

WISCONSIN LEGISLATIVE COUNCIL STAFF

LCRC  
FORM 2

**RULES CLEARINGHOUSE**

**Ronald Sklansky**  
Director  
(608) 266-1946

**Richard Sweet**  
Assistant Director  
(608) 266-2982



**Terry C. Anderson, Director**  
Legislative Council Staff  
(608) 266-1304

One E. Main St., Ste. 401  
P.O. Box 2536  
Madison, WI 53701-2536  
FAX: (608) 266-3830

---

**CLEARINGHOUSE REPORT TO AGENCY**

---

[THIS REPORT HAS BEEN PREPARED PURSUANT TO S. 227.15, STATS. THIS IS A REPORT ON A RULE AS ORIGINALLY PROPOSED BY THE AGENCY; THE REPORT MAY NOT REFLECT THE FINAL CONTENT OF THE RULE IN FINAL DRAFT FORM AS IT WILL BE SUBMITTED TO THE LEGISLATURE. THIS REPORT CONSTITUTES A REVIEW OF, BUT NOT APPROVAL OR DISAPPROVAL OF, THE SUBSTANTIVE CONTENT AND TECHNICAL ACCURACY OF THE RULE.]

**CLEARINGHOUSE RULE 00-096**

AN ORDER to repeal NR 485.04 (9) (b); to renumber and amend NR 485.04 (9) (title) and (a); to amend NR 428.01 (1) and (2), 428.02 (intro.) and 484.04 (21) and (27); and to create NR 410.06, 423.02 (1), (8), (8c), (8e), (8h), (8m) and (9m), 423.035, 428.02 (1) to (10), 428 subchs. I to III, 439.096 and 439.097, relating to reducing ozone concentrations in the ambient air in southeastern Wisconsin by controlling nitrogen oxides (NOx) and volatile organic compound (VOC) emissions.

Submitted by **DEPARTMENT OF NATURAL RESOURCES**

05-16-00 RECEIVED BY LEGISLATIVE COUNCIL.

06-01-00 REPORT SENT TO AGENCY.

RS:WF:jal;wu

**LEGISLATIVE COUNCIL RULES CLEARINGHOUSE REPORT**

This rule has been reviewed by the Rules Clearinghouse. Based on that review, comments are reported as noted below:

## 1. STATUTORY AUTHORITY [s. 227.15 (2) (a)]

Comment Attached

YES NO 

## 2. FORM, STYLE AND PLACEMENT IN ADMINISTRATIVE CODE [s. 227.15 (2) (c)]

Comment Attached

YES NO 

## 3. CONFLICT WITH OR DUPLICATION OF EXISTING RULES [s. 227.15 (2) (d)]

Comment Attached

YES NO 4. ADEQUACY OF REFERENCES TO RELATED STATUTES, RULES AND FORMS  
[s. 227.15 (2) (e)]

Comment Attached

YES NO 

## 5. CLARITY, GRAMMAR, PUNCTUATION AND USE OF PLAIN LANGUAGE [s. 227.15 (2) (f)]

Comment Attached

YES NO 6. POTENTIAL CONFLICTS WITH, AND COMPARABILITY TO, RELATED FEDERAL  
REGULATIONS [s. 227.15 (2) (g)]

Comment Attached

YES NO 

## 7. COMPLIANCE WITH PERMIT ACTION DEADLINE REQUIREMENTS [s. 227.15 (2) (h)]

Comment Attached

YES NO

# WISCONSIN LEGISLATIVE COUNCIL STAFF

## RULES CLEARINGHOUSE

Ronald Sklansky  
Director  
(608) 266-1946

Richard Sweet  
Assistant Director  
(608) 266-2982



Terry C. Anderson  
Director  
Legislative Council Staff  
(608) 266-1304

One E. Main St., Ste. 401  
P.O. Box 2536  
Madison, WI 53701-2536  
FAX: (608) 266-3830

## CLEARINGHOUSE RULE 00-096

### Comments

**[NOTE: All citations to "Manual" in the comments below are to the Administrative Rules Procedures Manual, prepared by the Revisor of Statutes Bureau and the Legislative Council Staff, dated September 1998.]**

### 2. Form, Style and Placement in Administrative Code

a. SECTION 7 of Clearinghouse Rule 00-096 creates subchs. I to III of ch. NR 428. However, because subch. I begins with s. NR 428.04, the three preceding sections [ss. NR 428.01 to 428.03] are not contained in any subchapter of s. NR 428. It is suggested that these sections be organized in subch. I of s. NR 428 and the subsequent subchapters of ch. NR 428, and internal cross-references, be renumbered as appropriate. (The entire rule should be reviewed for the similar problem of unnumbered subunits that do not grammatically lead into following subunits.)

b. Section NR 428.05 (1) (a) uses the phrase "listed in this subsection." The phrase is unnecessary and should be deleted. Further, all of the introductory material that grammatically leads into following subunits should make appropriate use of the phrases "any of the following" or "all of the following" in order to clearly indicate to the reader whether any or all of the requirements listed must be met.

c. In s. NR 428.07 (2) (b), the introductory material should begin with the phrase "Except as provided in par. (c)." Similarly, par. (d) 1. should begin with the phrase "Except as provided in subd. 2." Then, the use of the word "However" in pars. (c) and (d) 2. can be avoided.

d. In s. NR 428.09 (4) (intro.), the final clause should read: "The certification shall state all of the following:". The following paragraphs then should conclude with periods.

e. The examples of "other values" required to determine  $\text{No}_x$  mass which are contained in s. NR 428.07 (3) are explanatory in nature and should be placed in a note following sub. (3). [See s. 1.09, Manual.]

