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

Adopted 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**
Adopted New Rule:	**N.J.A.C. 7:27-19.11**
Adopted Repeal:	**N.J.A.C. 7:27-16.24**
Proposed:	September 20, 2004 at 36 N.J.R. 4228(a).
Adopted:	September 8, 2005 by Bradley M. Campbell, Commissioner, Department of Environmental Protection.
Filed:	September 20, 2005 as R.2005 d.343 **with substantive and technical changes** not requiring additional public notice and comment (see N.J.A.C. 1:30-6.3).
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.
DEP Docket Number:	18-04-08/245.
Effective Date:	October 17, 2005.
Operative Date:	November 7, 2005.
Expiration Date:	Exempt N.J.A.C. 7:27; April 21, 2010, N.J.A.C. 7:27A.

The New Jersey Department of Environmental Protection (the Department) is adopting 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 adopting 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 new rule and amendments will assist in the attainment of the ozone National Ambient Air Quality Standards (NAAQS); address the NO_x emission reduction shortfall identified by the United States Environmental Protection Agency (EPA); and achieve the Department's State Implementation Plan for Ozone (Ozone SIP) commitment to EPA. The proposal of this new rule and amendments was published on

September 20, 2004, at 36 N.J.R. 4228(a), and the Department accepted public comment up to and including November 19, 2004.

Summary of Hearing Officer's Recommendation and Agency Responses:

The Department held two public hearings at 12:30 PM and 6:00 PM on October 28, 2004, at its headquarters at 401 East State Street, Hearing Room, First Floor, East Wing, Trenton, New Jersey, to provide interested parties the opportunity to present comments on the proposal and the proposed SIP revision. William O'Sullivan, PE, Director of the Department's Division of Air Quality, served as the Hearing Officer. After reviewing the comments presented at the hearing and the written comments received by the Department, the Hearing Officer has recommended that the proposed amendments be adopted with the changes described below in the Summary of Public Comments and Agency Responses and in the Summary of Agency-Initiated Changes. The Department accepts the Hearing Officer's recommendations.

The hearing records are available for inspection in accordance with applicable law by contacting:

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

This adoption document is available from the Department's website at www.state.nj.us/dep/aqm, where Air Quality rules, proposals, adoptions and SIP revisions are posted.

Summary of Public Comments and Agency Responses:

The Department received oral and/or written comments on the proposed amendments from the following persons:

1. Robert Baldisserotto, Hoffman-La Roche Inc. (Roche)
2. Carmine Battafarano, Burns and Roe Services Corporation
3. Scott M. Conklin, The Ocean County Utilities Authority (OCUA)
4. Daniel Cunningham, PSEG Services Corp., (PSEG SC)
5. Michael A. Egenton, NJ State Chamber of Commerce (State Chamber)
6. John Filippelli, United States Environmental Protection Agency- Region 2 (EPA)
7. David Felcman, Duke Energy Gas Transmission (Duke)
8. Bob Frank, Compliance Monitoring Service
9. Fiji George, El Paso Pipeline Group
10. William M. Hanna III, Environmental Resources Management (ERM)
11. M. Gary Helm, Conectiv
12. Mary Hewitt Daly, Malcolm Pirnie, Inc.
13. Dan J. Horton, ExxonMobil Refining & Supply Co and ExxonMobil Chemical Co

14. Anthony Jones, Solar Turbines Incorporated (Solar)
15. Adam Kaufman, Independent Energy Producers of New Jersey (IEPNJ)
16. Kathy Kunkel, JCP&L, a FirstEnergy Company
17. Ralph LaMendola, Joint Meeting of Essex and Union Counties (JMEUC)
18. George S. Lipka, Earth Tech
19. Mayda P. Martinez, Merck & Co., Inc. (Merck)
20. John Maxwell, New Jersey Petroleum Council (NJPC)
21. Hassan Nekoui, Novartis Pharmaceuticals Corp.
22. P. Steve Oliver, Paulus, Sokolowski and Sartor, LLC / KeySpan
23. Ken Platt, Clean Fuels technology, Inc.
24. Anthony Russo, Chemistry Council of New Jersey (CCNJ)
25. Thomas D. Sims, Department of the Air Force
26. Michael J. Smedley, Trigen-Trenton Enrgy Co., L.P.
27. Joseph Suchecki, Engine Manufacturers Association (EMA)
28. James H. Watts, Ingersoll-Rand Energy Systems (IR)
29. Marybeth Whitfield, Transcontinental Gas Pipeline Corporation (Transco)
30. Janet Wojtowicz, Schering Corp. (Schering)
31. Scott L. Wooten, Chevron
32. Maria Zannes, Integrated Waste Services Association (IWSA)

Comments are arranged by relevant section of the rules. If a comment does not pertain to a specific section of the rules, it has been placed under the "General Comments" category. At the end of each comment, the specific commenter(s) is referenced by the above numbers in parentheses. The comments and Department responses are as follows:

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

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

1. COMMENT: How will the new terminology proposed in N.J.A.C 7:27-8.2, for example microturbines with output in kilowatt (kW) and stationary reciprocating engines in brake horsepower (bhp), affect the terminology used to enforce existing permits for these emission sources? The Department should develop and provide a unit conversion table so that any owner or operator, public citizen, or regulator will be able to convert the units in the existing permits to the proposed new units. (6)

RESPONSE: Rather than provide conversion tables and create confusion as to which limit applies, the Department is specifying a single limit in the unit of measure most commonly used for the type of equipment. Under the existing rule at N.J.A.C. 7:27-8.2(c), any commercial fuel burning equipment with a maximum heat rated input of 1,000,000 BTU/hr is required to obtain a preconstruction permit and an operating certificate. Under the proposed rule, any stationary reciprocating engine with a maximum rated power output of 50 brake horsepower or greater, used for generating electricity, would have been required to obtain a preconstruction permit and an operating certificate. On adoption, in response to this comment, the reference to 50 brake

horsepower has been deleted and replaced with the equivalent value of 37 kilowatt (kW). It is appropriate to use the equivalent kW power output, since it is a more common industry specification for equipment that generates electricity. Boilers are typically identified by heat input, and stationary reciprocating engines are typically identified by power output. It is also appropriate to use kW for electric generating microturbines.

2. COMMENT: The proposed threshold value for CO of 0.25 pounds per megawatt hour is significantly lower than equivalent levels in other states. In California the California Air Research Board (CARB) in 2003 set a value of 6 lb/MW-hr. In Connecticut, the threshold value is 10 lb/MW-hr; in Massachusetts there is a proposed threshold of 0.47 lb/MW-hr; and Texas has no equivalent limit. Setting a CO threshold value in New Jersey more in line with those of other states would help encourage the use of microturbine technology, while still ensuring that microturbine emissions remain low relative to other distributed generation technologies. Aligning the emissions requirements will ensure that New Jersey and other states have access to a distributed generation technology with maximum customer benefit and minimal environmental impact. (28)

RESPONSE: The current California regulations state, "…on or after January 1, 2007, any distributed generation unit subject to existing regulation will have to comply with a CO emission limit of 0.1 lb/MW-hr." California applies this 0.1 lb/MW-hr CO emission limit to all distributed generation units. In contrast, New Jersey's rule allows distributed generation units with CO limits above 0.25 lb/MW-hr, but simply requires preconstruction permits for those units. Exempting cleaner units from preconstruction permitting will encourage very clean distributed generation. As the California regulations illustrate, 0.25 lb/MW-hr is achievable. It is similar to CO levels achievable by other electric generating equipment. The Department has not modified the rule in response to this comment.

3. COMMENT: The requirement at N.J.A.C. 7:27-8.2 for any stationary reciprocating engine with a maximum rated power of 50 brake horsepower or greater used for generating electricity to obtain air permit prior to construction or modification goes beyond the scope of the Ozone Transport Commission (OTC) NO_x Model Rule, which recommends NO_x emission limits only for engines greater than 200 bhp. Generators of this small size (approximately 410,000 BTU/hr) traditionally operate very infrequently and the emissions are relatively low, which means that permitting these sources has minimal environmental benefit. The Department should limit its scope to the significant source level of "commercial fuel burning equipment that has a maximum rated heat input of 1,000,000 BTU/hr or greater to the burning chamber." (30)

4. COMMENT: The requirement at N.J.A.C. 7:27-8.2(c)21 and 22.1, which requires "any stationary reciprocating engine with a maximum rated power output of 50 brake horsepower or greater, used for generating electricity" to be permitted in a preconstruction permit or Title V operating permit, is too stringent and goes beyond the OTC Model Rule, which is the basis for this rulemaking. Requiring air permits for such small engines would create administrative non-compliance for all types of regulated entities, not improve New Jersey's air quality and would impact small businesses or institutions that do not have the environmental compliance resources. The Department should justify the economic impact for minimal air quality benefit, limit the scope of

these amendments to be consistent with the model rule and eliminate this permit applicability requirement from both N.J.A.C. 7:27-8 and 22. (10)

5. COMMENT: Requiring Subchapter 8 and Title V permits for reciprocating engines under N.J.A.C. 7:27-8(c)21 and 22.1 expands the scope of the Department's air permitting program and will consume significant resources of both the Department and the regulated community. The Department should adopt the OTC Model Rule's 200 bhp threshold for these reciprocating engines and the air permitting threshold should remain at one million BTU/hr or greater. The Department should delete N.J.A.C. 7:27-8(c)21 and 22.1 paragraph 20 of the definition of "significant source operation."

The Department should be aware that small reciprocating engines, whether or not used for "emergencies," are use for short-term projects for a limited period of time and then removed from site. Timing is critical for short-term projects, and businesses cannot afford to be subject to the typical multi-month air permitting process and risk delaying critical projects at considerable expense. The Department must quickly develop a general permit with reasonable compliance conditions that can be obtained on-line to provide expedited air permitting for new, modified, or reconstructed sources in order to reduce the burden of obtaining air permits for such small equipment. Also, any general permit that the Department develops should be usable for both Subchapter 8 and Title V facilities so that both minor and major facilities can enjoy its benefits. (4)

6. COMMENT: The proposed 50 brake horse power applicability threshold for engines at N.J.A.C. 7:27-8.2(c)21 to be regulated as significant source is much too low and should remain at one million BTU/hr (about 142.8 brake horsepower output based on AP-42 7000 BTU/BHP conversion factor for gas and diesel engines). Lowering the significant source applicability would result in an insignificant environmental benefit/emission reductions, unwarranted additional "permitting" paperwork and additional administrative burden and cost to both the regulated facilities and the Department. (22)

7. COMMENT: The applicability of N.J.A.C. 7:27-8.2(c)21 to "any stationary reciprocating engine with a maximum rated power output of 50 brake horsepower or greater, used for generating electricity" is too stringent and goes beyond the OTC Model Rule. The Department should limit the scope of these amendments to be consistent with the model rule. (5, 11, 19, 20, 24, 31)

RESPONSE TO COMMENTS 3 THROUGH 7: The amendments are generally consistent with the OTC NO_x Model Rule, and with the OTC March 6, 2001 Distributed Generation Initiative (OTC DGI) relating to small electrical generators. These also apply to engines down to 50 bhp. The requirements will enable the Department to obtain information on such small engines, and ensure that the air contaminant emissions are controlled and air quality is protected. The Department is modifying the rule on adoption to make it clear that the applicability of the 50 bhp (37 kW) criteria is for stationary reciprocating engines used for "non-emergency" electric generation. The applicability threshold for emergency generators to obtain air permits remains at one million BTU/hr under the existing rules at N.J.A.C. 7:27-8.2(c)1 and the definition of "significant source operation," paragraph 11, of N.J.A.C. 7:27-22.1. Limiting the 37 kW applicability to non-emergency use substantially limits the scope of the rule because there are currently few small stationary electric

generators that are used for other than emergencies. The primary purpose of this provision is to avoid the proliferation of small, highly emitting, electric generators for non-emergency use. Also, the provision for stationary generators' being on site for more than 30 days further limits the scope of this permit requirement. In addition, electric generator engines used for construction are exempt if they are classified as construction engines.

The Department will consider the development of a general permit for small stationary reciprocating engines used for non-emergency electric generation if cleaner units are developed and there is a demonstrated, continuing interest in a general permit.

8. COMMENT: The applicability of N.J.A.C. 7:27-8.2(c)21 to "any stationary reciprocating engine with a maximum rated power output of 50 brake horsepower or greater, used for generating electricity," is too stringent and should be consistent with existing subchapter 8 applicability threshold of 1,000,000 BTU/hr heat input for combustion equipment. Lowering the "significant source" applicability thresholds for engines smaller than 142.8 brake horsepower output based on AP-42 7000 BTU/BHP conversion factor for gas and diesel engines (1,000,000 BTU/hr heat input) would add an additional administrative burden and cost to the regulated communities and no notable environmental benefit for ensuring control or emission reductions would be achieved. The small emergency generators with heat input of less than 1,000,000 BTU/hr that the Department is collecting the emission data from under the "Emission Statements" requirements at N.J.A.C. 7:27-21 are classified "insignificant sources." Obtaining an air permit for Emergency Generators with 50 brake horsepower or greater does not result in any net environmental benefit and, therefore, the "significant source" applicability threshold for engines should remain 1,000,000 BTU/hr heat input (or 142.86 brake horsepower output).

At N.J.A.C, 7:27-8.2(f)1i, the Department classified a microturbine as an "insignificant source" and exempted it from obtaining air permit, while as the proposal is written a 40 kW emergency generator will be classified as a "significant source" and would need an air permit. The Department needs to clarify the inconsistencies describe in the following calculations:

Microturbine (can operate 8,760 hrs/yr) annual emissions:

NO_x emissions: 500 kW x 8,760 hrs/yr x 0.4 lbs NO_x/1,000 kWh = 1,752 lbs/NO_x/yr

CO emissions: 500 kW x 8,760 hrs/yr x 0.25 lbs CO/1,000 kWh = 1,095 lbs/CO/yr

Emergency Generator (40kW, operating 500 hrs/yr) annual emissions:

1. Diesel fuel consumption for 40 kW at full load: about 3.6 gallons/hr
2. Based on AP-42 emission factor, emission are as follows:

NO_x emissions:

4.41 lbs NO_x/MMBTU x 3.6 Gal/hr x 0.137 MMBTU/Gal x 500 hr/yr = 1,088 lbs NO_x/yr

CO emissions:

0.95 lbs CO/MMBTU x 3.6 Gal/hr x 0.137 MMBTU/Gal x 500 hr/yr = 235 lbs CO/yr (21)

RESPONSE: The Department has modified the rule on adoption to clarify that generators used solely for emergency use are not subject to the adopted 37 kW criteria for non-emergency electric generators, to be consistent with subchapter 8. With that clarification, the comparison of emissions from emergency generators and microturbines is not relevant. The permit requirement for emergency generators remains at one million BTU per hour. For a discussion of the use of 37

kW in limits relating to generators used solely for generating electricity, see response to comment 1, above.

9. COMMENT: It is encouraging that the Department has added language under N.J.A.C 7:27-8.2(f)1 and the definition of "insignificant source operation," paragraph 4, of N.J.A.C. 7:27-22.1 to classify natural gas-fired microturbines with less than 500 kW generating capacity as insignificant source operations, but the emission cutoffs proposed by the Department are too restrictive and without basis. (19)

RESPONSE: The Department is generally using the emission levels specified in the Ozone Transport Commission (OTC) March 6, 2001 Distributed Generation Initiative as the basis for regulating microturbines less than 500 kW capacity. With respect to carbon monoxide, see Response to Comment 2. The Department believes these emission levels are appropriate for a permit exemption to encourage the use, and development if necessary, of very clean distributed generation. Higher emission levels can be considered as a case-by-case basis with a permit application.

10. COMMENT: The criteria that the Department lays out at N.J.A.C. 7:27-8.2(f) for exempting a source from a permit are too cumbersome, confusing and difficult to undertake. The Department should simplify the exemption process. Furthermore, what is the rationale for the emissions limits used to determine whether a microturbine needs an air permit? (5, 19, 20, 24, 31)

RESPONSE: These amendments are consistent with the OTC March 6, 2001 Distributed Generation Initiative. The rationale used to determine the permitting applicability threshold for microturbines is explained in the proposal of these adopted rules. (See 36 N.J.R. 4229 and 4230). Also, see Response to Comment 2. A thorough process is necessary and appropriate to exempt a source operation from permit review based on claims of low emissions.

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

11. COMMENT: The definition of ambient, meaning "of the surrounding area or environment" should be added both at N.J.A.C. 7:27-16.1 and 7:27-19.1. (11)

RESPONSE: The term "ambient" is sufficiently well understood that it need not be defined in these amendments.

12. COMMENT: The proposed definition of "emergency" both at N.J.A.C. 7:27-16.1 and 19.1, would fail to address emission increases from the operation of military installations at a level above and beyond their normal level of operations that may occur as a result of national security emergencies. The definition of emergency should be supplemented with the following: "Emergency includes situations involving responses necessary in the interests of national security, which includes but is not limited to military operations that are conducted in response to hostilities, peacekeeping operations or similar real-time operation." (25)

RESPONSE: The Department recognizes that events affecting national security may require the rapid, temporary increase in operating levels, and potential concomitant increases in air emissions. The proposed definition of "emergency," in recognizing situations that arise from "sudden and reasonably unforeseeable events beyond the control of an owner or operator of a facility," both at N.J.A.C. 7:27-16.1 and 19.1 already addresses the legitimate needs stemming from a national security emergency. In response to comment, the Department has modified the definition of "stationary reciprocating engine" on adoption, to exempt mobile electric generators used by the military. This broad exemption is more appropriate at this time, rather than attempting to exempt a limited set of military generators within the definition of "emergency generator." The Department will further evaluate the military's use of mobile electric generators in the future to determine if there is an appropriate subset of these, which can reasonably be controlled for NO_x emissions.

