**	**$1,000**	**$2,500**	**$7,500**
N.J.A.C. 7:27-19.13(j)	Modify NO_x Control Plan for alterations	$2,000	$4,000	$10,000	$30,000
N.J.A.C. 7:27-19.13(n)	Implement NO_x Control Plan	$10,000	$20,000	$50,000	$50,000
N.J.A.C. 7:27-19.15(c)	Demonstrate Compliance	$2,000	$4,000	$10,000	$30,000
N.J.A.C. 7:27-19.16**[**(c)**]** **(b) or (h)**	Log	$500	$1,000	$2,500	$7,500
N.J.A.C. 7:27-19.16(c) or (i)	**Submit Report**	**$500**	**$1,000**	**$2,500**	**$7,500**
N.J.A.C. 7:27-19.17(a)1	Conduct Stack Tests	$2,000	$4,000	$10,000	$30,000
N.J.A.C. 7:27-19.17(a)2, 3 or 4	Information	$300	$600	$1,500	$4,500
N.J.A.C. 7:27-19.17(b)	Sampling and Testing Facilities	$2,000	$4,000	$10,000	$30,000
N.J.A.C. 7:27-19.17(e)	Record keeping	$500	$1,000	$2,500	$7,500
N.J.A.C. 7:27-19.18(a)2, 3, 4 or 5	Monitoring	$2,000	$4,000	$10,000	$30,000
N.J.A.C. 7:27-19.18(h)	Conditions of Approval	$2,000	$4,000	$10,000	$30,000
N.J.A.C. 7:27-19.19(a) or (b)	Recordkeeping	$500	$1,000	$2,500	$7,500
N.J.A.C. 7:27-19.19(d)	Recordkeeping	$500	$1,000	$2,500	$7,500
N.J.A.C. 7:27-19.19(e)	Recordkeeping	$500	$1,000	$2,500	$7,500
N.J.A.C. 7:27-19.19(f)	Recordkeeping	$500	$1,000	$2,500	$7,500
N.J.A.C. 7:27-19.19(g)1 or 2	Submit Report	$500	$1,000	$2,500	$7,500
N.J.A.C. 7:27-19.20(d)	Compliance with Maximum Annual Emission Rate				
Actual Emissions (pounds per million BTU).					
1 Less than 25 percent over the allowable standard		$8,000	$16,000	$40,000	$50,000
2 Twenty-five percent or greater percent over the allowable standard		$10,000	$20,000	$50,000	$50,000
N.J.A.C. 7:27-19.20(g)1	Conditions of Approval	$2,000	$4,000	$10,000	$30,000
N.J.A.C. 7:27-19.20(g)2	Combust Cleaner Fuel	$2,000	$4,000	$10,000	$30,000
N.J.A.C. 7:27-19.20(g)3	Compliance with Maximum Allowable Emission Rate				
Actual Emissions (pounds per million BTU)					
1 Less than 25 percent over the allowable standard		$8,000	$16,000	$40,000	$50,000