### 5. Clarity, Grammar, Punctuation and Use of Plain Language

a. It is suggested that the phrase "for supporting an exemption claim" be placed after the word "requirements" in s. NR 423.035 (2). As drafted, sub. (2) requires the owner or operator of a facility who claims to be exempt from any requirement of subs. (3) to (7) to comply with the record keeping requirements of s. NR 439.04 (3). However, s. NR 439.04 (3) contains record keeping requirements for sources subject to emissions limitations and operating requirements as well as for sources that are exempt from such requirements. Adding the suggested language will make the subsection more clear.

b. In s. NR 423.035 (4) (d), the subdivisions should not be written in the imperative form. [See also s. NR 439.097 (4).]

c. Section NR 428.01 (1) proposes to incorporate by reference future additions of appendices to the Code of Federal Regulations. [See s. 2.08 (5), Manual, for a discussion of whether such an action is an improper delegation of legislative authority.]

d. In s. NR 428.02 (4), the phrase "of the same phrase defined" should be replaced by the word "given."

e. It is suggested that the phrase "Beginning on" be substituted for the word "After" in s. NR 428.04 (1) (a).

f. In s. NR 428.04 (6) (a), the introduction should conclude with a colon.

g. Section NR 428.05 (5) (a) requires the owner or operator of certain emissions units to keep certain documents for a period of five years "unless otherwise provided." If the quoted language is meant to refer to an agreement between the department and the owner or operator of an emissions unit to keep the documents for a period that is less than or greater than five years, the paragraph should clearly state this. If this is not the intent of the paragraph, the paragraph should be redrafted to clarify its meaning. Also, the introduction should conclude with a colon.

h. Section NR 428.06 (2) (a) would be more clear if the word "allowable" or a similar word were placed before the fifth occurrence of the word "emissions."

i. In s. NR 428.06 (2) (d), the phrase "they have" should be replaced by the phrase "it has."

j. It appears that the phrase "on or" should be inserted before the word "after" in s. NR 428.09 (1) (b) 1. and (2) (b) 2. to 4., so that units commencing operation on May 1, 2002 are also covered by the rule.

k. Section NR 428.10 authorizes an owner or operator of an emissions source to submit a petition to the department requesting approval to apply an alternative to any requirement of subch. III of ch. NR 428. The rule provision should express a standard or standards upon which an alternative may be granted. Without a basis upon which to grant an alternative, and to the extent an alternative is generally applied, the alternative should be promulgated as an administrative rule. [See also s. NR 439.096 (1).]

l. It is suggested that s. NR 439.096 (4) be redrafted. Read literally, the subsection requires an owner or operator to notify the department that a scheduled compliance combustion optimization has been rescheduled from the date specified in the plan only if the rescheduling is due to "unforeseeable circumstances beyond the owner's or operator's control." It appears the intent of the subsection is to require the owner or operator to conduct the combustion optimization on the day specified in the plan unless the date must be changed due to unforeseeable circumstances beyond the owner's or operator's control. Notice would be required regardless of the reason for the rescheduling. It is suggested that the department redraft sub. (4) to clarify its intent.

m. In s. NR 439.097 (5) (c), the word "burner" should be inserted before the phrase "tune-up."

ORDER OF THE STATE OF WISCONSIN  
NATURAL RESOURCES BOARD  
REPEALING, RENUMBERING AND AMENDING, AMENDING AND CREATING RULES

The Wisconsin Natural Resources Board proposes an order to **repeal** NR 485.04(9)(b); to **renumber and amend** NR 485.04 (9)(title) and (a); to **amend** NR 428.01(1) and (2); 428.02 (intro.) and 484.04(21) and (27); and to **create** NR 410.06, 423.02(1), (8), (8c), (8e), (8h), (8m) and (9m), 423.035, 428.02(1) to (10), 428 subchs. I to III, 439.096 and 439.097, relating to reducing ozone concentrations in the ambient air in southeastern Wisconsin by controlling nitrogen oxides (NO<sub>x</sub>) and volatile organic compound (VOC) emissions.

AM-27-00

Analysis Prepared by the Department of Natural Resources

Authorizing statutes: ss. 227.11(2)(a) and 285.11(1) and (6), Stats.

Statutes interpreted: s. 285.11(6), Stats. The State Implementation Plan developed under that provision is revised.

For the purpose of attaining the 1-hour ambient air quality standard for ozone in southeastern Wisconsin, this rule package includes provisions to achieve emission reductions of volatile organic compounds (VOC) and nitrogen oxides (NO<sub>x</sub>) from various categories of sources. The rules include several provisions which are specifically required under the Clean Air Act.

The order establishes a federally-mandated excess emissions fee, which would be imposed in 2008 on major sources of VOC in the ozone nonattainment area if the area fails to attain the 1-hour ozone standard in 2007. The fee of \$5,000 per ton of VOC (as adjusted by changes in the Consumer Price Index since 1990) would be applied to VOC emissions which exceed 80% of a source's 2007 baseline emissions.

The order establishes reasonably available control technology (RACT) emission limits on VOC emissions from industrial solvent cleaning operations at major sources. These VOC emission limits are applicable to sources whose emissions from industrial clean-up solvent operations are major after excluding VOC emissions from other operations at the facility that are subject to existing RACT VOC emission limits.

The current inspection/maintenance (I/M) program for motor vehicles which is operating in southeastern Wisconsin tests for VOC and NO<sub>x</sub> emissions, but the NO<sub>x</sub> emissions are not enforceable limits. This order proposes to have the NO<sub>x</sub> cutpoints for the I/M program become enforceable in May, 2001.

The order proposes a series of emission limits and requirements for various categories of stationary sources of NO<sub>x</sub> emissions. These include:

**Offsets:** The requirement that new or modified NO<sub>x</sub> emission sources offset the emission increases of 1 ton or more from the new or modified emissions unit through emission reductions from existing emission sources in the ozone control regions.

**Combustion optimization:** Specific categories of NO<sub>x</sub> emission units are required to undertake a one-time combustion optimization to minimize NO<sub>x</sub> emissions from the units and to operate their emission units consistent with the results of the combustion optimization.

**Burner tune-ups:** Specific categories of NO<sub>x</sub> emission units are required to undertake an annual burner tune-up to maximize combustion efficiency while reducing NO<sub>x</sub> emissions and to operate their emissions unit consistent with the results of the burner tune-up. Source which comply with the combustion optimization are exempt from the annual boiler tune-up requirements.