13. COMMENT: Under the N.J.A.C. 7:27-16.1 and 19.1 definition of "emergency," the entire last sentence jeopardizes the safety of facilities by requiring an evaluation and determination if a situation meets the Department's definition of emergency prior to the use of an emergency generator. The last sentence should be removed. The safety and reliability of facilities are designed so that emergency systems operate automatically, thereby reducing the danger and impact to operations from emergency situations. (11)

RESPONSE: In response to the comment, on adoption the Department has deleted the last sentence in the definition of "emergency" both at N.J.A.C. 7:27-16.1 and 19.1. The Department agrees that it is not appropriate to require an evaluation and determination whether a situation meets the Department's definition of an emergency prior to the use of an emergency generator.

14. COMMENT: The definition of "emergency generator" in paragraph 2 should be clarified and expanded to include emergency fire pumps, emergency air compressors and emergency boilers, which support emergency operations regardless of whether the source of power is unavailable. (1, 5, 10, 11, 19, 20, 21, 22, 24, 31)

15. COMMENT: The Department should modify the definition of "emergency generator" in subparagraph 3i to include operational periods that are necessary to provide backup thermal, mechanical or electric power when the primary power distribution systems are shut down for needed periodic maintenance or repairs. Four commenters suggest the following changes: "Is operated only when normal testing, repair or maintenance procedures on either the emergency generator or an associated mechanical, thermal or electrical power distribution systems, as recommended by a manufacturer, as documented in the facility maintenance procedures and/or as required by a local, state or Federal law or regulation, are being performed." Three commenters suggest the following change: "Is operated only when normal testing, repair or maintenance procedures on either the emergency generator or an associated mechanical, thermal or electrical power distribution systems, as recommended by a manufacturer and/or as required by a Federal law or regulation, are being performed." Another commenter suggests the following change: "Is operated only when normal testing, repair or maintenance procedures on either the emergency generator or an associated mechanical, thermal or electrical power distribution systems, as

recommended by a manufacturer and/or as required by local code, law or regulation, are being performed." (1, 5, 10, 13, 19, 20, 21, 22, 24, 31)

16. COMMENT: The requirement in paragraph 5 of the emergency generator definition that emergency generators cannot be tested on "unhealthful" or "poor quality" air day should be deleted since there is no net environmental benefit and it would add administrative burden onto the process. (5, 10, 11, 20, 21, 24, 31)

17. COMMENT: The proposed definition of emergency generator contains restrictions and redundant descriptive language. Paragraphs 1, 2 and 3 clearly define an emergency engine; however, proposed paragraph 5 ("shall not be operated") creates a restriction or limit. Delete paragraph 5 from the definition section of emergency generator and move it to N.J.A.C. 7:27-16.9 or 16.10 to prevent confusion about the status of a generator, while still ensuring that testing or maintenance on unhealthy days is prohibited.

Paragraph 4 is redundant and unnecessary and should be deleted because paragraph 3 clearly details the circumstance under which an emergency engine operates. Also, the first part of paragraph 6 is redundant and unnecessary and should be deleted. The second part of paragraph 6 should be changed to apply only to the owner or operator of the primary energy power or source as follows: "A source of energy or power that qualifies as an emergency generator under paragraphs 1 to 3 above does not continue to qualify as an emergency generator if it is used by the owner or operator of the primary energy or power source after the point in time at which the primary energy or power source should have become operable had the owner or operator made a reasonable, timely effort to repair the primary energy or power source." (25)

18. COMMENT: Add "or it is used as the primary energy source during emergencies only" at the end of the sentence in paragraph 6 of the definition of emergency generator. (5, 20, 24, 31)

RESPONSE TO COMMENTS 14 THROUGH 18: The Department believes that the adopted definition of "emergency generator" in paragraph 2 already includes emergency fire pumps, emergency air compressors and emergency boilers in referencing "mechanical or thermal energy."

In response to comments, the Department has modified subparagraph 3i on adoption to ensure testing is done pursuant to written requirements as follows: "During the performance of normal testing and maintenance procedures, as recommended in writing by the manufacturer and/or as required in writing by a Federal or State law or regulation." The Department has included "maintenance required in writing by the manufacturer" as an appropriate operation of an emergency generator, because such maintenance constitutes the "normal testing and maintenance procedures, as recommended by the manufacturer," which was included in the proposed rule. As proposed, the definition of emergency generator allowed the generator to be operated in accordance with Federal law. On adoption the Department has included language to allow the generator to operate as required by State law, as well.

The Department has not modified the rules to allow emergency generators to operate when primary systems are being maintained or repaired in a non-emergency situation. The normal maintenance and repair of other equipment, such as a cogeneration unit, should not rely on the operation of uncontrolled emergency generators. There should be sufficient controlled

capacity to avoid the use of emergency generators in all but unforeseen circumstances. The testing and maintenance exemption applies to only those occasions where the emergency generator is undergoing testing and maintenance. An operator may use a generator in both emergency and non-emergency situations, such as when primary equipment is being maintained or repaired, provided the generator is controlled and permitted and emissions are reduced sufficiently to conform to the emissions limits in the within rules.

The Department agrees that it is appropriate to move some of the provisions in the proposed definition to the body of the rule. Paragraphs 1 through 3 clearly define an emergency generator. Paragraphs 4 through 6 of the definition would be better at N.J.A.C. 7:27-19.2(d) as a group of provisions to control the operation of emergency generators, rather than within the definition. On adoption, proposed paragraphs 4 through 6 of the definition of emergency generator at N.J.A.C. 7:27-16.1 and 19.1 have been moved to N.J.A.C. 7:27-19.2(d)1 through 3. Adopted N.J.A.C. 7:27-19.2(d)1 through 3 describe when an emergency generator can and can not be used, in order to ensure that the regulated community clearly understands the intent of and complies with the rule.

The Department has modified N.J.A.C. 7:27-19.2(d)2 on adoption, in response to comment, to allow testing to proceed on poor air quality days, if required in writing by a Federal or State law or regulation. It is not appropriate for the Department to require a source to violate one law in order to comply with another. Other than this exception, the Department has retained the general prohibition on testing on poor air quality days to avoid any unnecessary emissions on those days.

Adopted N.J.A.C. 7:27-19.2(d)3 requires the owner or operator to make a reasonable, timely effort to repair the primary energy or power source, if it is under the control of the owner or operator. Proposed paragraph 6 of the definition of emergency generator continued the existing rule's definition of emergency generators as not including equipment in use after the primary energy source "either has become operable again, or should have become operable had the owner or operator made reasonable efforts to repair it." The proposed rule changed the existing rule to say, "should have become operable had the owner or operator made a reasonable and timely effort to repair it." As modified on adoption, N.J.A.C. 7:27-19.2(d)3 does not require the regulated community to determine at what point the equipment would have been operable had there been a reasonably and timely effort to repair it. Instead, the adopted rule eliminates the uncertainty by disallowing the operation of an emergency generator when the primary equipment actually becomes operable (as in the existing and proposed rule), and by requiring the owner or operator to make a reasonable, timely effort to repair the primary energy or power source.

The Department did not incorporate the suggestion to allow emergency generators to operate when primary systems are being maintained or repaired in a non-emergency situation. The normal maintenance and repair of other equipment, such as a co-generation unit, should not rely on the operation of uncontrolled emergency generators. There should be sufficient controlled capacity to avoid the use of emergency generators in all but unforeseen circumstances. The testing and maintenance exemption applies to only the emergency generator. Also, an electric generator currently used as an emergency generator might be controlled and permitted to operate as a non-emergency generator as well, if emissions are reduced sufficiently.

19. COMMENT: The Department defines power outage as something that is "beyond the control of both the customer and the power supplier," which could lead to some miscommunication and unnecessary enforcement action. Facilities can not be held accountable for the operations of their power suppliers. Several commenters suggested that the word "both"

should be changed to “either.” Other commenters suggested that “power supplier” should be deleted from the definition. (5, 11, 19, 20, 21, 22, 24, 31)

RESPONSE: The Department agrees it would be unfair for a facility to be held accountable for the action of a power supplier not under its control. Therefore, in response to these comments, the Department has modified the definition of power outage on adoption, both at N.J.A.C. 7:27-16.1 and 19.1, by deleting the term “power supplier.”

20. COMMENT: In the definition of rated power output, the use of the maximum electrical power output on the nameplate is appropriate for some technologies but does not work well with gas turbines. Therefore, a rating method has been defined by International Standard Organization (ISO) that has been universally accepted by the gas turbine industry. Modify the definition of “rated power output” since manufacturers test and rate their machines under ISO conditions. The definition should state, “Rated power output means the maximum electrical or equivalent mechanical power stated on the nameplate affixed to an engine or the ISO rated electrical or equivalent mechanical power stated on the nameplate affixed to a turbine by the manufacturer." (28)

RESPONSE: In response to comment, on adoption the Department has modified the definition of “rated power output” both at N.J.A.C. 7:27-16.1 and 19.1, as suggested.

21. COMMENT: The definition of stationary reciprocating engine’s applicability to only an engine "that remains on site for 30 days" is too restrictive and should be revised. The time period should be 90 days, and the word “remains” should be changed to "operated." (4, 5, 10, 11, 19, 20, 24, 31)

22. COMMENT: The proposed definition of stationary reciprocating engine under N.J.A.C. 7:27-16.1 and 19.1 is more restrictive than and conflicts with the Title 40, Part 89.2 of the Code of Federal Regulations (40 CFR 89.2) definition of non-road engine. Amend the “30 days” to “12 consecutive months” and “for example, any” to “at a.” (25)

RESPONSE TO COMMENTS 21 AND 22: The “30 day” limitation at N.J.A.C. 7:27-16.1 and 19.1, distinguishing a temporary source, is a well-established criterion at N.J.A.C. 7:27-16 for tanker trucks and railroad tank cars. The intent of the rules is to ensure all applicable equipment that is at a site, and capable of operating for more than a de minimis time period, meets the applicable emission standards in the rules.

The adopted definition does not conflict with the Federal definition. The Federal regulation at 40 CFR 89.2 for non-road engines is intended to deal with off road mobile sources, not stationary electrical generation equipment. A one-year exemption for stationary electric generating engines is excessive and unnecessary. Regular electrical supply, or well controlled on site power, are reasonable for time periods exceeding 30 days.

With respect to construction equipment, the Department is using the Federal criteria for non-road engines, which provide a one-year exemption for these types of engines. See Response to Comment 23.

23. COMMENT: Define the new term "construction engine" in paragraph 2 of the stationary

reciprocating engine definition at N.J.A.C. 7:27-16.1 and 19.1 so that the exemption would not be subject to the arbitrary interpretation of the Department's enforcement. The Federal definition of construction engine should be added or industry should be consulted on acceptable wording in the absence of a Federal definition. (8)

RESPONSE: In response to comment, the Department has added on adoption a definition of "construction engine" both at N.J.A.C. 7:27-16.1 and 19.1, adapting EPA's non-road engine criteria to specify the types of construction engines that are not stationary reciprocating engines.

As proposed, the rules exempted construction engines by virtue of their exemption from the definition of stationary reciprocating engines, which are being regulated by these rules. The proposal did not define construction engine, assuming that a construction engine could be determined by common usage. Upon review of comments, the Department determined that clarification is warranted, especially for engines used to provide temporary power at construction sites, and that EPA's existing criteria for non-road engines (which include construction engines) would provide that clarification. The four criteria that the Department has included in the definition on adoption are from EPA's definition of non-road engines at 40 CFR 1068.30. This is consistent with the Department's intent to regulate non-emergency electric generators, except for construction engines and other listed engines in the definition of "stationary reciprocating engines."

24. COMMENT: Definitions of MW, KW and the specific type of fuel (such as, number 2 fuel oil, natural gas, kerosene, diesel) should be added. (6)

RESPONSE: The Department has modified the rules on adoption to add definitions for MW and KW at N.J.A.C. 7:27-16.1 and 19.1. "Natural gas" is defined at adopted N.J.A.C. 7:27-16.1 and 19.1. The other fuel types (kerosene, number 2 fuel oil, diesel) are sufficiently well understood so that more precise definitions are not needed.

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

25. COMMENT: The existing requirement at N.J.A.C. 7:27-16.8(b)3i that combustion process adjustments for all electric generating units be performed by May 1st of each year should be deleted. The discretion on the timing of performing annual combustion adjustments should be left with the boiler operator, who should have the flexibility to perform the adjustments at any time during a calendar year. (4)

RESPONSE: Adjustment of the combustion process prior to the ozone season is generally most beneficial to ensure that NO_x emissions are minimized prior to this period of maximum air quality degradation. However, where a unit does not normally operate between January 1 and May 1, the Department agrees that it should not be necessary to operate that unit just to perform the annual tune up. Therefore, the Department has modified this provision (and the similar provision at N.J.A.C. 7:27-19.4(e)) on adoption to allow adjustment of the combustion process to be conducted after May 1, if the unit is not operated between January 1 and May 1 of that year. The Department has also modified the rules on adoption to allow a seven-day deadline for adjustment of the burner after the boiler has been started, if it is started subsequent to May 1. Seven days is sufficient time for arranging the test and mobilizing test equipment and personnel.

26. COMMENT: The Department lays out a requirement for adjustment of the combustion process annually in accordance with the following schedule: "…in the same quarter of each calendar year." The Department should delete the requirement that it be done in the same quarter. There is no need to limit the adjustment to the same quarter. The discretion should be given to the operator. The requirement should remain annually, as is written in the rules. (4, 5, 13, 20, 24, 30, 31)

RESPONSE: The annual combustion adjustment requirement is new only for sources with at least five million, but less than 20 million BTU per hour heat input. The other sources in N.J.A.C. 7:27-16.8 have already been performing the annual adjustment. The Department adopted the requirement because adjustment to the combustion process minimizes emissions by reducing emission concentrations and by improving fuel efficiency. The adopted rule allows the schedules of the adjustment of the combustion process to be phased in. Once the facility has selected the calendar quarter in which to schedule combustion adjustment, the rule requires the combustion adjustment to be conducted during the same calendar quarter next year. This ensures that the facility conducts combustion adjustments approximately every 12 months. In absence of such requirement, the facility might conduct combustion adjustments during the last quarter of one year and the first quarter of the following year, allowing almost 24 months to pass between adjustments. The Department believes that it is reasonable for each facility to schedule its annual tune-up within the same quarter of each year to allow the tune up industry to schedule tune ups for this size range of boilers over the entire year and to promote tune ups as routine procedures.

27. COMMENT: The existing May 31, 1995 compliance date at N.J.A.C. 7:27-16.8(d) conflicts with the proposed compliance date of 16 months after the operative date of these amendments at N.J.A.C. 7:27-16.8(b)3ii(1). It should say, "Notwithstanding (b)3ii(1), above,…." (25)

RESPONSE: In response to comment, the Department has modified N.J.A.C. 7:27-16.8(d) on adoption, in order to eliminate the conflict.

28. COMMENT: N.J.A.C. 7:27-16.8(e) should be changed to read, "Except as set forth in (b)3ii(1), (c)1, (c)2, and (c)3i, above, …" to include the other exceptions in this subchapter. (11)

RESPONSE: In response to comment, the Department has modified N.J.A.C. 7:27-16.8(e) on adoption, in order to clarify and correct the compliance demonstration date for new boiler adjustment requirements. As proposed, the newly regulated industrial/commercial/institutional boilers 50 million BTU and greater, not located at a major facility, did not have a deadline to demonstrate compliance in accordance with N.J.A.C. 7:27-16.23. The deadline for compliance demonstration has been specified as 28 months after the effective date of these amendments, consistent with the time period provided for compliance demonstrations for other large sources affected by these amendments.

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

29. COMMENT: The existing compliance date of May 31, 1995, at N.J.A.C. 7:27-16.10(c) conflicts with the proposed compliance date of 16 months after the operative date of this amendments at N.J.A.C. 7:27-19. (25)

RESPONSE: In response to comment, the Department has modified N.J.A.C. 7:27-16.10(c) and 16.9(d) on adoption so that the 1995 compliance date for 500 bhp engines is retained, while the compliance date for 37 kW to 370 kW engines is 16 months after the operative date of the amendment as intended. The Department also clarified N.J.A.C. 7:27-16.9(d), 16.9(e) and 16.10(d) in the same manner. The 28 months to demonstrate compliance is consistent with N.J.A.C. 7:27-19.15(b) and the existing rule's compliance period, which allowed sources to demonstrate compliance a year after achieving compliance.

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

30. COMMENT: The definition of ambient, meaning "of the surrounding area or environment," should be added both at N.J.A.C. 7:27-16.1 and 19.1. (11)

RESPONSE: See Response to Comment 11.

31. COMMENT: The definition of duct burner at N.J.A.C. 7:27-19.1 should be revised to incorporate different designs and different modes of operation, such as supplemental firing mode and fresh air firing mode. The current definition applies to only supplemental firing mode. (30)

RESPONSE: The definition of duct burner has been modified on adoption to address this comment. The modification deleted the reference to "combined cycle" because a duct burner can be used with all turbines, not just combined cycle turbines. The Department added the phrase "supplement or replace" to clarify that duct burners can operate along with the turbine or engine for additional heat, or when the engine or turbine is not operating, in order to provide replacement heat. The modifications are corrections and clarifications to reflect the common usage of the term "duct burner."