Citation	Class	First Offense	Second Offense	Third Offense	Fourth and Each Subsequent Offense
2 Twenty-five percent or greater percent over the allowable standard		$10,000	$20,000	$50,000	$50,000
N.J.A.C. 7:27-19.20(g)4	Compliance with Maximum Allowable Emission Rate				
Class: **[**Utility**]** Boilers **Serving an Electric Generating Unit** See N.J.A.C. 7:27A-3.10(m)19 for the calculation of civil administrative penalties for violations of N.J.A.C. 7:27-19.4(a).					
Class: Stationary **[**Gas**]** **Combustion** Turbines See N.J.A.C. 7:27A-3.10(m)19 for the calculation of civil administrative penalties for violations of N.J.A.C. 7:27-19.5(a) or (b).					
Class: **[**Non-utility**]** **Industrial/Commercial/ Institutional** Boilers and other Indirect Heat Exchangers See N.J.A.C. 7:27A-3.10(m)19 for the calculation of civil administrative penalties for violations of N.J.A.C. 7:27-19.7(b) or (c).					
Class: Stationary **[**Internal Combustion**]** **Reciprocating** Engines See N.J.A.C. 7:27A-3.10(m)19 for the calculation of civil administrative penalties for violations of N.J.A.C. 7:27-19.8(a), (b) or (c).					
Class: Asphalt Plants See N.J.A.C. 7:27A-3.10(m)19 for the calculation of civil administrative penalties for violations of N.J.A.C. 7:27-19.9(a).					
Class: Glass Manufacturing Furnaces See N.J.A.C. 7:27A-3.10(m)19 for the calculation of civil administrative penalties for violations of N.J.A.C. 7:27-19.10(a) or (b).					
N.J.A.C. 7:27-19.20(g)5	Compliance with Maximum Annual Emission Rate				
Actual Emissions (pounds per million BTU).					
1 Less than 25 percent over the allowable standard		$8,000	$16,000	$40,000	$50,000
2 Twenty-five percent or greater percent over the allowable standard		$10,000	$20,000	$50,000	$50,000
N.J.A.C. 7:27-19.20(i)1, 2 or 3	Maintain Emission Calculations	$500	$1,000	$2,500	$7,500
N.J.A.C. 7:27-19.21(e)1	Conditions of Approval	$2,000	$4,000	$10,000	$30,000
N.J.A.C. 7:27-19.21(e)2	Compliance Milestones	$2,000	$4,000	$10,000	$30,000

Citation	**Class**	**First Offense**	**Second Offense**	**Third Offense**	**Fourth and Each Subsequent Offense**
N.J.A.C. 7:27-19.21(e)4	Determine Actual NO_x Emissions	$2,000	$4,000	$10,000	$30,000
N.J.A.C. 7:27-19.21(e)5	Adjust combustion process	$2,000	$4,000	$10,000	$30,000
N.J.A.C. 7:27-19.21(e)6	Record Keeping and Reporting	$500	$1,000	$2,500	$7,500
N.J.A.C. 7:27-19.21(e)7	Notification	$500	$1,000	$2,500	$7,500
N.J.A.C. 7:27-19.21(e)9	Compliance with Maximum Allowable Emission Rate				
Class: **[**Utility**]** Boilers **Serving an Electric Generating Unit** See N.J.A.C. 7:27A-3.10**[**(l)**](m)**19 for the calculation of civil administrative penalties for violations of N.J.A.C. 7:27-**[**19.5(a) or (b**)]** **19.4(a)**.					
N.J.A.C. 7:27-19.21(e)10	Cease Operating	$10,000	$20,000	$50,000	$50,000
N.J.A.C. 7:27-19.22(g)1	Conditions of Approval	$2,000	$4,000	$10,000	$30,000
N.J.A.C. 7:27-19.22(g)2	Compliance Milestones	$2,000	$4,000	$10,000	$30,000
N.J.A.C. 7:27-19.22(g)3	Notification	$500	$1,000	$2,500	$7,500
N.J.A.C. 7:27-19.22(g)4	Control Emissions	$2,000	$4,000	$10,000	$30,000
N.J.A.C. 7:27-19.23(e)1	Conditions of Approval	$2,000	$4,000	$10,000	$30,000
N.J.A.C. 7:27-19.23(e)2	Compliance Milestones	$2,000	$4,000	$10,000	$30,000
N.J.A.C. 7:27-19.23(e)3	Implement Innovative Control Technology	$2,000	$4,000	$10,000	$30,000
N.J.A.C. 7:27-19.23(e)4	Determine Actual NO_x Emissions	$2,000	$4,000	$10,000	$30,000
N.J.A.C. 7:27-19.23(e)5	Adjust Combustion Process	$2,000	$4,000	$10,000	$30,000
N.J.A.C. 7:27-19.23(e)6	Record Keeping and Reporting	$500	$1,000	$2,500	$7,500
N.J.A.C. 7:27-19.23(e)7	Notification	$500	$1,000	$2,500	$7,500
N.J.A.C. 7:27-19.23(e)9	Cease Operating	$10,000	$20,000	$50,000	$50,000
N.J.A.C. 7:27-19.24(b)	Report	$500	$1,000	$2,500	$7,500
N.J.A.C. 7:27-19.25(d)	Recordkeeping	$500	$1,000	$2,500	$7,500

20. -31. (No change.)

(n)-(p) (No change.)