**Performance standards:** Specific numeric NO<sub>x</sub> emission standards are established for various categories of new

and modified and existing sources. The standards apply to utility boilers, boilers, combustion turbines, specific industrial process lines, and reciprocating engines. Monitoring, recordkeeping and reporting requirements are also established for the categories of stationary sources subject to these emission limit requirements and performance standards.

---

SECTION 1. NR 410.06 is created to read:

**NR 410.06 Severe ozone nonattainment area major source fee.** (1) **FEE REQUIRED.** Except as provided in sub. (3), any person who owns or operates a stationary source which emits or has the potential to emit 25 tons per year of volatile organic compounds (VOCs) and which is located in Kenosha, Milwaukee, Ozaukee, Racine, Washington or Waukesha county shall pay a fee, computed in accordance with sub. (2), beginning in 2008 and in each calendar year thereafter until the county in which the stationary source is located is redesignated as an attainment area for the 1-hour ozone standard. The fee required under this section shall be paid at the time that the annual emission fee under s. NR 410.04 is paid.

(2) **COMPUTATION OF FEE.** (a) *Fee amount.* The fee required under sub. (1) shall equal \$5,000, adjusted in accordance with par. (c), per ton of VOCs emitted by the source during the previous calendar year in excess of 80% of the baseline amount, computed under par. (b).

(b) *Baseline amount.* For purposes of this section, the baseline amount shall be computed, in accordance with any guidance which the administrator may provide, as the lower of the amount of actual VOC emissions or the VOC emissions allowed under either a permit or emission limitations applicable to the source, during calendar year 2007.

(c) *Annual adjustment.* The fee amount under par. (a) shall be adjusted annually, beginning in 1990, by the percentage, if any, by which the consumer price index, as defined in section 502(b)(3)(B)(v) of the act ~~42 USC 7661a (b) (3) (B) (v)~~, has been adjusted.

(3) **EXCEPTION.** No person who owns or operates a stationary source is

required to pay any fee under sub. (1) with respect to emissions during any year that is treated as an extension year under ~~section 181(a)(5) of the act~~ ~~(42 USC 7511(a)(5))~~

SECTION 2. NR 423.02(1), (8), (8c), (8e), (8h), (8m), (8q), (9m) and (9q) are created to read:

NR 423.02(1) "Application equipment" means a device used to apply adhesive, coating, ink or polyester resin materials.

(8) "Industrial cleanup solvent cleaning" means the process of cleaning products, product components, tools, equipment or general work areas during production, repair, maintenance or servicing with a solvent below its boiling point.

(8c) "Letterpress printing" means the method in which the image area is raised relative to the non-image area and the ink is transferred to the paper directly from the image surface.

(8e) "Maintenance cleaning" means an activity carried out to keep general work areas, tools, machinery or equipment, excluding application equipment, in clean and good operational condition.

(8h) "Medical device" means an instrument, apparatus, implement, machine, contrivance, implant, in vitro reagent or other similar article, including any component or accessory, that meets any one of the following conditions:

(a) It is intended for use in the diagnosis of disease or other conditions, or in the cure, mitigation, treatment or prevention of disease.

(b) It is intended to affect the structure or function of the body.

(c) It is defined as a "device" under ~~21 USC 321~~

Note: Common examples of such medical devices include but are not limited to x-ray machines, medical lasers, diagnostic ultrasound products, thermometers, bedpans,

artificial hearts, pacemakers, pregnancy test kits, scalpels, tongue depressors and bandages.

(8m) "Non-atomized solvent flow" means the use of a solvent in the form of a liquid stream without atomization to remove uncured adhesives, uncured inks, uncured coatings or contaminants from an article.

(8q) "On-press component" means a part, component or accessory of a press, excluding rollers, blankets, metering rollers, fountains, impression cylinders and plates, that is cleaned while still being physically attached to the press.

(9m) "Remote reservoir cleaner" means a cleaning device in which liquid solvent is pumped from a solvent container to a sink-like work area and the solvent from the sink-like area drains into an enclosed solvent container while parts are being cleaned.

(9q) "Removable press component" means a part, component or accessory of a press, excluding rollers, blankets, metering rollers, fountains, impression cylinders and plates, that is physically attached to the press but is disassembled and removed from the press prior to being cleaned.

SECTION 3. NR 423.035 is created to read:

**NR 423.035 Industrial cleanup solvent cleaning. (1) APPLICABILITY.**

This section applies to industrial cleanup solvent cleaning operations at facilities which are located in Kenosha, Kewaunee, Manitowoc, Milwaukee, Ozaukee, Racine, Sheboygan, Washington or Waukesha county.

(2) EXEMPTIONS. The owner or operator of any facility who claims to be exempt under this subsection from any requirement of subs. (3) to (7) shall comply with the recordkeeping requirements of s. NR 439.04(3). If the VOC emissions or material usage exceed an exemption level given in this

(S) suggest clarify  
w/ 439.04(3)  
contains 2 types

for supporting an exemption claim

subsection, the exemption will no longer apply to the facility.

(a) This section does not apply to:

1. Facilities which are located in Kenosha, Milwaukee, Ozaukee, Racine, Washington or Waukesha county if the maximum theoretical emissions of VOCs from the facility, excluding any maximum theoretical emissions of VOCs specifically subject to s. NR 419.05, 419.06 or 419.08, ch. NR 420, 421 or 422, or s. NR 423.03, 423.04, 423.05, 424.04 or 424.05, are less than 25 tons per year.

2. Facilities which are located in Kewaunee, Manitowoc or Sheboygan county if the maximum theoretical emissions of VOCs from the facility, excluding any maximum theoretical emissions of VOCs specifically subject to s. NR 419.05, 419.06 or 419.08, ch. NR 420, 421 or 422, or s. NR 423.03, 423.04, 423.05, 424.04 or 424.05, are less than 100 tons per year.

3. Operations regulated under s. NR 421.06(2)(c), 422.095(6), 422.142(2)(c), 422.145(2)(d), 422.15(8), 422.155(3) or 423.03.

4. Stripping of cured coatings, cured inks or cured adhesives where coating, ink or adhesive will be reapplied.

5. Cleaning operations in graphic arts pre-press areas including the cleaning of film processors, color scanners, plate processors, film cleaning and plate cleaning.