32. COMMENT: The proposed definition of emergency at both N.J.A.C. 7:27-16.1 and 19.1, fails to address emission increases from the operation of military installations at a level above and beyond their normal level of operations that may occur as a result of national security emergencies. The definition of emergency should be supplemented with "Emergency includes situations involving responses necessary in the interests of national security, which includes but is not limited to military operations that are conducted in response to hostilities, peacekeeping operations or similar real-time operation." (25)

RESPONSE: See Response to Comment 12.

33. COMMENT: The last sentence of the "emergency" definition should be removed, as it is inappropriate and not necessary to fulfill the intention of excluding emergency equipment from certain requirements of the proposed rule and may create confusion to the regulated community. (4, 27)

34. COMMENT: Under the definitions of "emergency" at N.J.A.C. 7:27-16.1 and 19.1, the entire last sentence jeopardizes the safety of facilities by requiring an evaluation and

determination if a situation meet the Department's definition of emergency prior to the use of an emergency generator and should be removed. The safety and reliability of facilities are designed so that emergency systems operate automatically, therefore reducing the danger and impact to operations from emergency situations. (11)

35. COMMENT: The entire last sentence of the "emergency" definition should be removed or modified to exclude language that creates subjectivity that may create confusion in applying and complying with the rule. (15)

RESPONSE TO COMMENTS 33 THROUGH 35: See Response to Comment 13.

36. COMMENT: The definition of "emergency generator" should be clarified and the explanation should clearly identify the eligible sources that are included. The rule should be expanded to include reciprocating engine powered emergency firewater pumps and air compressors that deliver emergency mechanical energy, which support emergency operations. (15)

37. COMMENT: The definition of "emergency generator" in paragraph 2 should be clarified and expanded to include emergency fire pumps, emergency air compressors and emergency boilers, which support emergency operations regardless of whether the source of power is unavailable. (10, 11, 19, 21, 22)

38. COMMENT: The definition of "emergency generator" in subparagraph 3i should include operational periods that are necessary to provide backup thermal, mechanical or electric power when the primary power distribution systems are shut down for needed periodic maintenance or repairs. The definition should include equipment that "is operated only when normal testing, repair or maintenance procedures on either the emergency generator or an associated mechanical, thermal or electrical power distribution systems, as recommended by a manufacturer and/or as required by a Federal law or regulation, are being performed." (10, 19, 21, 22, 27)

39. COMMENT: The proposed definition of emergency generator contains restrictions and redundant descriptive language. Paragraphs 1, 2 and 3 clearly define an emergency engine; however, proposed paragraph 5 ("shall not be operated") creates a restriction or limit. Delete paragraph 5 from the definition section of emergency generator and move it to N.J.A.C. 7:27-16.9 or 16.10 to prevent confusion about the status of a generator, while still ensuring that testing or maintenance on unhealthy days is prohibited.

Paragraph 4 is redundant and unnecessary, and should be deleted because paragraph 3 clearly details the circumstances under which an emergency engine operates. Also, the first part of paragraph 6 is redundant and unnecessary and should be deleted. The second part of paragraph 6 should be changed to apply only to the owner or operator of the primary energy power or source. (25)

40. COMMENT: The requirement in paragraph 5 of the emergency generator definition that emergency generators cannot be tested on "unhealthful" or "poor quality" air days should be deleted since there is no net environmental benefit and the requirement would add administrative

burden onto the process. (10, 11, 21)

41. COMMENT: At N.J.A.C. 7:27-19.1, paragraph 5 of the definition of "emergency generators," the prohibition against emergency generators during "unhealthy for sensitive groups" air quality days is unnecessarily burdensome and has little impact on air quality, and should be removed in its entirety. The Department cannot reasonably expect all operators of such small emergency generators throughout the State to be sufficiently aware or have the required timely access to the Department's daily air quality forecasts. Equipment operators may need to disconnect emergency generators from automatic timing devices to avoid the risk of automatically operating on an "unhealthy" day, which could have serious security and safety implications to a facility by creating irregular testing periods. Forcing the regulated community to revise automatic testing procedures is an extremely high cost to pay for little benefit to air quality.

The Department should clearly specify that the restriction on testing during "unhealthy" days is specific to unhealthy ozone days in the county where the emergency generator is located. Even with such amendment, the testing and maintenance of emergency generators are restricted when required by other Federal, State or local laws, rules or regulations. The language at paragraph 3i permits testing "as required by a Federal law or regulation," but appears to be superceded by the language at paragraph 5 that restricts testing "on days when the Department forecasts air quality to be at least as hazardous as unhealthy for sensitive groups." Emergency generators located at nuclear facilities may be required to be tested on short notice to demonstrate operability for the safe operation of the facility and to meet the Nuclear Regulatory Commission (NRC) requirements. Delays in demonstrating the operability of these emergency generators to the NRC would unnecessarily raise serious safety and security concerns that would have unintended consequence of compromising nuclear electric power generation at a time when it is needed most.

If the Department decides to maintain an operating restriction during unhealthy air quality forecasts, amend the definition to include language that the emergency generator "shall not be operated for normal testing and maintenance procedures as specified at subparagraph 3i above on days when the Department forecasts ozone air quality to be at least as hazardous as 'unhealthy for sensitive groups' in the county where the emergency generator is located, as defined in the U.S. EPA's Air Quality Index, except when such testing is mandated by Federal, State or local laws, statutes, rules or regulations including , but not limited to, the laws, statues, rules and regulations of the United States Nuclear Regulatory Commission." (4)

42. COMMENT: Reciprocating engine powered emergency firewater pumps and air compressors that deliver emergency mechanical energy should be added after paragraph 6 in the definition of "emergency generator" as follows: "Emergency generators shall include, but not limited to, reciprocating–engine powered emergency firewater pumps and reciprocating engine emergency air compressors." (4)

RESPONSE TO COMMENTS 36 THROUGH 42: See Response to Comments 14 through 18.

43. COMMENT: The Department defines power outage as something that is "beyond the

control of both the customer and the power supplier," which could lead to some miscommunication and unnecessary enforcement action. Facilities can not be held accountable for the operations of their power suppliers. The inclusion of "power supplier" from the definition should be deleted. (10, 11, 21, 22)

RESPONSE: See Response to Comment 19.

44. COMMENT: The Department should update the Remote Air Data Input User System (RADIUS) to accommodate the definition of "source operation" and allow for a source to include one or more pieces of equipment or control apparatus, which would allow for the accurate reflection of source operations in permits and permit applications, rather than having to group sources as is currently required. (11)

RESPONSE: A change to RADIUS is not necessary. The RADIUS program already allows source operations to include multiple equipment and control through the use of the Emission Unit/Batch Process Inventory screen. Equipment may be grouped within an emission unit if subject to the same compliance plan provisions.

45. COMMENT: The 30-day limit to determine stationary status in the definition of "stationary reciprocating engine" at N.J.A.C. 7:27-19.1 is not realistic considering the amount of time required to obtain air permits and the sophisticated catalytic controls required for compliance with this amendment. The more realistic Federal definition of stationary based on one year should be adopted to provide for temporary and portable applications. A general permit should be offered for EPA Tiered engines that allows operation for 12 months per site, possibly with a five ton limit for any single pollutant, if the Department determines that a 30-day limit is an essential element of New Jersey's SIP. (8)

46. COMMENT: The definition of stationary reciprocating engine "that remains on site for 30 days" is too brief to accommodate certain construction activities and reliability issues associated with power delivery and must be changed to 90 days. (10, 11)

47. COMMENT: The proposed definition of "stationary reciprocating engine" under N.J.A.C. 7:27-16.1 and 19.1 is more restrictive than and conflicts with the Title 40, Part 89.2 of the Code of Federal Regulations (40 CFR 89.2) definition of non-road engine. Amend the "30 days" to "12 consecutive months" and "for example, any" to "at a." (25)

48. COMMENT: The definition of stationary reciprocating engine as "a reciprocating engine that remains for more than 30 days at a single," does not conform to the definition of stationary engine or source established under Section 209 of the Clean Air Act, 42 USC 7543, and must be revised. The time period established under Federal law for a portable source to qualify as a stationary source is 12 months. The definition must be changed to conform to the governing Federal definition of portable engines as follows:

"Stationary reciprocating engine" means any internal combustion reciprocating engine that is designed to stay in one location, or remains in one location. A reciprocating engine is stationary if any of the following are true:

1. The engine or its replacement is attached to a foundation, or if not so attached, resides at the same location for more than 12 consecutive months.
2. The engine remains or will reside at a location for less than 12 consecutive months if the engine is located at a seasonal source and operates during the full annual operating period of the seasonal source, where a seasonal source is a stationary source that remains in a single location on a permanent basis (at least two years) and that operates at that single location at least three months each year; or
3. The engine is moved from one location to another in an attempt to circumvent the 12-month residence time requirement. (27)

RESPONSE TO COMMENTS 45 THROUGH 48: See Response to Comments 21 and 22.

49. COMMENT: Under the definition of voltage reduction, serious disruptions and damage can occur at voltage reductions much less than five percent. The commenter recommends that the threshold voltage reduction be revised from five percent to three percent, which is in line with similar criteria developed in the New England states. (27)

RESPONSE: The five-percent voltage reduction is consistent with voltage reduction notification procedures of PJM, which operates the electric grid in New Jersey. Therefore, the Department is not modifying the five percent voltage reduction threshold.

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

50. COMMENT: The 16 month time frame designated at N.J.A.C. 7:27-19.2 to comply with the proposed requirements is not enough time to allow for redesign, bidding and procuring necessary equipment and services, and implement the change. The Department should change the timeframe to 24 months to allow for additional time to comply. (5, 7, 9, 12, 17, 20, 24, 29, 31)

RESPONSE: The Department believes that 16 months is sufficient for the regulated community to comply with the proposed requirements. In the 1995 rule, the time frame was 12 months. New Jersey is required to attain the national ambient air quality standards (NAAQS) as expeditiously as possible.

51. COMMENT: Industrial/commercial/institutional (ICI) boilers and reciprocating engines at minor facilities may be affected under N.J.A.C. 7:27-19.2(c). The applicability should continue to be limited to such combustion units located at major NO_x facilities only. (5, 20, 24, 31)

RESPONSE: The provision of this rule that would most likely apply to engines and ICI boilers at minor facilities is the annual adjustment of the combustion process, which minimizes emissions by reducing emission concentrations and by improving fuel efficiency. The annual adjustment is not overly burdensome or costly. As discussed in the proposal document, in many cases the fuel savings will likely offset the cost of the adjustment. (See 36 N.J.R. 4236.) Because of the large numbers of these units, substantial emission reductions will be achieved by applying the tune up provision to units at both major and minor facilities. This is a cost effective measure, and because of the continuing exceedance of the ozone NAAQS and the exceedances of the fine particulate NAAQS, it is necessary to regulate emission from the same types and sizes of

equipment, whether located at major or minor facilities.

52. COMMENT: The criterion that "any stationary reciprocating engine used for generating electricity…." at N.J.A.C. 7:27-19.2(c)3 is too broad and requires a conditional statement. Every engine is used for generating electricity by virtue of its alternator such as those engines supplying mechanical power but that also generate electricity to run auxiliary components. An exemption should be added for engines also supplying mechanical power, delivering compressed air or driving pumps. (8)

RESPONSE: The more stringent NOx emission limits apply only to engines used to generate electricity for use by other than the engine and its vehicle. This does not refer to small alternators/generators that are used to generate spark and other electric current used to control the engine. An explicit exemption for other types of engines is not necessary. The common understanding of a "stationary reciprocating engine used for generating electricity" is that the electric generator provides electricity to power equipment not associated with the engine.

53. COMMENT: The statement that the requirement at N.J.A.C. 7:27-19.2(c)3ii and 19.8(e)2, applies to all 50 bhp or greater stationary reciprocating engines that have "commenced" operation at the facility on or after 16 months of the operative date of the amendment would appear to draw in contractor equipment (that is moved from site to site, but stays on a specific site for more than 30 days) and require it to meet the reasonable achievable control technology (RACT) requirements just because it has been relocated. The description in the proposal preamble for N.J.A.C. 7:27-19.2 and 19.8 specifically states this 50 bhp requirement is specific to new engines; however, the language of the regulation itself does not clearly state that. (5, 20, 24, 31)

RESPONSE: See Response to Comment 23. Contractor equipment is generally exempt from this rule. The only contractor equipment affected by the new provisions of these rule are non-emergency engines, which generate electricity for more than one year at a site, or otherwise do not meet the EPA definition of non-road engines.

54. COMMENT: Existing emergency generators have generally been permitted for 500 hours of operation. However, the amended regulation at N.J.A.C. 7:27-19.2(d) has no time limit. This is very ambiguous for potential to emit analysis, and netting analysis of the unit. The 500 hours is a definitive limit and is a cut off for potential violation. What is exactly the time limitation that will classify the unit as an emergency generator? Will the engines be classified as emergency generators if they are permitted for 500 hours even if the engines do comply with the amended definition? What will be the potential to emit of a non-permitted or insignificant source emergency generator in the new definition? (12, 17)

RESPONSE: The Department has concluded that "hours of operation" is not an appropriate criterion for defining an emergency generator. Emergency generators are limited to emergency use and testing use. In computing a generator's potential to emit (PTE), emergency use should not be included. Only non-emergency testing and maintenance should be included in the computation of PTE.

55. COMMENT: The Department proposes to delete "500 hours of operation" as a criteria for determining an emergency generator at N.J.A.C. 7:27-19.2(d). The Department should clarify the definition of emergency generator and the recordkeeping requirements for exempted emergency generators. However, the Department should explain how the amendments will change the number of emergency generators exempted and not exempted from Subchapter 19 and their corresponding emissions. (6)

RESPONSE: The Department does not expect the deletion of the 500 hours criterion to change the number of emergency generators or actual emissions from emergency operations. By clarifying that emergency generators can only be operated for testing, maintenance, and emergencies, the Department is avoiding the mistaken impression of some that emergency generators can be used for any purpose up to 500 hours. This clarification should reduce emissions.

56. COMMENT: The commenter fully supports the provisions of N.J.A.C. 7:27-19.2(d) that exempt emergency generators from the emissions limits and control requirements of the regulation. In order to ensure their proper operation, it is important and correct that they be exempt from the requirements of this regulation. (27)

RESPONSE: The Department acknowledges the commenter's support.

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

57. COMMENT: The three-month timeframe designated in N.J.A.C. 7:27-19.3(d) to submit an air permit application to reflect necessary equipment modification is not enough. Three months would require companies to complete financing arrangements, begin permitting and construction, which most financial institutions would not want to undertake. The Department should extend the timeframe to six months, or 12 months, in order to grant affected sources sufficient time to properly complete the compliance measures required. (4, 5, 11, 12, 13, 15, 17, 20, 24, 31)

RESPONSE: The Department reviewed air permit applications for the 1995 NO_x RACT rules and found that most facilities submitted their air permit application within three months after the original operative date of N.J.A.C 7:27-19 (Control and prohibition of Oxides of Nitrogen). The length of time that the adopted rules provide is consistent with the 1995 rule requirements, and should be sufficient.

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

58. COMMENT: The Department should clarify that owners of existing gas turbine installations in New Jersey should not have to expend the time and resources to examine the possibility of either a combustor retrofit or complete turbine retrofit from among the different turbine manufacturers as part of applying for a site specific NO_x RACT limit. No turbine manufacturer offers either a suitable drop-in replacement or engine capable of coupling to the components and controls of a different manufacturer's unit. (27)

RESPONSE: The commenter is concerned that a specific manufacturer may not be able to meet

the NO_x emission limit and will be asked to obtain information from other turbine manufacturers for retrofits to achieve a site specific emission limit. As defined by EPA, RACT is the lowest emission limit that a particular source is capable of meeting by the application of air pollution control technology that is reasonably available considering technological and economic feasibility. The definition of RACT is not limited to the turbine manufacturer that provided the existing turbine. If an individual turbine cannot meet RACT limit using equipment made by its manufacturer, the ability of other manufacturers to meet the limit should be analyzed and documented. The commenter suggests that no turbine manufacturer offers a feasible retrofit capable of coupling to the components and controls of a different manufacturer's unit. However, the commenter has not suggested that this will be difficult to verify in any particular case. The adopted rule also provides for other options to comply with the rule limit, such as emission averaging, alternative maximum allowable emission rate, or a plan for phased compliance (repowering or use of innovative technology). Repowering and innovative technology should not be limited to the manufacturer of the existing turbine.

59. COMMENT: Table 4 at N.J.A.C. 7:27-19.5 should be changed to reflect allowable limits in parts per million and not pounds per MWh. It is unclear where the Department arrived at these limits and it goes beyond the OTC Model Rule. (5, 20, 24, 31)

RESPONSE: Table 4 at N.J.A.C. 7:27-19.5 has emission limits specified in pounds per MWh to promote efficient energy production. Parts per million generally does not change as more fuel is burned and, therefore, does not promote energy efficiency and can result in higher mass emissions per unit time. The performance levels are consistent with the OTC Model Rule for Additional NO_x Control Measures.

60. COMMENT: The Department needs to clarify that the allowable emission rate for turbines with waste heat boilers are to be calculated as follows: Maximum Allowable Emission Rate in lbs of NO_x per MWh = lbs of NO_x emitted/hr from the turbine/ (turbine output in MWh + Equivalent Waste Heat Recovery Boiler energy output in MWh). (1, 5, 14, 20, 24, 31)

RESPONSE: The Department agrees that the maximum allowable NO_x emission rate for cogeneration cycles include useful heat in the MWh calculation. To clarify this calculation, N.J.A.C. 7:27-19.5(f) has been added on adoption as follows: "To calculate lb/MWh for where energy is used for other than electric generation, for example useful heat from a combined heat and power unit. That useful energy should be converted to equivalent MWh and added to the electric output."