(b) Subsection (3) does not apply to any of the following:

1. Cleaning conducted in conjunction with performance laboratory tests on coatings, adhesives or inks; research and development programs; and laboratory tests in quality assurance laboratories.

2. Cleaning of electrostatic coating application equipment.

3. Medical device and pharmaceutical manufacturing facilities using less than 1.5 gallons per day of VOC containing solvent for industrial cleanup

solvent cleaning.

(c) Subsections (3) and (7) do not apply to cleaning with VOC containing aerosol products if 160 fluid ounces or less of aerosol product are used per day for industrial cleanup solvent cleaning, per facility.

(d) Subsection (7) does not apply to cleaning with VOC containing solvents in spray bottles or containers described in sub. (4) (b).

(e) Subsection (7) does not apply to the cleaning of the nozzle tips that are detached from automated spray equipment systems before cleaning with VOC containing solvents.

(f) Subsections (4) and (7) do not apply to the cleaning of the nozzle tips which are attached to coatings and adhesives spray equipment by flushing VOC containing solvent through the equipment provided the used solvent is directed into containers that prevent evaporation into the atmosphere.

(g) Subsections (4) to (7) do not apply to cleaning using solvents containing no more than 0.05 kilograms per liter of VOC.

(3) SOLVENT REQUIREMENTS. Except as provided under sub. (6), no owner or operator of a facility may cause, allow or permit the use of a solvent for industrial cleanup solvent cleaning operations on or after the January 1, 2002 unless the VOC content of the solvent is less than or equal to the applicable VOC content listed in Table 1.

Table 1

Solvent Cleaning Activity	VOC Content
	in kilograms per liter (pounds per gallon)
(a) Product cleaning during manufacturing process or surface preparation for coating, Adhesive or ink application	
1. General	0.05 (0.42)

2. Electrical apparatus components and electronic components	0.50 (4.2)
3. Medical devices and pharmaceuticals	0.80 (6.7)
(b) Repair and maintenance cleaning	
1. General	0.05 (0.42)
2. Electrical apparatus components and electronic components	0.90 (7.5)
3. Medical devices and pharmaceuticals	
a. Tools, equipment and machinery	0.80 (6.7)
b. General work surfaces	0.60 (5.0)
(c) Cleaning of coatings application equipment or adhesives application equipment	
1. General	0.55 (4.6)
2. Architectural coatings	0.95 (7.9)
(d) Cleaning of ink application equipment	
1. General	0.05 (0.42)
2. Flexographic printing	
a. General	0.05 (0.42)
b. Polyethylene or polypropylene food packaging, fertilizer bags, or liquid-tight food containers	0.60 (5.0)
3. Gravure printing	
a. Publication	0.75 (6.3)
b. Packaging	0.05 (0.42)
4. Lithographic or letterpress printing	
a. Rollers, blankets, metering rollers, fountains, impression cylinders and plates	0.80 (6.7)
b. On-press components	0.80 (6.7)
c. Removable press components	0.05 (0.42)

5. Screen printing	0.75 (6.3)
6. Ultraviolet ink application equipment (except screen printing)	0.80 (6.7)
(e) Cleaning of polyester resin application equipment	0.05 (0.42)

---

(5) (4) CLEANING DEVICES AND METHODS REQUIREMENTS. Except as provided under sub. (6), on or after January 1, 2002, the owner or operator of a facility shall employ one or more of the following cleaning devices or methods when using any VOC containing industrial cleanup solvent:

(a) Physically rubbing a surface with a material such as a rag, paper, sponge or a cotton swab moistened with a solvent.

(b) Closed containers or hand held spray bottles from which solvents are applied without a propellant-induced force.

(c) Cleaning equipment which has a solvent container that is closed during cleaning operations, except when depositing and removing objects to be cleaned, and is closed during non-operation with the exception of maintenance and repair to the cleaning equipment itself.

(d) A remote reservoir cleaner in compliance with all of the following requirements:

1. Prevent solvent vapors from escaping from the solvent container by using devices such as a cover or a valve when the remote reservoir is not being used, cleaned or repaired.

2. Direct solvent flow in a manner that will prevent liquid solvent from splashing outside of the remote reservoir cleaner.

3. Do not clean porous or absorbent materials, such as cloth, leather, wood or rope.

4. Use only solvent containers free of all liquid leaks. Auxiliary equipment, such as pumps, pipelines or flanges, may not have any liquid leaks,

visible tears or cracks. Any liquid leak, visible tear or crack detected shall be repaired within one calendar day, or the leaking section of the remote reservoir cleaner shall be drained of all solvent and shut down until it is replaced or repaired.

(e) A non-atomized solvent flow method where the used cleaning solvent is collected in a container or a collection system which is closed, except for the solvent collection openings that may be open when filling or emptying, or the use of a pressure relief valve.

(f) A solvent flushing method where the used cleaning solvent is discharged into a container which is closed, except for the solvent collection openings that may be open when filling or emptying, or the use of a pressure relief valve. The discharged solvent shall be collected into containers without atomizing into the open air.

(5) STORAGE AND DISPOSAL. The owner or operator of a facility shall store all VOC-containing solvents used in industrial cleanup solvent cleaning operations in non-absorbent, non-leaking containers which shall be kept closed except when filling or emptying. Cloth and paper moistened with VOC-containing solvents shall be stored in closed, non-absorbent, non-leaking containers.

(6) CONTROL EQUIPMENT. In lieu of complying with the requirements in sub. (3) or (4), the owner or operator of a facility may use a VOC emission control system to control VOC emissions from the industrial cleanup solvent cleaning operations at the facility provided one of the following requirements is met:

(a) The emission control system has an overall emission reduction efficiency of 85% for VOC emissions as determined in accordance with s. NR 439.06(3) (am).

(b) The emission control system has a VOC capture efficiency of 90% and an output of VOC emissions of less than 50 ppm calculated as carbon with no dilution as determined in accordance with s. NR 439.06(3) (a).

(c) The emission control system meets the requirements of the applicable source specific rule in chs. NR 420 to 422.