A Draft Final Report entitled, "Output-Based Regulations: A handbook for Air Regulators" prepared by EPA's Energy Supply and Energy Branch in August 2004, provides conversion factor and different approaches on how to convert steam output into equivalent MWh.

61. COMMENT: The Department needs to clarify that all the maximum allowable NO_x emission rates (lbs of NO_x per MWh) at N.J.A.C. 7:27-19.5 Table 4 are for turbine full load operating conditions only, and without supplemental firing of any duct burners prior to waste heat recovery. In many instances, partial load operation and supplemental firing of a duct burner in the turbine exhaust will not make it possible to achieve the proposed limits. (1, 5, 20, 24, 31)

RESPONSE: The maximum allowable NO_x emission rate in pounds per megawatt hour (lbs/MWh) is intended to apply at all load conditions. Generally, NO_x emissions are lower at lower loads. Also, duct firing increases allowable emissions based on the additional useful heat provided by the waste heat boiler. Hence, meeting the resultant limit is possible under partial load and supplemental firing.

62. COMMENT: At N.J.A.C. 7:27-19.5(d) the existing exemption at subsection 19.5(c) based on technology unavailability should be preserved or retained. Add the underlined text, as follows: "… unless the owner or operator is complying with N.J.A.C. 7:27-19.3(f) or 19.5(c); except …" in order to clarify and ensure that unnecessary burden is not imposed on sources addressed by the exemption. (7, 9, 29)

RESPONSE: In response to comment, the Department is modifying N.J.A.C. 7:27-19.5(d) on adoption to allow the same exemption based on technology unavailability as is provided in N.J.A.C. 7:27-19.5(c)1 through 5. The Department has added language to N.J.A.C. 7:27-19.5(d), which language provides the same exemption to the subsection that was proposed in N.J.A.C. 7:27-19.5(c)1 through 5. The same exemption would result under N.J.A.C. 7:27-19.3(f), which exemption was included in the proposal; therefore, the exemption is not new. The exemption in N.J.A.C. 7:27-19.5(c) is specific to turbines for which low NO_x burners and water injection are not available. An exemption could also be obtained under the more general exemption provisions of N.J.A.C. 7:27-19.13, which is referenced by 19.3(f).

63. COMMENT: The revised NO_x emission limits at N.J.A.C. 7:27-19.5, Table 4, for oil and gas fired simple cycle and combined cycle turbines are now expressed in terms of lb/MWh (output based) instead of lb/MMBTU (input based). This will encourage efficiency and pollution prevention; however, the Department should provide an explanation or calculation to demonstrate that the new output based emission limits are at least as stringent as the current input based emission limits. (6)

RESPONSE: The Department agrees that the proposed output based (lb/MWh) maximum allowable NO_x emission rate will encourage efficiency and pollution prevention. Under the adopted Table 4, only oil-fired stationary combustion turbines would have to meet a more stringent NO_x limit. The data below indicates that for typical heat rates the output based emission limit for oil-fired stationary combustion turbines is more stringent than the current input based limit and as stringent as the current input based limit for gas-fired turbines.

Type of Turbine	Type of Fuel	lbs/MWh Adopted Rule	Heat Rate BTU/kWh	lbs/MMBTU	
				Adopted Rule	Existing Rule
Combined or Regenerative cycle combustion turbine	Gas	1.3	8700	0.15	0.15
	Oil	2.0	7700	0.26	0.35
Simple cycle combustion turbine	Gas	2.2	11000	0.20	0.2
	Oil	3.0	10300	0.29	0.4

64. COMMENT: The Department should clarify whether the output based limits in N.J.A.C. 7:27-19.5(d) are based upon gross energy output or net energy output. (6)

RESPONSE: In response to the comment, on adoption the Department has added at N.J.A.C. 7:27-19.5(f) a sentence stating that: "MWh is based on net energy output for both electric output and useful heat output. It is the Department's practice to base output emission limits on net energy output. For example, in NJAC 7:27-27.1, the definition of "annual weighted average" specifies net MWhr output as the basis for calculating allowable emissions. Use of emission limits based on net energy output encourages energy efficiency over the entire process. Conversely, use of emission limits based on gross energy output would tend to discourage energy efficiency for the energy consuming processes used to produce the electricity. The Department has also added a definition of "net energy output" based on EPA's draft final report entitled, "Output-Based Regulations: A handbook for Air Regulators."

65. COMMENT: Table 4 at N.J.A.C. 7:27-19.5(d), provides the NO_x emission limits for stationary combustion turbines that combust either gas or oil. The Department should clarify the types of fuel (such as natural gas, fuel gas, no. 2 fuel oil, kerosene, or diesel) applicable to Table 4. (6)

RESPONSE: The type of fuel (gas or oil) in adopted Table 4, which is based on the OTC model rule, is consistent with the types of fuel used (gas or oil) in the existing provision.

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

66. COMMENT: The implementation date at N.J.A.C. 7:27-19.7 for "annual adjusting of the combustion process" (annual tune-ups) varies from 16 months (for large sources) to as long as 52 months (for small sources) after the operative date of the amendment. Some amount of additional time may be necessary to inform and to work with the small sources who will need to meet the new requirement. However, 52 additional months should not be necessary to accommodate these concerns. Because of the significant amount of NO_x reductions expected from annual tune-ups, the additional time period given for implementation of annual tune-ups for small sources could be significantly shortened. (6)

RESPONSE: The Department agrees that there will be a significant amount of NO_x reductions expected from annual tune-ups. The time period is reasonable and the timing is prior to 2010, which is consistent with the eight-hour ozone attainment deadline. "Significantly shortening" the timeframes could adversely impact this budding new effort to increase rule effectiveness for smaller sources. The significant number of smaller units, over 2000, which are required by this rule to do annual tune-ups, requires reasonable time for program development and implementation by the industry, with the assistance of New Jersey's Small Business Assistance Program.

67. COMMENT: The Department should provide an exemption at N.J.A.C. 7:27-19.7 for limited use duct burners serving cogeneration plants. These duct burners are often used on an infrequent basis to provide steam to a facility when the turbine in a cogeneration plant is not operating. This is referred to as "fresh air firing" (FAF) of the duct burner. In this mode, the existing rules require duct burners to meet the N.J.A.C. 7:27-19.7 emission standards for boilers. However, duct burners in fresh air fired mode cannot meet these standards and routinely are forced to apply for alternative emission limits under the N.J.A.C. 7:27-19.13 provisions. The N.J.A.C. 7:27-19.13 alternative emission limit process is cumbersome and, for these sources, unnecessarily consumes a substantial amount of the Department's, the facility's and EPA's time and resources.

The Department should clarify that the RACT limits specified in Table 7 should only apply to duct burners in supplementary firing mode. Appropriate NO_x RACT limits should be developed for duct burners in FAF mode by evaluating the guaranteed emissions from the various duct burner vendors. (10, 30)

RESPONSE: The Department agrees that duct burners are indirect fired heat exchangers subject to N.J.A.C. 7:27-19.7 emission standard for indirect heat exchangers. This is an existing provision of the rule. The Department does not intend to exempt duct burners under the fresh air firing mode from the requirements of N.J.A.C. 7:27-19.7. Where an alternative emission limit (AEL) is justified, it can be granted, but this is not a foregone conclusion. Few AELs have been granted for this purpose.

68. COMMENT: Expression of maximum allowable NO_x emissions in units of pounds per million BTU at N.J.A.C. 7:27-19.7 makes compliance determinations difficult, especially for service technicians performing annual adjustments. Expressing emission limits as a concentration corrected for dilution better serves the regulated community. (8)

RESPONSE: The emission rate expressed in pounds per million BTU is a traditional emission limitation based on the amount of air contaminant per unit heat input rate. Use of emissions per heat input allows simple calculation of annual emissions based on fuel use. Pounds per million BTU is relatively easily determined from concentration, so changing the limit to concentration is not necessary to determine compliance. Also, since existing allowable emission rates are expressed as lb/MMBtu, calculating actual emissions in this unit of measure allows a direct comparison to the allowable emission rate, enabling the operator to more readily determine and ensure compliance.

69. COMMENT: The Department proposes to lower the NO_x limit at N.J.A.C. 7:27-19.7, Table 7, on fuel oil fired ICI boilers over 100 MMBTU/hr from 0.28 to 0.20 in contradiction to the language in the preamble that assures the regulated community that existing NO_x emission limits would continue in effect. This NO_x emission limit should be corrected to 0.28 lbs/MMBTU. (13)

70. COMMENT: The Department stated in the preamble to the rule proposal, that ICI boilers $\geq$ 100 MMBTU/hr size range that do not burn natural gas would be subject to the emission limits that are the same as the existing rules. However, at N.J.A.C. 7:27-19.7(h), Table 7, fuel oil with face burners

has been reduced from 0.28 to 0.20 lbs of NO_x/MMBTU. Different types of ICI boiler burner (tangential fired, faced fired) are now grouped together under a single NO_x RACT emission limit. The Department should keep the existing RACT limit for face fired fuel oil boilers that are already equipped with low NO_x burners because selective catalytic reduction (SCR) retrofit would be cost prohibitive. (1, 5, 19, 20, 24, 30, 31)

71. COMMENT: The statement in the preamble to the proposed rules "that with the exception of emission rates for natural gas fired boilers that are at least 100 million BTU heat input per hour or greater … would be the same as under the existing rules" is not correct. The proposed emission limits at Table 7 no longer contains the boiler firing method categories (i.e., tangential, faced and cyclone). All firing categories are group as one and differentiated only by fuel fired that resulted in several changes to the required emission limits as follows:

- Gas only cyclone fired boiler was reduced from 0.43 to 0.1 lb/MMBtu.
- Gas only tangential and face fired boiler was reduced from 0.2 to 0.1 lb/MMBtu.
- Oil and/or gas cyclone fired boiler was reduced from 0.43 to 0.1 lb/MMBtu when firing fuel oil and to 0.1 lb/MMBtu when firing gas.
- Oil and/or gas tangential fired boiler was reduced from 0.2 to 0.1 lb/MMBtu when firing gas.
- Oil and/or gas face fired boiler was reduced from 0.28 to 0.2 lb/MMBtu when firing fuel oil and to 0.1 lb/MMBtu when firing gas.

The Department should clearly state its intent concerning the revised limits that resulted in the dramatic difference in achieving compliance. The Department should keep the format at Table 5 of the existing NO_x RACT rules, which clearly differentiates various boiler types and firing method, and the existing limits especially for ICI boilers that have already added control technology to comply with the Phase I NO_x RACT requirements. (30)

RESPONSE TO COMMENTS 69 THROUGH 71: The intent of the rule, based on the OTC Model Rule, is to change the maximum allowable NO_x emission rate for natural gas fired boilers from 0.20 to 0.10 lbs/MM BTU regardless of firing method, as stated in the preamble of the proposal (see 36 N.J.R. 4232). "With the exception of emissions rates for natural gas fired boilers that are at least 100 million BTU heat input 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." (See 36 N.J.R. 4232.) The Department inadvertently omitted the portions of the table that specify the maximum allowable NOx emission rate by firing method, thereby making the rule inconsistent with this intent. In response to comments, the Department modified N.J.A.C. 7:27-19.7 on adoption to reincorporate the existing maximum allowable NO_x emission rate by firing method.

The first six lines of standards in Table 7 are the same as in Table 4 of the existing rule, except the order of fuels is rearranged. The last five lines of standards in Table 7 are the same as the limits in Table 5 of the existing rule, except the order of fuels is rearranged and the limits for large gas-fired boilers are tightened to 0.10 pound per million BTU, as proposed.

72. COMMENT: In Table 7 at N.J.A.C. 7:27-19.7(h), the proposed NO_x limit for ICI boilers $\geq$ 100 MMBTU combusting natural gas, is being reduced from 0.20 to 0.10 lbs of NO_x/MMBTU. For

face fired boilers equipped with low NO_x burners already installed, the costs of retrofit outweigh the minimal gain achieved with the new limit. (1, 5, 19, 20, 24, 31)

RESPONSE: This more stringent emission limitation for gas firing is feasible and cost effective. Low NO_x burners have improved significantly over the last 10 years, and it is reasonable to replace 10 year old burners with more advanced, much lower emitting burners. However, if compliance costs are demonstrated to significantly outweigh the benefits of emission reductions for a specific case, applicants may use other provisions in the rule for alternative compliance options, including alternative emission limit or emissions averaging at N.J.A.C.7:27-19.13.

73. COMMENT: Under N.J.A.C. 7:27-19.7(h) ICI boilers, Table 7, "Maximum Allowable NO_x Emission Rates for ICI boilers" in the at "at least 50 but <100" category, please switch the "#2 Fuel oil" and "refinery fuel gas and other gaseous fuels" labels, as this appears to be a typographical error. If following the formula to derive the emission rates, reducing the current RACT limit of 0.4 for #2 fuel oil by 50 percent would result in a 0.2 lb/MM BTU limit. (11)

RESPONSE: The Department did not propose to amend the existing allowable NO_x emission rate for ICI boilers in the range of 50 to 100 MM BTU/hr size category. Therefore, all emission rates remain unchanged from the existing rule. The labels are correct in the existing, as well as the adopted rules. Also, see Response to Comments 69 to 71.

74. COMMENT: Under N.J.A.C. 7:27-19.7(h), Table 7, it appears that the NO_x emission limits for coal fired boilers, which are currently in the SIP, have been inadvertently deleted from the proposed regulation. This deletion is a relaxation of the previously approved SIP. The Department should make sure that the existing SIP-approved emission limits for source combusting coal are included in the adopted regulation. (6)

RESPONSE: The Department proposed to delete the NO_x emission limits for coal fired ICI boilers from the proposed rule because there are no coal fired ICI boilers in New Jersey. However, in response to comment, the Department modified N.J.A.C. 7:27-19.7(h) Table 7 on adoption to reinstate the existing SIP-approved emission limits in the adopted regulation. The modification is consistent with the language of the proposal at 36 N.J.R. 4232, where the Department stated its intention that "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 <u>any</u> 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." Adopted N.J.A.C. 7:27-19.7(h) requires all ICI boilers and other indirect heat exchangers with at least 50 million BTU per hour heat input located at a major NO_x facility to comply with the Table 7 emissions limits. As stated in the proposal, the Department intended that the rule be consistent with the April 2000 commitment to the EPA to further reduce NO_x emissions. Because there are no coal fired ICI boilers in the State, the modification has no impact on the existing regulated community.

75. COMMENT: The requirement at N.J.A.C. 7:27-19.7(g) is burdensome from a labor and economic standpoint. The requirement to conduct the annual adjustment in the same calendar

quarter should be removed. Facility operators should be given the discretion as to when to schedule such adjustments. (12, 17)

RESPONSE: The annual combustion adjustment requirement is new only for sources with five million to 20 million BTU per hour heat input. The Department proposed expanding this annual combustion adjustment to smaller sources because this significantly reduces overall emissions by reducing emission concentrations and by improving fuel efficiency from many sources. The adopted rule allows the schedules of the adjustment of the combustion process to be phased in over four years. Once the facility selects the calendar quarter in which to schedule combustion adjustment, the rule requires combustion adjustment during the same calendar quarter next year. See Response to Comment 26, above. The Department does not believe that an annual combustion adjustment is an unreasonable burden. The emission reductions are very cost effective. Also, in many cases fuel savings will more than pay for the monitoring and adjustment cost.

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

76. COMMENT: N.J.A.C. 7:27-19.8(a), (b) and (c) refer to the NO_x emission requirements in section 19.8(e) for rich-burn and lean-burn type reciprocating engines (RE). As applicable, sections 19.8(a), (b) and (c) should be revised to include reference to the NO_x emission requirements in section 19.8(e), Table 8, for compression ignition type REs. (6)

77. COMMENT: The applicable fuel type within Table 8 for the spark-ignited engines should be included. Table 8 includes the fuel type for compression ignition type engines but not for spark-ignited rich-burn and spark-ignited lean burn type engines. (6)

RESPONSE TO COMMENTS 76 AND 77: In response to comments, the Department has modified N.J.A.C. 7:27-19.8(e), Table 8, on adoption to be consistent with N.J.A.C. 7:27-19.8(a), (b) and (c) and to include reference to the NO_x emission requirements. The modifications to Table 8 have been made in order that the terminology used in the table to refer to different types of reciprocating engines are the same as that used in N.J.A.C. 7:27-19.8(a), (b) and (c). This is appropriate because the Table 8 requirements replace those in N.J.A.C. 7:17-19.8(a), (b) and (c) 18 months after the operative date of these amendments. Using different terminology to describe the regulated engines could have caused confusion.

78. COMMENT: Based on N.J.A.C. 7:27-19.3(f)4, can a "phased compliance" plan be based on the existing permit conditions for the existing engines? Can the existing engines continue to operate under the existing permit conditions beyond the 16-month period because they are permitted to change to emergency generator conditions once the RICE engines are in operation? If N.J.A.C. 7:27-19.3(f)4 is the solution, it should be explained in more detail. (27)

RESPONSE: The conditions of a phased compliance plan would be determined on a case-by-case basis consistent with the provisions for phased compliance in this rule. Owners/operators may propose inclusion of existing permit conditions as an interim condition of phased compliance approval. The existing permit conditions may be sufficient as an interim measure, or

different conditions may be appropriate depending on the feasibility of interim reduction measures.