(7) GENERAL PROHIBITIONS. The owner or operator of a facility may not atomize any VOC containing industrial cleanup solvent unless it is vented to an air pollution control system that meets one of the requirements of sub.

(6).

SECTION 4. NR 428.01(1) and (2) are amended to read:

NR 428.01(1) APPLICABILITY. This chapter applies to all air contaminant sources which emit nitrogen compounds and to their owners and operators. All references to the code of federal regulations in this chapter mean those parts or provisions as in effect on the effective date of this section...[revisor inserts date], except that in the case of CFR appendices incorporated by reference in ch. NR 484, if a more recent date is specified in the applicable section of ch. NR 484, that date shall apply.

(2) PURPOSE. This chapter is adopted under ss. 285.11, 285.13 and 285.17, Stats., to categorize nitrogen compound air contaminant sources and to establish emission limitations and other requirements for these sources in order to protect air quality.

SECTION 5. NR 428.02 is amended to read:

NR 428.02 The definitions contained in ch. NR 400 apply to the terms used in this chapter. In addition, the following definitions apply to the terms used in this chapter:

SECTION 6. NR 428.02(1) to (11) are created to read:

NR 428.02(1) "Burner tune-up" means the process of adjusting burner operation in order to maximize combustion efficiency while minimizing NO<sub>x</sub> emissions.

(2) "Capacity factor" means one of the following:

(a) The ratio of a unit's actual annual electric output (expressed in MWe-hr) to the unit's nameplate capacity times 8,760 hours.

(b) The ratio of a unit's annual heat input (in million Btu or equivalent units of measure) to the unit's maximum design heat input (in million Btu per hour or equivalent units of measure) times 8,760 hours.

(3) "Combined cycle system" means a system comprised of one or more combustion turbines, heat recovery steam generators and steam turbines configured to improve overall efficiency of electricity generation or steam production.

(4) "Combustion controls" has the meaning of the same phrase defined in s. NR 409.02 (21m).

(5) "Combustion optimization" means those activities necessary to maximize combustion efficiency while minimizing NO<sub>x</sub> emissions, including but not limited to the following: burner adjustments, fuel conditioning, fuel flow improvements, furnace design modifications and the application of combustion controls.

(6) "Combustion turbine" means an enclosed fossil or other fuel-fired device that is comprised of a compressor, a combustor and a turbine, and in which the flue gas resulting from the combustion of fuel in the combustor passes through the turbine, rotating the turbine.

(7) "Commencement of operation" means the beginning of any mechanical, chemical or electronic process, including, with regard to a unit, startup of a unit's combustion chamber.

(8) "Kraft recovery boiler" means "recovery furnace", as defined in s. NR 440.45 (2) (L).

(9) "Primary ozone control region" means the 9-county area consisting of Kenosha, Kewaunee, Manitowoc, Milwaukee, Ozaukee, Racine, Sheboygan, Washington and Waukesha counties.

(10) "Secondary ozone control region" means the 21-county area consisting of Brown, Calumet, Columbia, Crawford, Dane, Dodge, Door, Fond du Lac, Grant, Green, Green Lake, Iowa, Jefferson, Lafayette, Marquette, Outagamie, Richland, Rock, Sauk, Walworth and Winnebago counties.

(11) "Unit" means a solid fuel-fired or fossil fuel-fired combustion device.

SECTION 7. NR 428 subchs. I to III are created to read:

**CHAPTER NR 428**

**SUBCHAPTER I**

**NO<sub>x</sub> EMISSIONS PERFORMANCE PROGRAM GENERAL PROVISIONS**

*5) September 2011*

**NR 428.04 Requirements and performance standards for new or modified sources.** (1) **OFFSET REQUIREMENT.** (a) After the effective date of this section... [revisor inserts date], no person may commence construction or modification of an emissions unit in the primary ozone control region or the secondary ozone control region which results in an increase in NO<sub>x</sub> emissions annually of one ton or more, unless the person obtains, prior to the operation of the new or modified emission unit, NO<sub>x</sub> emission reductions in the primary ozone control region or the secondary ozone control region in an amount equivalent to the annual increase in NO<sub>x</sub> emissions from the construction or modification of the emissions unit.

(b) NO<sub>x</sub> emission reductions for the purpose of satisfying the offset requirement in par. (a) shall be surplus, permanent, quantifiable and enforceable.

(2) **NO<sub>x</sub> EMISSIONS OPTIMIZATION.** (a) The following categories of NO<sub>x</sub> emissions units constructed or modified after the effective date of this section... [revisor inserts date] shall, within 12 months following the commencement of operation, complete a combustion optimization to minimize NO<sub>x</sub>

emissions in accordance with s. NR 439.096:

1. Solid fuel-fired boilers with a maximum design heat input of 50 million Btu per hour or greater operated during the previous calendar year with a capacity factor of at least 15%.

2. Natural gas-fired boilers with a maximum design heat input of 50 million Btu per hour or greater and operated during the previous calendar year with a capacity factor of at least 20%.

3. Distillate fuel oil-fired boilers with a maximum design heat input of 50 million Btu per hour or greater and operated during the previous calendar year with a capacity factor of at least 20%.

4. Cement kilns, lime kilns and calciners with a maximum design heat input of 50 million Btu per hour or greater.

5. Reheat furnaces, annealing furnaces and galvanizing furnaces with a maximum design heat input of 50 million Btu per hour or greater.

6. Glass manufacturing furnaces with a maximum design heat input of 50 million Btu per hour or greater and operated during the previous calendar year with a capacity factor of at least 25%.

(b) The owner or operator of a NO<sub>x</sub> emissions unit subject to a combustion optimization requirement under par. (a) shall operate the emissions unit in a manner consistent with the results of the combustion optimization.

(c) The owner or operator of a source subject to the NO<sub>x</sub> emissions optimization requirements of this subsection shall perform monitoring sufficient to determine compliance with the applicable emissions performance standard of this section. The monitoring required under this paragraph shall be either continuous monitoring of NO<sub>x</sub> emissions or periodic monitoring of parameters adequate to ascertain the quality of the combustion and shall conform to the source's approved combustion optimization plan pursuant to s. NR 439.096.