79. COMMENT: Expression of maximum allowable nitrogen oxide emissions in units of grams per bhp-hr makes compliance determinations difficult, especially for service technicians performing annual adjustments. Expressing emission limits as a concentration corrected for dilution better serves the regulated community. The Department can easily convert grams per bhp-hr to ppmvd at seven percent oxygen assuming an average of 7,000 BTU/bhp-hr. (8)

RESPONSE: The expression of maximum allowable nitrogen oxide emissions in the adopted rules is appropriately expressed in gram/bhp-hr, since that unit of measure is commonly used by the industry. The Department routinely reviews and approves test protocols and would be willing to work with the testing industry on a simplified protocol if useful and sufficiently accurate for the purpose of annual adjustment emission reporting.

80. COMMENT: The same five tons per year SOTA trigger should apply to the application of emission limits at N.J.A.C. 7:27-19.8(e)2, 3, and 4. SOTA rules already control emissions from sources with annual potential to emit greater than five tons per year, for new or modified engines. This amendment impacts new engines with potential to emit less than five tons per year. The existing generators larger than 200 bhp will require installation of catalytic control regardless of cost per ton of NO_x emission reduction in this rule. (8)

RESPONSE: The Department's intention in adopting the within amendments is to reduce NO_x emissions from new or modified electrical generating engines over 50 bhp even if potential to emit is less than five tons per year. The Department is taking this action because the use of poorly controlled engines on high ozone days exacerbate ozone levels even if the annual use is low. Therefore, it is appropriate that the adopted rules impose limits on all electrical generating engines, even if an engine's potential to emit is less than five tons per year. If emissions would be over five tons per year, the state of the art requirement could result in lower emission limit being applied.

81. COMMENT: N.J.A.C. 7:27-19.8(e)1 should be changed to read, "For an engine that has a maximum rated power output of 200 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 the applicable maximum allowable NO_x emission rate specified in Table 8 below;…." This would allow sources that were installed prior to the adopted amendment to continue operating under the existing NO_x requirements. (11)

RESPONSE: The amendments at N.J.A.C. 7:27-19.8(e)1 are intended to reduce the impact of NO_x emissions from existing engines, as well as new engines. New units would be subject to the more stringent NO_x requirements at (e)2. Therefore, the rule has not been modified on adoption to eliminate the proposed tighter standards for existing engines.

82. COMMENT: The rules at N.J.A.C. 7:27-19.8(e) should clarify how the "uncontrolled NO_x emission level" is determined and provide a clarifying definition for "uncontrolled NO_x emission

level." The procedures for how sources determine their uncontrolled NO_x emission levels in order to reduce emissions by 80 percent or 90 percent from that level should be explicitly delineated in the rule. (6)

RESPONSE: In response to comment, the Department has modified the rule on adoption to include a new provision at N.J.A.C. 7:27-19.8(e)5 to clarify the procedures on how sources would determine their uncontrolled NO_x emission levels in order to comply with this requirement. The new subparagraph does not add a regulatory requirement, but advises the regulated community how to determine their uncontrolled NO_x emission levels. This provision sets forth in a single location how other existing provisions of the permit rules would be used to determine compliance with the allowable control efficiency options in N.J.A.C. 7:27-19.8. It does not constitute new requirements, but summaries on how existing requirements are applied.

Permit applications are already required for modified engines. Incorporating new limits into modification permits is standard operating procedure under the permit rules. Requiring stack tests to determine compliance with new emission limits in a modified permit is also standard operating procedure under the existing permit rules. Test protocols approved by the Department are also currently required for any test done pursuant to a permit requirement. Operating the equipment in a normal manner (with the burner properly adjusted in this case) is also a requirement for having a valid stack test. Including all these existing requirements in this provision clarifies the procedures that are already followed pursuant to the requirements of the existing permit rules.

83. COMMENT: The title in Table 8 should be changed to agree with the wording of N.J.A.C. 7:27-19.8(e)1 that the emission limits apply to engines 200 bhp or greater and not 50 bhp or greater as written. The emission limits for 50 to 200 BHP engines are given at section 19.8(e)3. (8)

84. COMMENT: The heading in Table 8 should be changed to reflect that the proposed emission limits apply to 200 bhp engines as stated in N.J.A.C. 7:27-19.8(e)1, unless the Department includes 50 hp engines in this category as discussed in Comment 85. (30)

RESPONSE TO COMMENTS 83 AND 84: Since the emission limits listed at Table 8 apply to both N.J.A.C. 7:27- 19.8 (e)1 and 4, in response to comment, the Department has modified the heading for Table 8 on adoption to reflect the appropriate label.

85. COMMENT: The small engines (less than 200 bhp and more than 50 bhp) are required to meet more stringent NO_x levels than the larger engines (greater than 200 bhp) and there is no distinction on the fuel type to use. The small engines should meet the same limits as those of the larger engines, and should be included in Table 8. N.J.A.C. 7:27-19.8(e)1 should be revised to reference 50 bhp and above, so as to eliminate the incentive to group four or more engines to be above 200 bhp and have to meet the less stringent NO_x emission limits for larger engines and N.J.A.C. 7:27-19.8(e)4 should be eliminated by making all emission limits identical. (8, 30)

RESPONSE: Existing small engines 50 bhp or greater in a group of two or more, whose combined power output is 200 bhp or greater, are subject to the same requirements as large

engines (N.J.A.C. 7:27-19.8(e)1 and 4). Only new or modified 50 bhp or greater are required to meet the more stringent NO_x levels (subparagraph (e)2 and 3). As discussed in Response to Comments 83 and 84, the Department has modified the heading for Table 8 on adoption to clarify that the emission standards listed for Table 8 apply to both N.J.A.C. 7:27-19.8(e)1 and 4.

86. COMMENT: The proposed NO_x emissions level of 0.70 g/bhp-hr for new and modified engines at N.J.A.C. 7:27-19.8(e)2 and 3 would require all engines in New Jersey to add expensive NO_x aftertreatment devices, even those clean-burning and highly efficient lean-burn gaseous-fueled engines that are at the cutting edge of technology today. This will significantly add to costs and may discourage the placement of these new and more efficient engines. The NO_x emission rate from new engines should be set at a slightly higher rate of 0.90 g/bhp-hr. (27)

RESPONSE: In response to comment, the Department has modified the emission requirement for new and modified small engines to 0.90 g/bhp-hr. Adopting a slightly higher allowable emission rate gives operators of smaller existing engines more incentive to change to a new engine that emits much less than the 2.3 g/Bhp-hr limit for existing engines, if add on control is not a mandate for the new engine. Also, the Department is supportive of having multiple ways to comply with an emission limit, if reasonable. An emission limit that can be achieved with a more advanced engine, or with a less advanced engine and add-on control, provides more compliance flexibility for the regulated community. This increased flexibility, and the likelihood that more existing engines would be changed to newer engines sooner resulting in greater overall emission reductions, justify the slightly higher allowable emission rate for smaller engines. This flexibility would be available to new engines with the potential to emit less than five tons of NO_x per year. For new and modified larger engines with a higher than five tons per year maximum allowable emission rate, the owner or operator would need to incorporate latest advances in the art of air pollution control, which is currently specified as 0.15 g/bhp-hr, in the State of the Art (SOTA) Manual for Reciprocating Internal Combustion Engines, as required by existing rules at N.J.A.C. 7:27-8.12 and 22.35.

87. COMMENT: The requirement to set standards for engines that are less than 200 brake horsepower when the engines appear in “groups” should be eliminated, as it goes beyond what is required in the OTC model rule. The term “group” should be defined to make it clear what it means. (10)

RESPONSE: The provisions for groups of 50 bhp engines are consistent with the recommendations that the OTC made in its Distributed Generation Initiative. Only electrical generation engines are affected in this rule. Group has the common meaning of more than one engine on the same site and does not need to be defined in the rules.

88. COMMENT: The emission rate for compression ignition engines should be changed to 4.0 g/bhp-hr to follow the formula employed for other units in this regulation that reduces the current RACT limit by 50 percent. Reducing the current limit of 8.0 g/bhp-hr to 2.3 g/bhp-hr is a 71 percent reduction, which is overly stringent. (11)

RESPONSE: The proposed emission limits are consistent with the OTC model rule. A 90

percent reduction is feasible and reasonable for compression ignition engines. Since such engines are likely to be used for peak power needs on hot days when ozone levels are likely to be high, it is reasonable to minimize emissions from these relatively high NO_x emitting engines. Different emission reductions are justified for different source categories depending on the baseline emissions and the feasibility and cost of emission reductions.

89. COMMENT: N.J.A.C. 7:27-8.2(c)21, 16.10, 19.2, 19.8 and 22.1 would apply to all reciprocating engines in the 50 to 200 bhp size range used to generate electricity. The Department did not provide adequate justification for regulating reciprocating engines in this size range. The Department attempts to justify regulating these sources 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." See 36 N.J.R. 4236.

Although the preamble clearly suggests that the Department intended to specifically regulate uncontrolled sources of distributed generation, the language in the proposal would unreasonably extend the regulatory burdens to all non-emergency electric generators between 50 and 200 bhp. Generators in this size range typically are used at locations where other sources of electric power are inadequate or not available, such as to provide electric power for construction equipment at a work site. Regulating these smaller engines would only create an unnecessary burden on small non-emergency generators not used for distributed generation. The cost of controlling these smaller engines at $2,815 to $26,700 per ton of NO_x removed greatly exceed any benefit of regulating small, non-emergency generators. The proposal may also create a significant burden on the Department's permitting staff with little impact on improving air quality.

The Department should restructure its rules so that they only apply to engines with outputs of 200 bhp or greater, which is consistent with the size threshold in the OTC Model Rule. Further:

- N.J.A.C. 7:27-8.2(c)21 and N.J.A.C. 7:27-22.1 paragraph 20 of the definition of "significant source operation" should be deleted.
- N.J.A.C. 7:27-16.10(e) should be amended by replacing the number "50" with the number "200" throughout the subsection, including paragraph 1 and 2.
- N.J.A.C. 7:27-19.2(c)3i and ii, and N.J.A.C. 7:27-16.10(c)4 should be stricken in their entirety.
- At N.J.A.C. 7:27-19.2(c)3, the phrase "two hundred brake horsepower or greater" should be added.
- N.J.A.C.7:27-19.8(e) should be amended as follows:

  (e) On and after (16 months after the operative date of this amendment), the owner or operator of a stationary reciprocating engine that has a maximum rated power output of 200 brake horsepower or greater, whether or not it is located at a major NO_x facility, shall 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, unless the owner or operator is complying with N.J.A.C, 7:27-19.3(f):
- N.J.A.C. 7:27-19.8(e)(1-4) should be deleted except for Table 8.
- At N.J.A.C. 7:27-19.8(f), replace the number "50" with the number "200."

If the Department intends to regulate <u>all</u> electric generators between 50 and 200 bhp, the

Department has not provided an adequate justification for the regulations for these sources of power, which significantly goes beyond the OTC recommendation. The proposal is arbitrary and unreasonable.

If the Department still chooses not to amend this section as suggested above, the rule language should be made consistent with the purpose of discouraging "dirty" distributed generation as discussed in the preamble, as follows:

N.J.A.C. 7:27-8.2(c)(21) Applicability

Any stationary reciprocating engine with a maximum rated power output of 50 brake horsepower or greater, used for generating electricity, for sale or use primarily during periods of high-electric demand.

N.J.A.C. 7:27-19.2(c)3ii and 4

3ii. Fifty brake horsepower or greater, if the engine produces electric power for sale or use primarily during periods of high electric demand and 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 primarily during periods of high-electric demand, each of which has a rated power output of 50 brake horsepower or greater but less than 200 brake horsepower or greater, whether or not the group of engines is located at a major NO_x facility.

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

Modify the proposed definition of "significant source operation" to:

20. Any stationary reciprocating engine with a maximum rated power output of 50 brake horsepower or greater, used for generating electricity, for sale or use primarily during periods high-electric demand. (4)

RESPONSE: See Responses to Comments 3 through 7, 23, and 138.

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

90. COMMENT: Additional clarification should be provided if recordkeeping requirements:

1) Apply to every emergency generators regardless of heat input, fuel usage, hours of operation, size, manufacturer, etc.
2) Affect emergency generators that are currently exempt from any permit per N.J.A.C. 7:27-8.2(c).
3) Supersede/replace the recordkeeping requirements in the General Permit. (16)

RESPONSE: In response to this comment, the Department has added the 37 kW size criterion at N.J.A.C. 7:27-19.11(a) for emergency generator recordkeeping, consistent with the proposed 50 bhp (37 kW) applicability level at N.J.A.C. 7:27-19.2 for non-emergency generators. In this rulemaking, the Department did not propose amendments to the general permit provisions of its rules. General permits will be addressed in later rulemaking, and will be consistent with the

recordkeeping requirements of adopted N.J.A.C. 7:27-19.11. Permits continue not to be required for emergency generators less than one million BTU per hour, which is approximately 142.8 bhp.

91. COMMENT: Requirements at N.J.A.C. 7:27-19.11 should be revised to "the total operating time." The total operating time is sufficient to establish compliance with permitted emission limits and hours of operation. The need to record the date of operation, start up and shut down time, reason for operation, and the name of the operator for each run is not warranted as this information will provide no environmental benefit. (30)

92. COMMENT: The Department was right to recognize the issue regarding the implementation of emergency power before an actual power failure but, the Department should reevaluate N.J.A.C. 7:27-19.11 for remote facilities and to reduce the excessive record keeping requirements at permanently staffed facilities. (3)

93. COMMENT: The record keeping requirements for emergency generators at N.J.A.C. 7:27-19.11 place a significant compliance burden on owners and operators, many of which are small businesses and should be deleted. The proposed requirement to provide documentation of PJM voltage reduction is unwarranted since small businesses in many cases would not be aware of voltage reduction imposed by PJM. Only records for the date of operation and the total operating time should be required, if the Department chooses to require recordkeeping. The Department should delete paragraphs 1, 4, and 5, and should renumber paragraphs 2 and 3 as paragraphs 1 and 2. (4)

94. COMMENT: The requirement to provide a copy of the voltage reduction notification from PJM at N.J.A.C. 7:27-19.11(a)5 should be removed, as this adds costs, compliance requirements, burden on the facility/owner and provides little benefit to the state. (5, 11, 20, 21, 22, 24, 30, 31)

RESPONSE TO COMMENTS 91 THROUGH 94: The Department has modified the recordkeeping requirements for emergency generators on adoption to reduce the administrative burden to facilities, while still maintaining the original intent of the rule to verify and ensure that the emergency generator is used only during the appropriate circumstances (emergencies/testing/maintenance/voltage reduction). Total hours of use per month and records of testing use have been substituted for records of operation for each emergency. At adopted N.J.A.C. 7:27-19.11(a)1, the Department requires that operators refer to the monthly operation time as identified on existing engine hour meters. This eliminates the difficulty that an operator might encounter from being unable to record start and stop times of remotely located generators that turn on and off automatically. The Department requires detailed records of operation only for testing or maintenance times, as set forth in adopted N.J.A.C. 7:27-19.22(a)2. At N.J.A.C. 7:27-19.11(a)5, the Department has modified the rule to allow documentation of a voltage reduction to come not only from the PJM, as proposed, but also from other sources.

95. COMMENT: N.J.A.C. 7:27-19.11 requires recordkeeping anytime emergency engines are used. There is no need to maintain records for normal engine testing periods, since these test periods are short in duration. (12, 17)

RESPONSE: While equipment test periods should be short in duration, the intent of this recordkeeping requirement is to ensure that the engine is used only during the appropriate circumstances (emergencies/testing/maintenance), regardless of how long it is used. The Department requires that the time used for testing be limited to the testing time specified in written procedures or rules and requires this time to be accurately recorded to avoid claims that unallowed peaking use was for testing purposes.

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

96. COMMENT: N.J.A.C. 7:27-19.13 should be modified to specifically exclude waste-to-energy (WTE) from the requirements to submit a facility-specific NO_x control plan, since technology and/or operating procedures that satisfy the plan have already been implemented. The regulations and the exemptions should be clear to identify the sources that are not affected in order to avoid potential confusion in the future. The potential to include WTE in the proposed rule would create a redundant set of tasks without any net benefit to the environment.

The Department should revise section 7:27-19.13 as follows: "A WTE plant that is subject to MACT rules, pursuant to Title 40 CFR Part 60, Subpart Cb, is excluded from the requirements of this section and is not required to submit a facility-specific NO_x control plan pursuant to the rule." (15, 32)

RESPONSE: The adopted rule does not require any new emission limit for waste-to-energy (WTE) facilities. The Department does not expect WTE facilities to submit new facility specific NO_x emission limits under the adopted rule. These facilities already have approved facility specific emission limits. Therefore, no change in the rule is required.

97. COMMENT: The Department should clarify that owners of existing combustion turbine installations should not have to spend the time and resources examining the options associated with either a combustor retrofit or complete turbine retrofit from different turbine manufacturers as part of applying for a site specific NO_x RACT limit. The Department should focus on the original turbine manufacturer's retrofit combustor technologies for the specific model in question. (1, 5, 20, 24, 30, 31)

RESPONSE: See Response to Comment 58.

98. COMMENT: At N.J.A.C. 7:27-19.13(b), the Department should provide six months for facility-specific NO_x control plan submittal as the proposed three months is not sufficient to research, develop, approve and submit a plan. (11)

RESPONSE: The Department has reviewed the history of the existing approved facility specific NO_x control plan submittals. All the facilities that previously requested facility specific NO_x compliance submitted their compliance plan within three months from the original operative date of N.J.A.C 7:27-19 (Control and prohibition of Oxides of Nitrogen). The proposed requirement of submitting NO_x control plan within three months from the operative date of this amendment is reasonable and consistent with the existing rule requirement.

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

99. COMMENT: At N.J.A.C. 7:27-19.15(a)2, the term "specified by the Department" in the first sentence is unnecessary and should be removed. The requirement to simultaneously meet all CO limits during NO_x testing at the last sentence should also be removed because some regulated facilities will not be able to achieve the CO limits. (11)

RESPONSE: The term "specified by the Department" in the first sentence should not be removed because the Department needs to retain the authority to evaluate all the data to insure compliance. Similarly, the Department disagrees that the CO limits during NO_x testing be removed. A facility should be able to simultaneously meet the CO and NO_x emission standards.

100. COMMENT: Retesting of existing sources at N.J.A.C. 7:27-19.15(b) should not be required if previous testing demonstrated compliance. Also, compliance should be based on the average of three one-hour test runs. (1, 5, 8, 11, 20, 24, 30, 31)

RESPONSE: It is appropriate that existing sources be tested, but only if previous testing has not demonstrated compliance with the adopted rules. The Department agrees that retesting of existing facilities might be waived if previous testing within a reasonable period demonstrated compliance. Therefore, the Department has modified this provision to add an exception to new tests if compliance has been demonstrated with testing acceptable to the Department within five years of the operative date of these amendments. Five years is the duration of an operating permit for major facilities and operating certificate for equipment at minor facilities. Testing frequency is typically once every five years. Compliance is based on the average of three one-hour test runs as specified at N.J.A.C. 7:27-19.15(a).

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

101. COMMENT: The annual adjustment information under N.J.A.C. 7:27-19.16 should not be enforceable. (1, 5, 20, 24, 31)

RESPONSE: Adopted N.J.A.C. 7:27-19.16(f) provides that any exceedance that occurs during a required annual combustion adjustment is not a violation and, therefore, is not subject to enforcement action. This applies to both the actual occurrence of and reporting of that exceedance. It is appropriate that the Department is able to enforce the annual adjustment requirement, because adjustment to the combustion process minimizes emissions by reducing emission concentrations and by improving fuel efficiency, and therefore furthers the goal of the NO_x RACT rules, which is to reduce air pollution from NO_x emissions in the State.

102. COMMENT: Clarify that an instrument that automatically reads a dry measurement is acceptable and that a separate moisture measurement is then not needed. (5, 20, 24, 30, 31)

RESPONSE: Such an instrument is acceptable. The language of the adopted rule is self-evident and requires no clarification.

103. COMMENT: The provision of N.J.A.C. 7:27-19.16(a)2 to provide for combustion process adjustments "consistent with the manufacturer's specifications" is appropriate. (4)

RESPONSE: The Department acknowledges the commenter's support.

104. COMMENT: Remove requirements to report results in terms of lb/MM BTU at N.J.A.C. 7:27-19.16(a)6, which adds cost to the requirement for no gain. (11)

RESPONSE: The conversion into the units of the standard allows the company and the Department to make a regulatory compliance determination. The calculation uses routinely collected data and is not burdensome.

105. COMMENT: It will be significantly easier for facilities to determine compliance with a concentration based emission limit corrected for dilution. Use of concentration based performance standards for the asphalt industry has worked remarkably well. (8)

RESPONSE: The conversion of the measured emission concentration corrected for dilution into the units of the standard allows the Department to readily determine compliance with the rules. It also enables easy determination of annual emissions for Emission Statement submittal.

106. COMMENT: The new requirements at N.J.A.C. 7:27-19.16(b)5, 6, and 7 place an extremely heavy and unnecessary compliance especially for minor facilities, do not aid in combustion adjustment and are already reported in the annual emissions statements. Delete N.J.A.C. 7:27-19.16(b)5, 6, and 7. Change N.J.A.C. 7:27-19.16(b)6 to read "Results from any subsequent tests performed after taking any corrective action." (4, 8, 11)

RESPONSE: Recording of this data is an added demonstration that an adjustment was performed and any needed corrective actions taken. Enforcement of emission limits during annual combustion adjustments is not intended, as specified in N.J.A.C. 7:27-19.16(f). The Department does not believe that such records will place an excessive administrative burden on facilities. Records of fuel use are already maintained. Recording corrective actions and emissions resulting from these corrections should be standard operating practice. This data should provide a better basis for annual emission statements based on actual emissions measurement.

107. COMMENT: At N.J.A.C. 7:27-19.16(c), a link should be provided to the Department's website where annual adjustment reports will be submitted to facilitate compliance. The Department should consider requiring information to be entered on-line rather than submitting a word processing file to facilitate building a database of detailed information for planning and compliance determinations. A paper certification option similar in the RADIUS applications and annual emission statements should be provided since PIN numbers are not practical for large numbers of facilities required to submit adjustment reports. Report's certified paper copy kept on site for verification during enforcement inspections. (8)

RESPONSE: As stated in the proposal, it is the Department's intent to have the required information submitted electronically, preferably with information entered on line. Report submittal would be phased-in and the first one would occur 40 months after the operative date of this amendment. A notice will be provided on the Department's website at

www/nj.gov/dep/aqpp to specify when the link is available.

Presently, a solution is being developed to simplify certification of submitted information. The Department intends that the process for submitting the report would be similar to registering under a general permit, for which PIN numbers are not required.

108. COMMENT: The requirements at N.J.A.C. 19.16(c)2, 4, and (h)5 do not provide any benefit to the combustion adjustment and should be removed. The State gets compliance information and fuel use information in other reports (such as annual emissions statements). (11)

RESPONSE: The Department believes that these requirements should not be removed. The intent of the report is primarily for determining the effectiveness of these provisions, not to aid in combustion adjustment. Most facilities are not required to submit annual emissions statements, so it would not be possible for the Department to rely solely on emissions statements for this data. The Department does not believe that such records will place an excessive administrative burden on facilities, since records of fuel use are available from the fuel supplier, and the conversion to pounds per million BTU is relatively easy. Also, the pounds per million BTU conversion allows the operator to directly compare the emissions measurement to allowable emissions, thereby enabling corrective action where indicated and helping to ensure compliance.

109. COMMENT: At N.J.A.C. 7:27-19.16(c) and (d), the owner/operator of even the smallest ICI boilers and stationary reciprocating engines are required to submit reports to the Department. The reports should be retained instead at the facility site for inspection by qualified State inspectors to reduce the bureaucratic burden on the State to receive, record, and store the information and to ensure that it is available to the Department if needed. (13)

RESPONSE: The report requirement applies to ICI boilers over five million BTU per hour, which equates to about 35 gallons of oil per hour. Reports are not required for stationary reciprocating engines. By reviewing reports of the results of the combustion adjustments and fuel use, the Department is able to keep track of the net NO_x emission reduction that the combustion adjustment achieves, and document reasonably further progress toward achieving the NAAQS for ozone. The Department's review also ensures that the regulated facilities perform the required adjustments. An annual report is reasonable for this size boiler.

110. COMMENT: The report submittal at N.J.A.C. 7:27-19.16(d) should be revised to 90 days, since the proposed 30 days submittal requirement is not sufficient to prepare and submit reports, unnecessarily stringent, providing no added benefit to the State, and adding another compliance issue. (4, 11)

RESPONSE: In response to comment, the Department has modified the report submittal to 45 days after the adjustment of the combustion process is completed to give additional time and, at the same time, maintain consistency with N.J.A.C. 7:27-22.18(e)3.

111. COMMENT: The requirement at N.J.A.C. 7:27-19.16(e) should be removed because the intent of annual adjustment combustion adjustment is not to determine compliance with permit limits. The proposed amendment adds additional compliance requirements with added costs and

risks to the operating companies. (11)

112. COMMENT: The proposal at N.J.A.C. 7:27-19.16(e) is inappropriate and would prohibit the owner/operator from making any adjustments to their equipment until the next annual adjustment. (13)

RESPONSE TO COMMENTS 111 AND 112: The Department's intent is to require the equipment to be operated at the optimal operating parameters as identified during the annual adjustment and not limit the operation of the regulated equipment. As proposed, the rule required the facility to maintain the optimal settings until the next annual adjustment. In response to comments, the Department is modifying N.J.A.C. 7:27-19.16(e) on adoption to require the owner or operator to maintain the equipment so that it operates at the established optimum efficiency until the next annual adjustment. The Department recognizes that different settings may be needed for different operating rates, in order that the equipment continues to operate efficiently.

113. COMMENT: N.J.A.C 7:27-19.16(f) should be revised to make reporting of non-complying initial readings exempt from enforcement action. (8)

RESPONSE: The Department believes that additional wording is not required, because N.J.A.C. 7:27-19.16(f) states that any exceedance occurring during a required annual combustion adjustment is "not a violation" and therefore is not subject to enforcement action. This applies to both the actual occurrence of and reporting of that exceedance. Also, see Response to Comment 126.

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

114. COMMENT: The Department should provide 12 months for repowering plan submittal at N.J.A.C. 7:27-19.21(b), since the proposed three months is not sufficient to research, develop, approve and submit a repowering plan. (11)

RESPONSE: The proposed three months repowering submittal plan is the same time period that the Department provided to sources under the existing rules. Most sources were able to comply within the same time period of three months to submit their repowering plan under the existing rules. Therefore, there is no need to provide 12 months for repowering plan submittal.

115. COMMENT: The requirements at N.J.A.C. 7:27-19.21(e)1, 4 and 6 should be changed to allow four years after the operative date of this amendment, which is the time provided at N.J.A.C. 7:27-19.21(d)(4). The proposed completion date for a repowering is four years; however, only 16 months are allowed to complete the repowering, determine compliance, and submit a report. (11)

RESPONSE: The proposed four years is for the completion of repowering, which is the same time period that the Department provided under the existing rules. Similarly, the 16 month period to operate all combustion sources consistent with the interim requirement of the plan, determine the actual NO_x emissions from each combustion source and comply with the

recordkeeping and reporting requirements, is also the same time period provided under the existing rule. The Department has found 16 months to be sufficient.

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

116. COMMENT: The Department should provide 24 months for innovative technology plan submittal at N.J.A.C. 7:27-19.23(b). The proposed three months is not sufficient to research, develop, approve and submit an innovative technology plan. (11)

RESPONSE: The proposed three months submittal for innovative technology plan is the same time period that the Department provided to sources under the 1995 rules. Most sources were able to comply within the three months to submit their innovative technology plan under the existing rules. The plan can provide more general information, with the permit application following up with more detailed information if needed.

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

117. COMMENT: The Department should clarify how it plans to incorporate the new requirements (i.e. engines greater than 50 bhp) into existing permits or the proposed revisions into the facility's recently approved Title V Operating Permit. (5, 17, 19, 20, 24, 30, 31)

118. COMMENT: In the proposed N.J.A.C. 7:27-22 revision, a schedule or timeframe for including small engines in the existing Title V operating permits was not mentioned. Rule language for a schedule and procedure to incorporate the small engines into the existing Title V permits should be established if the Department will not remove these small engines from the definition of significant source operation. Without a phase-in, Title V facilities will be out of compliance with this requirement as soon as the rule is adopted. (10)

RESPONSE TO COMMENTS 117 AND 118: The New Jersey operating permit rule at N.J.A.C. 7:27-22.3(u) specifies how Title V operating permits are handled when an additional applicable requirement becomes applicable to a facility. Specific procedures are set forth at N.J.A.C. 7:27-22.25.

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

119. COMMENT: The proposed change at N.J.A.C. 7:27-22.1 in the definition of significant source operation paragraph 20 will have an impact on existing permits and existing units. The inclusion of smaller existing stationary reciprocating engines will require sources to modify permits to include these as insignificant sources (N.J.A.C. 7:27-22.3). Similar "distributed generator" regulations promulgated recently in Maine exempt sources installed prior to January 2005. The inclusion of new small units in a Title V permit is a burdensome requirement with no added benefit or protection. Paragraph 20 should be removed or be amended to say, "Any stationary reciprocating engine with a maximum rated power output of 50 brake horsepower or greater, used for generating electricity, if the unit commences operation or is modified 16 months after the operative date of this amendment. (25)

120. COMMENT: Lowering the "significant source" applicability threshold for engines to 50 brake horsepower would result in unwarranted additional effort and cost for Title V permitted

facilities which have smaller engines currently listed as "insignificant sources" and which would have to be changed. (21, 22)

RESPONSE TO COMMENTS 119 AND 120: Engines with a maximum rated power output of 50 brake horsepower or greater, used for generating electricity, will have to be added to any Title V permits covering the facility at which they are located. The Department anticipates this can be handled with a minor modification of the operating permit. The procedure for New Jersey operating permit is that any emission unit large enough to require a preconstruction approval must be included in the operating permit as a significant source.

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

121. COMMENT: The Department has failed to prioritize whether the proposed new violations are minor or non-minor pursuant to the Fast Track Compliance Act. The Department should modify N.J.A.C. 7:27A-3.10 to include minor /non-minor violations. For minor violations, the Department needs to grant a grace period for when compliance can be achieved without the fear of receiving a penalty. (5, 19, 20, 24, 31)

RESPONSE: The proposal of the within rules was published on September 20, 2004. The proposal to amend the Air Administrative Penalties and Procedures rules at N.J.A.C. 7:27A to implement the Fast Track Compliance Act, also known as the Grace Period Law, was not published until December 6, 2004, and the adoption not published until May 16, 2005. (See 36 N.J.R. 5293(a), 37 N.J.R. 1789(a).) Because the amendments to the within rules were proposed prior to the proposal of rules to implement the Grace Period Law, the proposal of the within amendments did not include classifications of violations as minor or non-minor. The classifications will be made as a separate rulemaking after adoption of the grace period rule adoption.

122. COMMENT: At N.J.A.C. 7:27-3.10(m)16, civil administrative penalties for failing to adjust combustion for a five to 10 million BTU per hour class under NJAC 7:27-16.8 (c)1 and 7:27-19.7(g)1 have the same requirements that reference each other. A source should not be liable for violations in each regulation when two or more regulations have the same or similar requirement. It is double jeopardy and onerous. (11)

RESPONSE: Similar situations exist throughout N.J.A.C 7:27A. It is the Department's practice that a violation of two or more regulations that have the same or similar requirement will receive only one penalty. The Department retains discretion as to which penalty provision would be used.

123. COMMENT: Penalties associated with N.J.A.C. 7:27-19.11(a) and (b), and N.J.A.C. 7:27-19.16(c) or (j), in proposed N.J.A.C. 7:27A-3.10m(19) should be deleted. The penalties associated with recordkeeping violations are onerous and not necessary. (4)

RESPONSE: The penalties proposed for N.J.A.C. 7:27-19.11(a) and (b), and N.J.A.C. 7:27-19.16(c) or (j) are consistent with similar recordkeeping violations throughout N.J.A.C. 7:27A-

3.10(m). In addition, as part of the implementation of the Grace Period Law, all record keeping violations such as these will be classified as minor and will be eligible for a grace period if all other requirements for a grace period are met. (See N.J.A.C. 7:27A-3.5(d) and 3.10(s).)

General Comments

124. COMMENT: EPA supports the proposal not to include the use of NO_x Budget Trading Program allowances as a compliance option. This was one of the options included by the Ozone Transport Commission March 6, 2001 model rule to control NO_x emissions beyond RACT; however, inclusion of this option is not necessary for EPA's approval. (6)

RESPONSE: The Department acknowledges the commenter's support.

125. COMMENT: The Department historically convenes stakeholder processes to gather information on a proposed rule prior to its release for comment in the New Jersey Register. It is through this stakeholder process that concerns and issues are raised and discussed in a constructive forum. Interested party reviews and/or stakeholder processes improve the regulatory process; therefore, the Department should use stakeholder processes for all major rules, such as these NO_x RACT rules. (5, 19, 20, 24, 31)

RESPONSE: As discussed in the proposal (36 N.J.R. 4229), these adopted rules and amendments incorporate the Ozone Transport Commission (OTC) March 6, 2001 model rules to control NO_x emissions. 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. The 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, including NO_x. In developing its model rules, the OTC solicited comments from industry and other interested parties, and conducted meetings with interested parties. Representatives of the Department served in the workgroup that developed the model rule, and participated in several OTC meetings that included both stakeholders and workgroup members. Interested and affected parties were also able to review drafts of the OTC model document, and submit oral and written comments on the model rules to the OTC.

The Department conducted two public hearings on the new and amended rules, and invited written comments from the public. Although the Department may conduct stakeholder meetings during the rule development process, no such meetings are required. Nor are such meetings conducted as part of each rulemaking. With regard to these new and amended NO_x rules, interested parties participated constructively in the process at the OTC level, and also during the Department's public comment period, such that the concerns and issues of the interested parties were sufficiently discussed.

126. COMMENT: 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. Please restate this to reflect the comments of Mr. O'Sullivan (the Hearing Officer) at the Oct. 28, 2004 public hearing testimony of Hoffman LaRoche Pharmaceuticals "that enforcement is not intended." Compliance with emissions limits is a separate issue from unit maintenance, and it should remain that way. The Department should continue to rely on compliance tests and emission statements for its emissions data. (11)

RESPONSE: Enforcement of emission limits during annual combustion adjustments is not intended. Adopted N.J.A.C. 7:27-19.16(f) states that any exceedance occurring during a required annual combustion adjustment is not a violation and, therefore, is not be subject to an enforcement action. Since the annual combustion adjustment does not apply formal testing methods, but is based only on portable testing methods, enforcement action would not be intended for any emission exceedance that occurs during such an adjustment (or for any exceedance that is submitted to the Department pursuant to the annual combustion adjustment report). However, the Department does retain the right to use the results of the portable testing from annual combustion adjustments in its determination to require formal stack performance tests. While the Department agrees that emission results from the annual combustion adjustment are not enforceable, failure to perform the annual adjustment or to take corrective action when an exceedance is indicated would result in enforcement action.