(3) ANNUAL BURNER TUNE-UP. (a) Except as provided in par. (d), the following categories of NO<sub>x</sub> emissions units constructed or modified after the

effective date of this section ... [revisor inserts date] shall, prior to March 1 of each year beginning in 2002, complete a burner tune-up to minimize NO<sub>x</sub> emissions in accordance with s. NR 439.097:

1. Natural gas-fired boilers required to obtain an operation permit under ch. NR 407.

2. Natural gas-fired process heaters, dryers, ovens and asphalt plants with a maximum design heat input of 50 million Btu per hour or greater.

3. Distillate fuel oil-fired process heaters, dryers, ovens and asphalt plants with a maximum design heat input of 50 million Btu per hour or greater.

(b) The owner or operator of a NO<sub>x</sub> emissions unit subject to a burner tune-up requirement under par. (a) shall operate the emissions unit in a manner consistent with the results of the burner tune-up.

(c) The owner or operator of a source subject to the burner tune-up requirements of this subsection shall perform monitoring sufficient to determine compliance with the applicable emissions performance standard of this section. The monitoring required under this paragraph shall be either continuous monitoring of NO<sub>x</sub> emissions or periodic monitoring of parameters adequate to verify the quality of the combustion.

(d) Emission units that satisfy the NO<sub>x</sub> emissions optimization requirements of sub. (2) are exempt from the burner tune-up requirements of this subsection.

(4) PERFORMANCE STANDARDS. (a) *Utility boilers.* The requirements of this paragraph apply to boilers owned or operated by a utility as defined in s. NR 409.02(84).

1. No person may cause, allow or permit nitrogen oxides to be emitted from a solid fuel-fired utility boiler constructed or modified after the effective date of this section... [revisor inserts date] in amounts greater than those specified in this subdivision:

a. 0.15 pound per million Btu of heat input on an annual average basis

for boilers with a maximum design heat input of 250 million Btu per hour or greater.

b. 0.20 pound per million Btu of heat input on an annual average basis for boilers with a maximum design heat input of less than 250 million Btu per hour.

(b) **Boilers.** 1. 'Solid fuel-fired units.' No person may cause, allow or permit nitrogen oxides to be emitted from a solid fuel-fired boiler constructed or modified after the effective date of this section... [revisor inserts date] in amounts greater than those specified in this subdivision:

a. 0.15 pound per million Btu of heat input on a 24-hour average basis for boilers with a maximum design heat input of 250 million Btu per hour or greater.

b. 0.20 pound per million Btu of heat input on a 24-hour average basis for boilers with a maximum design heat input of less than 250 million Btu per hour.

2. 'Natural gas-fired units.' No person may cause, allow or permit nitrogen oxides to be emitted from a natural gas-fired boiler with a maximum design heat input of 25 million Btu per hour or greater constructed or modified after the effective date of this section... [revisor inserts date] in an amount greater than 0.035 pound per million Btu of heat input on a 3-hour average basis.

3. 'Distillate fuel oil-fired boilers.' No person may cause, allow or permit nitrogen oxides to be emitted from a distillate fuel oil-fired boiler with a maximum design heat input of greater than 25 million Btu per hour constructed or modified after the effective date of this section... [revisor inserts date] in an amount greater than 0.07 pound per million Btu of heat input on a 3-hour average basis.

4. 'Kraft recovery boilers.' No person may cause, allow or permit nitrogen oxides to be emitted from a kraft recovery boiler with a maximum design heat input of greater than 25 million Btu per hour constructed or modified after the effective date of this section... [revisor inserts date] in an amount greater than 0.10 pound per million Btu of heat input on a 3-hour average basis.

(c) *Specific industrial process lines.* No person may cause, allow or permit nitrogen oxides to be emitted from specific industrial process lines constructed or modified after the effective date of this section... [revisor inserts date] and listed in this paragraph in amounts greater than those specified in this paragraph:

1. 0.10 pound per million Btu on a 24-hour average basis for lime kilns, cement kilns and calciners.

2. 0.10 pound per million Btu on a 24-hour average basis for reheat furnaces, annealing furnaces and galvanizing furnaces.

3. 4.0 pounds per ton of pulled glass on a 24-hour average basis for glass furnaces.

4. 0.10 pound per million Btu of heat input on a 24-hour average basis for natural gas- or oil-fired process heaters, dryers, ovens, asphalt plants and other external combustion units with a design heat input greater than 50 million Btu per hour.

(d) *Combustion turbines.* 1. 'Natural gas-fired units.' No person may cause, allow or permit nitrogen oxides to be emitted from a natural gas-fired combustion turbine constructed or modified after the effective date of this section... [revisor inserts date] in amounts greater than those specified in this subdivision:

a. 9 parts per million dry volume (ppmdv), corrected to 15% oxygen, on a 3-hour average basis for simple cycle combustion turbines with a maximum

design power output of 10 MW or greater.

b. 3 parts per million dry volume (ppmdv), corrected to 15% oxygen, on a 3-hour average basis for combined cycle combustion turbines with a maximum design power output of 10 MW or greater.

c. 42 parts per million dry volume (ppmdv), corrected to 15% oxygen, on a 3-hour average basis for simple cycle combustion turbines with a maximum design power output of less than 10 MW.

d. 14 parts per million dry volume (ppmdv), corrected to 15% oxygen, on a 3-hour average basis for combined cycle combustion turbines with a maximum design power output of less than 10 MW.

2. 'Distillate fuel oil-fired units.' No person may cause, allow or permit nitrogen oxides to be emitted from a distillate fuel oil-fired combustion turbine constructed or modified after the effective date of this section... [revisor inserts date] in amounts greater than those specified in this subdivision:

a. 25 parts per million dry volume (ppmdv), corrected to 15% oxygen, on a 3-hour average basis for simple cycle combustion turbines with a maximum design power output of 10 MW or greater.

b. 8 parts per million dry volume (ppmdv), corrected to 15% oxygen, on a 3-hour average basis for combined cycle combustion turbines with a maximum design power output of 10 MW or greater.

c. 65 parts per million dry volume (ppmdv), corrected to 15% oxygen, on a 3-hour average basis for simple cycle combustion turbines with a maximum design power output of less than 10 MW.

d. 21 parts per million dry volume (ppmdv), corrected to 15% oxygen, on a 3-hour average basis for combined cycle combustion turbines with a maximum

design power output of less than 10 MW.

(e) *Reciprocating engines.* No person may cause, allow or permit nitrogen oxides to be emitted from a reciprocating engine constructed or modified after the effective date of this section... [revisor inserts date] in amounts greater than those specified in this paragraph:

1. 2.5 grams per brake horsepower for rich-burn units with a maximum design power output of 1000 hp or greater.

2. 9.5 grams per brake horsepower for rich-burn units with a maximum design power output of less than 1000 hp but of 500 hp or greater.

3. 3.0 grams per brake horsepower for lean-burn units with a maximum design power output of 1000 hp or greater.

4. 10.0 grams per brake horsepower for lean-burn units with a maximum design power output of less than 1000 hp but of 500 hp or greater.

5. 2.5 grams per brake horsepower for distillate fuel oil-fired units with a maximum design power output of 1800 hp or greater.

6. 8.5 grams per brake horsepower for distillate fuel oil-fired units with a maximum design power output of less than 1800 hp but of 500 hp or greater.

7. 2.5 grams per brake horsepower for dual-fuel units with a maximum design power output of 2000 hp or greater.

8. 6.0 grams per brake horsepower for dual-fuel units with a maximum design power output of less than 2000 hp but of 500 hp or greater.

(5) MONITORING REQUIREMENTS. (a) *General requirements.* 1. The owner or operator of each NO<sub>x</sub> emissions unit subject to the requirements of sub. (4) shall comply with the monitoring requirements of subch. III.

2. The emissions measurements recorded and reported in accordance with subch. III shall be used to determine compliance by the unit with the applicable NO<sub>x</sub> emissions performance standard under sub. (4).

(b) *Specific requirements.* 1. The owner or operator of a solid fuel-fired utility boiler subject to the requirements of sub. (4) shall determine the annual average NO<sub>x</sub> emission rate, in pound per million Btu, using the methods and procedures specified in 40 CFR part 75, Appendices A through I, incorporated by reference in s. NR 484.04.

2. The owner or operator of a non-utility boiler subject to the requirements of sub. (4) shall determine the annual average NO<sub>x</sub> emission rate, in pound per million Btu, using methods and procedures specified in 40 CFR part 60, Appendix B, incorporated by reference in s. NR 484.04.

3. The owner or operator of an industrial process line subject to the requirements of sub. (4) shall determine the annual average NO<sub>x</sub> emission rate, in pounds per million Btu, using methods and procedures specified in 40 CFR part 60, Appendix B, incorporated by reference in s. NR 484.04.

4. The owner or operator of a combustion turbine subject to the requirements of sub. (4) shall determine the annual average NO<sub>x</sub> emission rate, in pounds per million Btu, using methods and procedures specified in 40 CFR part 75, Appendices A through I, incorporated by reference in s. NR 484.04.

(6) RECORDKEEPING AND REPORTING REQUIREMENTS. (a) Unless otherwise provided, the owner or operator of each NO<sub>x</sub> emissions unit subject to the requirements of this section shall keep on site at the source each of the following documents for a period of 5 years from the date the document is created.

1. All emissions monitoring information, in accordance with subch. III; except that, to the extent that subch. III provides for a 3-year period for record retention, the 3-year period shall apply.

2. Copies of all reports, compliance certifications and other submissions and all records made or required under the NO<sub>x</sub> emissions performance program.

(b) The owner or operator of the NO<sub>x</sub> emissions source shall submit the compliance reports and certifications required under the NO<sub>x</sub> emissions performance program in conjunction with those required under the construction permit requirements of ch. NR 406 and the operation permit requirements of s. NR 407.09.

**NR 428.05 Requirements and performance standards for existing sources.**

Except as provided in sub (1) or (2), the requirements of this section apply in the primary ozone control region beginning 12 months following the effective date of this section... [revisor inserts date].

(1) NO<sub>x</sub> EMISSIONS OPTIMIZATION. (a) The following categories of NO<sub>x</sub> emissions units listed in this subsection shall, within 12 months following the effective date of this section... [revisor inserts date], complete a combustion optimization to minimize NO<sub>x</sub> emissions in accordance with s. NR 439.096:

1. Solid fuel-fired boilers with a maximum design heat input of 50 million Btu per hour or greater and operated during the previous calendar year with a capacity factor of at least 15%.

2. Natural gas-fired boilers with a maximum design heat input of 50 million Btu per hour or greater and operated during the previous calendar year with a capacity factor of at least 20%.

3. Distillate fuel oil-fired boilers with a maximum design heat input of 50 million Btu per hour or greater and operated during the previous calendar year with a capacity factor of at least 20%.

4. Cement kilns, lime kilns and calciners with a maximum design heat

input of 50 million Btu per hour or greater.

5. Reheat furnaces, annealing furnaces and galvanizing furnaces with a maximum design heat input of 50 million Btu per hour or greater.

6. Glass manufacturing furnaces with a maximum design heat input of 50 million Btu per hour or greater and operated during the previous calendar year with a capacity factor of at least 25%.

(b) The owner or operator of a NO<sub>x</sub> emissions unit subject to a combustion optimization requirement under par. (a) shall operate the emissions unit in a manner consistent with the results of the combustion optimization.

(c) The owner or operator of a source subject to the NO<sub>x</sub> emissions optimization requirements of this subsection shall perform monitoring sufficient to determine compliance with the applicable emissions performance standard of this section. The monitoring required under this paragraph shall be either continuous monitoring of NO<sub>x</sub> emissions or periodic monitoring of parameters adequate to ascertain the quality of the combustion and shall conform to the source's approved combustion optimization plan pursuant to s. NR 439.096.