127. COMMENT: How is compliance with the eight-hour ozone standard to be addressed? Is there is a plan to revise the NO_x RACT rules in the near future to address the eight-hour standard since proposed amendments are based on the one-hour ozone standard and not the eight-hour ozone standard? (5, 19, 20, 24, 31)

RESPONSE: The Department is in the process of developing SIPs for the eight-hour ozone standard, the fine particulate matter ($PM_{2.5}$) standard, and the regional haze rule. A RACT analysis must be performed as part of both the ozone and $PM_{2.5}$ SIPs. Since NO_x is a precursor to both ozone and $PM_{2.5}$, NO_x will be reviewed as part of both of these analyses. A decision whether the NO_x RACT rules will be revised in the future depends on the outcome of these NO_x RACT analyses. Any emission reduction as result of these rules will be helpful in meeting the eight-hour standard. Additional reductions from NO_x sources will likely be required necessary to attain the eight-hour standard.

128. COMMENT: The Department needs to submit to the EPA an analysis that affirms that the amendments will result in sufficient reductions of NO_x emissions to meet the shortfall identified by EPA to attain the one-hour ozone NAAQS in New Jersey’s two severe ozone nonattainment areas. Similar analysis needs to be provided for the five adopted VOC regulations. Analysis should identify New Jersey's share of the shortfall and affirm that the six adopted OTC rules shall achieve the necessary shortfall reductions. The Department should provide an estimation of the tons per day (tpd) reductions associated with each adopted rule. (6)

RESPONSE: The Department will submit a shortfall analysis separately.

129. COMMENT: The Department should clarify the expected contribution to emission reductions from different industrial sectors, consider reductions from these sectors under the

existing RACT rule, and ensure that the cost and burden from pursuit of additional reductions are commensurate with the reductions required to meet the SIP obligation. The Department should also consider the level of required reductions, and the actions and responsibilities of other states, to ensure that the amount and cost of emission reductions in New Jersey are commensurate with the requirements for the SIP. (7, 9, 29)

RESPONSE: The background reference material for the rules describes the source type and projected benefits that are covered by this rule (Pechan report, Table IV-3). The Environmental Impact at 36 N.J.R. 4237 points out that these adopted rules are not providing the reductions that were estimated in the Additional Measures SIP, and that other recently-adopted rules based upon the OTC model rules provided the necessary offsetting reduction benefits.

The Department adopted regulations based on OTC model rules that were evaluated on a regional basis by representatives of states and jurisdictions in the Ozone Transport Region. Estimated reductions were presented for each county in the nonattainment area (Pechan Report, Appendix 2, Table IV-2).

130. COMMENT: The September 20, 2004 proposal of new rules and amendments was made subsequent to the adopted April 5, 2004 OMET program repeal. Comments submitted by EPA on the OMET program repeal indicated that provisions at N.J.A.C. 7:27-8.3(o), 8.20(b)(3), 16.2A(g), 16.1A(h), 19.3(g), 19.3(h), 19.27 and 19.27 Appendix, primarily related to time periods provided for compliance, would not be approved as revisions to the SIP. Though these specific provisions are not subject to the proposed September 20, 2004 new rule and amendments, these provisions are contained in the adopted version of Subchapters 8, 16 and 19, which includes the adopted April 5, 2004 OMET program repeal.

The EPA commented upon the September 20, 2004 NO_x rule proposal and stated that the Department should not include the OMET provisions mentioned above, which are not in the Federally approved SIP, to assure that the codified Subchapters 16 and 19 can be fully approved as revisions to the SIP. (6)

RESPONSE: The provisions at N.J.A.C. 7:27-8.3(o), 8.20(b)(3), 16.2A(g), 16.1A(h), 19.3(g), 19.3(h), 19.27 and 19.27 Appendix were not part of this rulemaking. These adopted rules make no amendment to the provisions; therefore, the comment goes beyond the scope of the proposed rules. Most of the companies affected by the OMET program repeal now comply with the within adopted rules. The Department and EPA are addressing the few remaining cases through enforceable agreements with the companies. The Department in consultation with EPA, will reconsider the need for these provisions to remain in the regulation in a future rulemaking.

131. COMMENT: Permitting and enforcement should initiate an outreach effort to educate and assist facilities with compliance, particularly those facilities whose permit requirements will be superseded by the adopted rule. (8)

RESPONSE: The Department agrees and already has various outreach processes in place, especially for small business through the Department's Small Business Assistance office. There will be periodic presentations to the regulated community in cooperation with Rutgers University, which includes an Auditors Workshop and an Air Quality Permitting seminar.

Additional outreach will be developed, including the annual combustion adjustment procedure in order to help the many affected sources.

The Small Business Assistance Program (SBAP) informs small businesses of their environmental rights and obligations. SBAP will be conducting an outreach effort for those affected small businesses. If SBAP can identify discrete small business groups that are impacted by this new regulation, it will be able to develop an effective outreach campaign. SBAP may also reach out to equipment suppliers, manufacturers, testers and installers of regulated sources. The SBAP may be contacted for assistance at (609) 292-3600 or (877) 753-1151 and ky.asral@dep.state.nj.us.

132. COMMENT: The rule and amendments go beyond the OTC model rule by including minor facilities, by regulating smaller engines, boilers, turbines and generators, and by requiring annual combustion adjustments. This puts the State at an economic disadvantage with the rest of the OTC states, with minimal environmental benefit. The rule and amendments should be modified to be consistent with the OTC model rule. (5, 11, 19, 20, 24, 31)

RESPONSE: The adopted rules are consistent with the OTC Model Rule and are also consistent with the OTC March 6, 2001 Distributed Generation Initiative relating to small electrical generators. The annual combustion adjustment is the provision, which most affects minor facilities, and this is projected to achieve significant emission reductions and fuel savings at relatively low cost. Little or no economic disadvantage is expected.

133. COMMENT: The term distributed generation, in addition to providing electricity to the end user, is typically used in the context of combined heat and power/cogeneration applications where energy efficiency is maximized thereby providing the greatest protection to public health, safety and the environment. The production of electricity alone is inefficient and the use of cleaner technologies should be encouraged.

The amendments, like the SOTA manuals, must recognize energy efficiency/environmental benefits and differentiate between sources generating only electricity and those utilized in cleaner technology applications such as combined heat and power. Clearly, not recognizing combined heat and power and combined cycle applications would be inconsistent and counterproductive as to the Department's goal in adopting the SOTA manuals and the Department's objectives in the proposed amendments, which are to encourage the use of cleaner technologies. (2)

RESPONSE: The Department agrees that combined heat and power systems should be encouraged. The adopted rules do this by allowing useful heat to be used to determine allowable emissions in combined heat and power applications. The Department is an advocate of utilizing efficient and cleaner technologies for generating power. As the commenter mentions, the Department’s SOTA manual for stationary combustion turbines defines and provides detailed information on this matter.

134. COMMENT: The rules contain many inequalities between certain source categories:

1. Output-based standards for stationary combustion turbines, but not for reciprocating engines;

2. NO_x budget units are exempted from more stringent regulations. Stationary combustion turbines can opt-in to the NO_x budget program, but not reciprocating engines; and

3. Combustion turbine combined cycle facilities receive a credit for the waste heat recovered from the turbine exhaust, but reciprocating engine combined cycle facilities do not received such a credit. (26)

RESPONSE: Standards for reciprocating engines are output based in terms of grams of NO_x per brake horsepower hour. There are no reciprocating engine electrical generating facilities large enough (15MW) to be included in the NO_x Budget Program. Reciprocating engine emission limits are set to be reasonably achievable by reciprocating engines.

135. COMMENT: The commenter applauds the Department's commitment to achieve compliance with the national air quality standards but the Department should consider the following:

1. Add definition of emulsified fuels into the N.J.A.C. that is consistent with other states (i.e., CARB or EPA verified).

2. Designate emulsified fuels as an innovative technology.

3. Ensure affected units have the flexibility to use a cleaner emulsified fuel without permit modification. This would include the ability to switch back to traditional oil.

4. Clear guidance that emulsified fuels would be given full consideration as an alternative technology.

5. Approve compliance for alternative emission limits, which might be slightly higher than 2.3 grams of NO_x/bhp-hr for technologies that will reduce both NO_x and particulate matter (PM) emissions.

6. Provide a central approval process so alternative compliance strategies are given full consideration and not done piece by meal by region.

7. There is little data on the reliability. It would be important to require the technology to be demonstrated at the facility before approval so that the facility owners will not be saddled with very high capital cost of a technology that may not work as promised.

8. There needs to be incentives for facilities that reduce NO_x emissions before compliance deadlines. (23)

RESPONSE: The Department acknowledges the commenter's support. While, the commenter's recommendations are beyond the scope of the proposed rulemaking, they will be considered in the development of the State Implementation Plans for fine particles and eight-hour ozone reductions.

136. COMMENT: The commenter is concerned that the dual fuel conditions of the rules are directed only at the commenter's company, since the commenter is not aware of any other dual-fuel reciprocating engines in New Jersey. (26)

RESPONSE: Several dual fuel engines are in operation in New Jersey. The adopted rules apply to all of those sources, as well as to the commenter's company.

137. COMMENT: The NO_x rules provide only limited detail on items such as RACT cost

thresholds and requirements for equipment already subject to the existing rules. The Department should:

- Identify the cost effectiveness target (dollars per ton) appropriate for NO_x RACT analysis.
- Clarify that additional RACT analysis is not required for equipment already subject to the regulation that is complying using an alternative emission limit or exemption provision that is available due to technology limitations. (7, 9, 29)

RESPONSE: Cost effectiveness is addressed in the Summary and in the Economic Impact, at 36 N.J.R. 4228(a). Additional RACT analysis is not required for the 1995 limits. RACT analysis is required for the newly adopted limits if an alternative emission limit (AEL) is sought.

138. COMMENT: The rules seem to extend applicability beyond peak shaving emergency diesel engines to cover continuous duty engines, which does not seem to be the Department's intent. (26)

RESPONSE: The Department's intent is to regulate most electrical generating diesel engines, whether used continuously or for peaking, except generators used only for emergencies or construction, and small engines less than 37 kW. The Department believes the adopted rules accomplish this.

139. COMMENT: Co-fired waste heat boilers should not be subject to the NO_x emission limit reductions of the amendments, because the Department's stated intent is to reduce emission limits for boilers equal to or greater than 100 million Btu/hr burning natural gas only. (26)

RESPONSE: The format of existing N.J.A.C. 7:27-19.7, Tables 4 and 5, which specify emission limits by firing method, was inadvertently omitted from Table 7, which will replace Tables 4 and 5 on [16 months after the operative date of these rules]. The Department is modifying Table 7 on adoption to reinstate the emission limits by firing method. That is, co-fired boilers greater or equal to 100 million Btu/hr burning oil and/or gas would not be subject to the reductions required by the amendments. The Department intends that the only change from the existing Table 5 is that gas limits are reduced to 0.1 lb. NO_x per million BTU regardless of firing method.

140. COMMENT: The proposed rules attempt to regulate waste heat recovery boilers (HRSG) without due consideration to the waste heat recovery process. (26)

RESPONSE: Fired waste heat recovery steam generators (HRSG) or boilers are similar in design, including the burner design, to indirect fired heat exchangers. Therefore, HRSG have had the same emission requirements as indirect fired heat exchangers since these rules were first adopted in 1995. The amendments maintain the same requirements.

141. COMMENT: The proposed rules do not consider the environmental benefits from combined heat and power. (26)

RESPONSE: The adopted rules consider the environmental benefit of combined heat power technology as a clean technology. See Response to Comment 133.

142. COMMENT: Reciprocating engines have a much higher cost per ton ($20,000), compared to less than $5,000 for combustion turbines. The $20,000 per ton may make sense for intermittent sources, but some engines run continuously. (26)

RESPONSE: NO_x emissions cause both ozone and fine particulates, both of which exceed the National Ambient Air Quality Standards (NAAQS) and cause significant adverse health and welfare effects. It is necessary to achieve more NO_x emission reductions from many sources categories at higher cost per ton than in the past.

143. COMMENT: The definitions of some terms in NJAC 7:27-16 differ slightly from the same terms in NJAC 7:27-19. These terms include "combustion turbine" and "emergency." (25)

RESPONSE: In response to comment, Department has modified the definition of “combustion turbine” at N.J.A.C. 7:27-16.1 to be consistent with the definition at N.J.A.C. 7:27-19.1. The inconsistency between the proposed definitions of “emergency” have been resolved through the Department’s modification of the definitions in response to other comments.

Summary of Agency-Initiated Changes:

In addition to the changes in response to comments explained above, and grammatical and typographical corrects to the rules, the Department is modifying the following provisions on adoption:

The Department has modified the definition of “brake horsepower” at N.J.A.C. 7:27-8.1, 16.1, 19.1 and 22.1 to add “or bhp,” which is the accepted abbreviation of the term.

The Department has modified the definition of "emergency" at N.J.A.C. 7:27-16.1 and 19.1 to change the examples for the phrase "sudden and reasonably unforeseeable events beyond the control of an owner or operator" contained within the definition of emergency. The revised example "an unforeseen system capacity shortage caused by an act of God" more appropriately reflects the language and intent of the definition. The former first example of "system capacity shortage" is not appropriate in some cases, because a system capacity shortage may be foreseeable and preventable by the owner of the electric generating equipment that caused the capacity shortage.

The Department has modified the definition of “reciprocating engine” at N.J.A.C. 7:27-16.1 and 19.1 to provide a more detailed definition. The modifications are intended to clearly distinguish between a reciprocating engine and a turbine. The Department understands that the regulated community is aware of the difference between the two types of equipment, and has added the language as a clarification.

The Department has modified N.J.A.C. 7:27-16.10(e), 19.8(a) to (c), and 19.8(f) to delete 500 bhp, and has replaced it with the equivalent value of 370 kilowatt (kW), which is a more common industry term for electric generating unit and will make it easier for the regulated community, particularly small businesses, to identify significant sources and comply.

The Department has reworded the first sentence of N.J.A.C. 7:27-19.2(d) to make it clear that emergency generators are exempt from the requirements in subchapter 19, other than the recordkeeping requirements. The Department expressed this intention at 36 N.J.R. 423, in the

discussion of the amendments to N.J.A.C. 7:27-19.2(d).

At N.J.A.C. 7:27-19.3(j) and 19.6(k), the Department has corrected the addresses to which the notice or the quarterly report should be sent.

The Department has modified N.J.A.C. 7:27-19.7(g)1 to add "but less than 10 million BTU per hour," to be consistent with N.J.A.C. 7:27-16.8(c)1.

The Department has modified N.J.A.C. 7:27-19.9 to be consistent with N.J.A.C. 7:27-19.2(b)5. N.J.A.C. 7:27-19.9 should have been revised in the proposal to agree with N.J.A.C. 19.2(b)5 so as not to create confusion in the applicability of the rule.

The Department has clarified the formula for lb/MM BTU and the O_2 correction factor at N.J.A.C. 7:27-19.16(a)6 to add the division symbol (÷), to make it clear that top line should be divided by the bottom line. The Department modified N.J.A.C. 7:27-16.8(c), 19.7(g) and (h); and 19.16(d) to add the languages "maximum," “rate,” "input rate" and “with a maximum gross heat input rate,” to be consistent with each other and to use the defined term “maximum gross heat input rate.” In addition, the Department modified N.J.A.C. 7:27-19.16(d)3 to add the language "or greater" to be consistent with N.J.A.C. 7:27-16.8 and 19.7.

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. The adopted rule and amendments have been promulgated pursuant to the CAA, and are intended to implement substantive Federal standards. The adopted 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, adoption of the new rule and amendments is consistent with Federal requirements.

Based on its review of these Federal regulations, the Department has determined that the adopted rule and amendments do not exceed the standards or requirements imposed by Federal law, but rather implement 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.

Full text of the adoption follows (additions to proposal indicated in boldface with asterisks *__thus__*; deletions from proposal indicated in brackets with asterisks *[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" ***or "bhp"*** means a measure of mechanical power generated by a reciprocating engine determined by a brake attached to the shaft coupling.

…

"Rated power output" means the maximum electrical or equivalent mechanical power output stated on the nameplate affixed to an engine or ***the International Standard organization (ISO) rated electrical or equivalent mechanical power stated on the nameplate affixed to a*** turbine by the manufacturer.

...

7:27-8.2 Applicability

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

(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), (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***, including emergency generators***;

2.-20. (No change from proposal.)

21. Any stationary reciprocating engine with a maximum rated power output of *[50 brake horsepower]* ***37 kW*** or greater, used for generating electricity***, not including emergency generators***.

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

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" ***or "bhp"*** means a measure of mechanical power generated by a reciprocating engine determined by a brake attached to the shaft coupling.

…

"Combustion turbine" means an internal combustion engine *[that uses]* ***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.

…

***"Construction engine" means a mobile engine used for construction at a site for a limited time period. Construction engine includes a mobile electric generator that is used until regular electric power lines are available to replace the function of the electric generator at the construction site. Construction engine does not include:**

1. An engine attached to a foundation;

2. An engine (including any replacement engines) at the same location for more than 12 months;

3. An engine (including any replacement engines) at a seasonal source for at least 90 days per year for at least two years; or

4. An engine that is moved from one location to another in an attempt to circumvent the residence time criteria in 2 or 3 above.*

...

“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 ***an unforeseen*** system capacity shortage *[or]* ***caused by*** 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. (No change from proposal.)

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

3. Is operated only:

   i. ***During the performance of*** *[When]* normal testing and maintenance procedures, as recommended ***in writing*** by the manufacturer and/or as required ***in writing*** by a Federal ***or State*** law or regulation*[, are

being performed]*;

ii. (No change from proposal.)

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.]*

…

"KW" or "kW" means kilowatt.

...

"MW" means megawatt.

…

"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 ***the International Standard Organization (ISO) rated electrical or equivalent mechanical power stated on the nameplate affixed to a*** turbine by the manufacturer.

...

"Reciprocating engine" means an ***internal combustion*** engine *[with a]* ***in which a rotating***crankshaft ***is driven by reciprocating motion of piston(s)***.

…

"Stationary reciprocating engine" means 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. (No change from proposal.)

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 ***mobile electric generators being used by the military,*** locomotive engines or construction engines.

...

7:27-16.8 Boilers

(a) (No change.)

(b) The owner or operator of any boiler serving an electric generating unit, regardless of size, or any industrial/commercial/institutional boiler with a maximum gross heat input rate of 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. 7:27-19.16 and the following schedule:

i. For any boiler serving an electric generating unit, regardless of size, by May 1 of each ***calendar*** year***, except the adjustment may occur within seven days of the first period of operation after May 1, if the boiler has not operated between January 1 and May 1 of that year***; or

ii. (No change from proposal.)

(c) The owner or operator of any 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 ***input rate*** 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 ***input rate*** 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 ***input rate*** of at least 20 million BTU per hour, but less than 50 million BTU per hour:

i.-ii. (No change from proposal.)

(d) ***Except as set forth in (b)3ii(1), (c)1 and 2, and (c)3i above,*** *[Any]* ***any*** owner or operator of a boiler subject to this section shall achieve compliance with (b) above by May 31, 1995, and maintain compliance with this subsection thereafter.

(e) *[Except as set forth in (c)1 and 2, above, the]* ***The*** owner or operator of any boiler***:***

1. *[serving]* ***Serving*** an electric generating unit or industrial/commercial/institutional boiler subject to this section***,*** ***except as set forth in (b)3ii(1), (c)1 and (2), and (c)3i above,*** shall demonstrate compliance with this subchapter in accordance with the procedures at N.J.A.C. 7:27-16.23 before May 31, 1996*[.]* ***; and***

2. Serving an industrial/commercial/institutional boiler subject to (b)3ii(1) above, shall demonstrate compliance with this subchapter in accordance with the procedures at N.J.A.C. 7:27-16.23 on or before (28 months after the operative date of the amendment).

(f)-(k) (No change from proposal.)

7:27-16.9 Stationary combustion turbines

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

(d) Any owner or operator of a stationary combustion turbine***:***

1. With a maximum gross heat input rate of at least 30 million BTU per hour or greater, subject to this section shall achieve compliance with this section by May 31, 1995, and maintain compliance with this section thereafter*[.]* ***; or***

2. With a maximum gross heat input rate of at least 25 million BTU, but less than 30 million BTU per hour, subject to this section shall achieve compliance with this section (16 months after the operative date of the amendment), and maintain compliance with this section thereafter.*

(e) The owner or operator of any stationary combustion turbine***:**

1. With a maximum gross heat input rate of at least 30 million BTU per hour or greater,* 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*[.]* ***; or**

2. With a maximum gross heat input rate of at least 25 million BTU, but less than 30 million BTU per hour, subject to this section shall demonstrate compliance with this subchapter in accordance with the procedures at N.J.A.C. 7:27-16.23 on or before (28 months after the operative date of the amendment).*

(f)-(j) (No change from proposal.)

7:27-16.10 Stationary reciprocating engines

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

(c) Any owner or operator of a stationary reciprocating engine ***:**

1. With a maximum rated power output of at least 500 brake horsepower or greater,* subject to this section shall achieve compliance with this section by May 31, 1995, and maintain compliance with this section thereafter*[.]* ***; or**

2. With a maximum rated power output of at least 37 kW, but less than 370 kW, used for generating electricity, subject to this section shall achieve compliance with this section (16 months after the operative date of the amendment), and maintain compliance with this section thereafter.*

(d) The owner or operator of any stationary reciprocating engine***:**

1. With a maximum rated power output of at least 500 brake horsepower or greater,* 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*[.]* ***; or**

2. With a maximum rated power output of at least 37 kW, but less than 370 kW, used for generating electricity, subject to this section shall demonstrate compliance with this subchapter in accordance with the procedures at N.J.A.C. 7:27-16.23 on or before (28 months after the operative date of the amendment).*

(e) The owner or operator of any stationary reciprocating engine subject to this section with a maximum rated power output of at least *[50 brake horsepower]* ***37 kW*** 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. 7:27-19.16 and the following schedule:

1. For a stationary reciprocating engine that has a maximum rated power output of at least *[50 brake horsepower]* ***37 kW,*** but less than *[500 brake horsepower]* ***370 kW,*** 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.)

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.

…

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

…

***"Construction engine" means a mobile engine used for construction at a site for a limited time period. Construction engine includes a mobile electric generator that is used until regular electric power lines are available to replace the function of the electric generator at the construction site. Construction engine does not include:**

1. An engine attached to a foundation;

2. An engine (including any replacement engines) at the same location for more than 12 months;

3. An engine (including any replacement engines) at a seasonal source for at

least 90 days per year for at least two years; or

4. An engine that is moved from one location to another in an attempt to circumvent the residence time criteria in 2 or 3 above.*

…

"Duct burner" means an item of equipment used with a *[combined cycle]* combustion turbine or a stationary 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]* ***supplement or replace*** the exhaust heat energy ***of the turbine or engine***. A duct burner is a type of indirect heat exchanger.

…

"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 ***an unforeseen*** system capacity shortage *[or]* ***caused by*** 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.-2. (No change from proposal.)

3. Is operated only:

i. **During the performance of** *[When]* normal testing and maintenance procedures, as recommended ***in writing*** by the manufacturer and/or as required ***in writing*** by a Federal ***or State*** law or regulation*[, are being performed]*;

ii. (No change from proposal.)

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 at 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.]*

...

"KW" or "kW" means kilowatt.

...

"MW" means megawatt.

...

"Net energy output" means the gross output minus any of the energy output consumed to generate the output.

…

"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 ***the International Standard Organization (ISO) rated electrical or equivalent mechanical power stated on the nameplate affixed to a*** turbine by the manufacturer.

...

"Reciprocating engine" means an ***internal combustion*** engine *[with a]* ***in which a rotating*** crankshaft ***is driven by reciprocating motion of piston(s)***.

...

"Stationary reciprocating engine" means 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. (No change from proposal.)

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 ***mobile electric generators being used by the military,*** locomotive engines or construction engines.

…

7:27-19.2 Purpose, scope and applicability

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

(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.-2. (No change from proposal.)

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]* ***One hundred forty-eight kilowatt*** or greater; or

ii. *[Fifty brake horsepower]* ***Thirty-seven kilowatt*** 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 ***maximum*** rated power output of *[50 brake horsepower]* ***37 kW*** or greater***,*** but less than *[200 brake horsepower]* ***148 kW***, and whose total combined power output is *[200 brake horsepower]* ***148 kW*** 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, ***compliance with the recordkeeping requirements applicable to emergency generators set forth at N.J.A.C. 7:27-19.11 shall satisfy all subchapter 19 record requirements for*** any equipment that is solely used as an emergency generator *[is subject only to the recordkeeping requirements applicable to emergency generators set forth at N.J.A.C. 7:27-19.11].* ***, as defined at N.J.A.C. 7:27-19.1. Emergency generators shall not be used:***

1. In a circumstance other than an emergency, except as specified at paragraph 3 of the definition of emergency generator at N.J.A.C. 7:27-19.1;

2. For normal testing and maintenance on days when the Department forecasts air quality anywhere in New Jersey to be "unhealthy for sensitive groups," "unhealthy," or "very unhealthy" as defined in the EPA's Air Quality Index at http://airnow.gov**/, as supplemented or amended and incorporated herein by reference, unless required in writing by a Federal or State law or regulation. Procedures for determining the air quality forecasts for New Jersey are available at the Department's air quality permitting web site at http://www.state.nj.us/dep/aqpp/aqforecast; and**

3. As a source of energy or power after the primary energy or power source has become operable again. If the primary energy or power source is under the control of the owner or operator of the emergency generator, the owner or operator shall make a reasonable, timely effort to repair the primary energy or power source.*

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

7:27-19.3 General provisions

(a)-(i) (No change from proposal.)

(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 Mercer County, Middlesex County, Monmouth County**,** 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
P.O. Box 407
Robbinsville, NJ *[08691]* ***08625-0407****

*[2. If the notice concerns a combustion source located in Bergen County, Essex County, or Hudson 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]* ***2*.** If the notice concerns a combustion source located in ***Bergen County, Essex County, Hudson County,*** 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] ***7 Ridgedale Avenue****
[Parsippany, NJ 07054-4191] ***Cedar Knolls, NJ 07927****

[4] ***3*.** 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
One Port Center
2 Riverside Drive, Suite 201
Camden, NJ 08103

[5] ***4*.** 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 (j)1 through 4 above.

7:27-19.4 Boilers serving electric generating units

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

(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***, except the adjustment may occur within seven days of the first period of operation after May 1, if the boiler has not operated between January 1 and May 1 of that year****.

7:27-19.5 Stationary combustion turbines

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

(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) ***or 19.5(c)1 through 5***; 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) (No change from proposal.)

(f)** **To calculate lb/MWh for units where energy is used for other than electric generation, for example useful heat from a combined heat and power unit, that useful energy should be converted to equivalent MWh and added to the electric output. The lb/MWh is based on net energy output, for both electric output and useful heat ouput.

7:27-19.6 Emissions averaging

(a)-(j) (No change from proposal.)

(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
P.O. Box 407
Robbinsville, NJ *[08691]* ***08625-0407***

*[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]* ***2***. If the averaging unit with the highest NO_x emission limit is located in ***Bergen County, Essex County, Hudson County,*** 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] ***7 Ridgedale Avenue***
[Parsippany, NJ 07054-4191] ***Cedar Knolls, NJ 07927***

[4] ***3***. 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 Industrial/commercial/institutional boilers and other indirect heat exchangers

(a)-(f) (No change from proposal.)

(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 ***input rate*** 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 ***input rate*** of at least five million BTU per hour, ***but less than 10 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 ***input rate*** 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 ***input rate*** 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 ***with a maximum gross heat input rate*** 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
(pounds per million BTU)

Heat Input Rate (million BTU per hr)	Fuel**/Boiler** Type	*[Maximum Allowable NO_x Emission Rate (pounds per million BTU)]* **Firing Method**		
		Tangential	**Face**	**Cyclone**
at least 50 but < 100	Natural gas	0.10	**0.10**	**0.10**
	#2 Fuel oil	0.12	**0.12**	**0.12**
	Refinery fuel gas and other gaseous fuels	0.20	**0.20**	**N/A**
	Other liquid fuels	0.30	**0.30**	**0.30**
	Coal – Wet Bottom	**1.0**	**1.0**	**0.55**
	Coal – Dry Bottom	**0.38**	**0.43**	**0.55**
at least 100 or greater	Natural gas **only**	0.10	**0.10**	**0.10**

Refinery fuel gas and other gaseous fuels	0.20	***0.20***	***N/A***
Fuel oil ***and/or Natural gas***	0.20	***0.28***	***0.43***
Coal – Wet Bottom	***1.0***	***1.0***	***0.60***
Coal – Dry Bottom	***0.38***	***0.45***	***0.55***

7:27-19.8 Stationary reciprocating engines

(a) The owner or operator of a rich-burn stationary reciprocating engine capable of producing an output of 500 brake horsepower or more, fueled by gaseous fuel, shall cause it to emit no more than 1.5 grams of NO_x per 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]* ***370 kW*** 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 reciprocating engine capable of producing an output of 500 brake horsepower or more, fueled by gaseous fuel, shall cause it to emit no more than 2.5 grams of NO_x per 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]* ***370 kW*** 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 reciprocating engine capable of producing an output of 500 brake horsepower or more, fueled by liquid fuel, shall cause it to emit no more than 8.0 grams of NO_x per 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]* ***370 kW*** or more, fueled by liquid fuel, and used for generating electricity, shall be subject to (e) below, and not to this subsection.

(d) (No change from proposal.)

(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]* *** 148 kW*** 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]
Applicable to Paragraph 1 above and 4 below
Used for Generating Electricity

[Fuel/Engine] ***Engine/Fuel*** Type	Maximum Allowable NO_x Emission Rate (grams per Bhp-hr)
[Spark-Ignited] Rich***-*** Burn ***fueled by Gaseous or Liquid Fuel***	1.5
[Spark-Ignited] Lean***-*** Burn ***fueled by Gaseous Fuel***	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] ***Lean-Burn fueled by Liquid*** Fuel	2.3
[Compression Ignition] ***Lean-Burn fueled by*** Dual-Fuels (gas and *[diesel]* ***liquid*** fuel)	2.3

2. For an engine that has a maximum rated power output of *[50 brake horsepower]* ***37 kW*** 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]* ***0.90*** grams per bhp-hr;

3. For an engine that has a maximum rated power output of *[50 brake horsepower]*

37 kW 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]* ***0.90*** 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]* ***37 kW*** or greater, but less than *[200 brake horsepower]* ***148 kW***, and whose total combined power output is *[200 brake horsepower]* ***148 kW*** 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.

5. For a modified engine to take advantage of a percent reduction standard specified in Table 8 at N.J.A.C. 7:27-19.8(e)1 or (e)3 above in lieu of the default emission standard, the equivalent grams per bhp-hr limit must be incorporated into a Preconstruction Permit or Operating Permit. To support the permit application, a stack test conducted in accordance with N.J.A.C. 7:27-19.15(a)2, utilizing a protocol developed using the protocol templates in Technical Manual 1004, available at the Department's website at www.state.nj.us/dep/bts.html, must be used to establish the baseline emission rate prior to modification. The engine must have had the combustion processes adjusted using the procedures at N.J.A.C. 7:27-19.16 prior to the stack test. The protocol and test results must be approved by the Bureau of Technical Services (BTS).

(f) The owner or operator of any stationary reciprocating engine that has a maximum rated power output of at least *[50 brake horsepower]* ***37 kW*** 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]* ***37 kW but less than 370 kW*** 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]* ***370 kW*** or greater, or required prior to (the operative date of this amendment) to adjust the combustion process, according to manufacturer's recommended maintenance schedules.

7:27-19.9 Asphalt plants

(a) The owner or operator of a batch type or drum mix asphalt plant *[which has the potential to emit at least 25 tons per year of NO_x]* shall cause it to emit NO_x at a rate no greater than 200 ppmvd at seven percent O_2.

(b)-(c) (No change.)

7:27-19.11 Emergency generators - recordkeeping

(a) The owner or operator of an emergency generator ***with a maximum rated output of 37 kW,*** 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. Once per month, the total operating time from the generator's hour meter;**

2. For each time the emergency generator is specifically operated for testing or maintenance:*

[1] ***i***. The reason for its operation;

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

[3] ***iii***. The total operating time ***for testing or maintenance based on the generator's hour meter; and***

[4] ***iv***. The name of ***the*** operator; and

[5] ***3***. If a voltage reduction is the reason for the use of ***the*** emergency generator, a copy of the voltage reduction notification from PJM ***or other documentation of the voltage reduction.***

(b) (No change from proposal.)

7:27-19.15 Procedures and deadlines for demonstrating compliance

(a) (No change from proposal.)

(b) For any equipment or source operation subject to this subchapter 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). ***Test results that demonstrate**

compliance with a new requirement within the five years preceding the operative date of this amendment shall be accepted by the Department as satisfying this test requirement, if the testing and test report were reviewed by the Department and found satisfactory.*

(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.-5. (No change from proposal.)

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:

$$\text{lb/MM BTU} = \frac{\text{ppmvd} \times \text{MW} \times \text{F dry factor} \times \text{O}_2 \text{ correction factor}}{387{,}000{,}000}$$

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

O_2 measured is percent oxygen on a dry basis.

(b)-(c) (No change from proposal.)

(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]* ***45*** 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 ***maximum*** gross heat input ***rate*** 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 ***maximum*** gross heat input ***rate*** 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 ***maximum*** gross heat input of ***rate*** at least 20 million BTU per hour ***or greater***, 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]* ***the adjusted equipment or source operation*** *[are]* ***is*** maintained *[until the next]* ***to operate consistent with the*** annual adjustment.

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

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" ***or "bhp"*** means a measure of mechanical power generated by a reciprocating engine determined by a brake attached to the shaft coupling.

…

"Rated power output" means the maximum electrical or equivalent mechanical power output stated on the nameplate affixed to an engine or ***the International Standard Organization (ISO) rated electrical or equivalent mechanical power stated on the nameplate affixed to a*** 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**,** 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 greater to the burning chamber***, including emergency generators***;

12.-19. (No change from proposal.)

20. Any stationary reciprocating engine with a maximum rated power output of *[50 brake horsepower]* *** 37 kW*** or greater, used for generating electricity***, not including emergency generators***.

...