(2) ANNUAL BURNER TUNE-UP. (a) Except as provided in par. (d), the categories of NO<sub>x</sub> emissions units listed in this paragraph shall, prior to March 1 of each year beginning in 2002, complete a burner tune-up to minimize NO<sub>x</sub> emissions in accordance with s. NR 439.097:

1. Natural gas-fired boilers required to obtain an operation permit under ch. NR 407.

2. Natural gas-fired process heaters, dryers, ovens and asphalt plants with a maximum design heat input of 50 million Btu per hour or greater.

3. Distillate fuel oil-fired process heaters, dryers, ovens and asphalt plants with a maximum design heat input of 50 million Btu per hour or greater.

(b) The owner or operator of a NO<sub>x</sub> emissions unit subject to a burner tune-up requirement under par. (a) shall operate the emissions unit in a manner consistent with the results of the burner tune-up.

(c) Sources subject to the burner tune-up requirements of this subsection shall perform monitoring sufficient to determine compliance with the applicable emissions performance standard of this section. The monitoring required under this paragraph shall be either continuous monitoring of NO<sub>x</sub> emissions or periodic monitoring of parameters adequate to verify the quality of the combustion.

(d) Emission units that satisfy the NO<sub>x</sub> emissions optimization requirements of sub. (1) are exempt from the burner tune-up requirements of this subsection.

(3) PERFORMANCE STANDARDS. (a) *Large utility boilers.* The requirements of this paragraph apply to boilers owned or operated by a utility as defined in s. NR 409.02(84).

1. 'Solid fuel-fired units.' No person may cause, allow or permit nitrogen oxides to be emitted from solid fuel-fired boilers last constructed or modified on or before the effective date of this section... [revisor inserts date] with a maximum design heat input of 500 million Btu per hour or greater in excess of the limits in this subdivision:

a. 0.24 pound per million Btu of heat input on a 30-day rolling average basis during the ozone season for boilers on or after May 1, 2002.

b. 0.23 pound per million Btu of heat input on a 30-day rolling average basis during the ozone season for boilers on or after May 1, 2005.

c. 0.22 pound per million Btu of heat input on a 30-day rolling average basis during the ozone season for boilers on or after May 1, 2007.

2. 'Natural gas-fired units.' No person may cause, allow or permit nitrogen oxides to be emitted from natural gas-fired boilers last constructed

or modified on or before the effective date of this section... [revisor inserts date] in excess of 0.10 pound per million Btu of heat input on a 3-hour average basis.

3. 'Distillate fuel oil-fired units.' No person may cause, allow or permit nitrogen oxides to be emitted from distillate fuel oil-fired boilers last constructed or modified on or before the effective date of this section... [revisor inserts date] in excess of 0.20 pound per million Btu of heat input on a 3-hour average basis.

(b) *Boilers.* 1. 'Solid fuel-fired units.' No person may cause, allow or permit nitrogen oxides to be emitted from solid fuel-fired boilers last constructed or modified on or before the effective date of this section... [revisor inserts date], with a maximum design heat input of 100 million Btu per hour or greater and operated during the previous calendar year with a capacity factor of at least 25%, in excess of the limits in this subdivision:

a. 0.45 pound per million Btu of heat input on a 30-day rolling average basis for cyclone-fired boilers.

b. 0.25 pound per million Btu of heat input on a 30-day rolling average basis for stoker-fired boilers.

c. 0.15 pound per million Btu of heat input on a 30-day rolling average basis for fluidized bed combustion boilers.

d. 0.30 pound per million Btu of heat input on a 30-day rolling average basis for pulverized coal-fired boilers.

2. 'Natural gas-fired units.' No person may cause, allow or permit nitrogen oxides to be emitted from natural gas-fired boilers last constructed or modified on or before the effective date of this section... [revisor inserts date], with a maximum design heat input of 100 million Btu per hour or greater and operated during the previous calendar year with a capacity factor of at

least 25%, in excess of 0.10 pound per million Btu of heat input on a 3-hour average basis.

3. 'Distillate fuel oil-fired units.' No person may cause, allow or permit nitrogen oxides to be emitted from distillate fuel oil-fired boilers last constructed or modified on or before the effective date of this section... [revisor inserts date], with a maximum design heat input of 100 million Btu per hour or greater and operated during the previous calendar year with a capacity factor of at least 25%, in excess of 0.10 pound per million Btu of heat input on a 3-hour average basis.

(c) *Specific industrial process lines.* No person may cause, allow or permit nitrogen oxides to be emitted from process lines last constructed or modified on or before the effective date of this section... [revisor inserts date] and listed in this paragraph in excess of the limits in this paragraph:

1. 0.10 pound per million Btu heat input on a 24-hour average basis for natural gas-fired reheat, annealing and galvanizing furnaces with a maximum design heat input of 100 million Btu per hour or greater and operated during the previous calendar year with a capacity factor of at least 25%.

2. 6.0 pounds per ton of pulled glass on a 24-hour average basis for glass manufacturing furnaces with a maximum design heat input of 250 million Btu per hour or greater.

(d) *Combustion turbines.* 1. 'Natural gas-fired units.' No person may cause, allow or permit nitrogen oxides to be emitted from natural gas-fired combustion turbines last constructed or modified on or before the effective date of this section... [revisor inserts date] in excess of 75 parts per million dry volume (ppmdv), corrected to 15% oxygen, on a 3-hour average basis for combustion turbines with a maximum design power output of 50 MW or greater.

2. 'Distillate fuel oil-fired units.' No person may cause, allow or

permit nitrogen oxides to be emitted from distillate fuel oil-fired combustion turbines last constructed or modified on or before the effective date of this section... [revisor inserts date] in excess of 110 parts per million dry volume (ppmdv), corrected to 15% oxygen, on a 3-hour average basis for combustion turbines with a maximum design power output of 50 MW or greater.

(e) *Reciprocating engines.* No person may cause, allow or permit nitrogen oxides to be emitted from reciprocating engines last constructed or modified on or before the effective date of this section... [revisor inserts date] with a maximum design power output of 4000 hp or greater in excess of the limits in this paragraph:

1. 9.5 grams per brake horsepower for rich-burn units.
2. 10.0 grams per brake horsepower for lean-burn units.
3. 8.5 grams per brake horsepower for distillate fuel oil-fired units.
4. 6.0 grams per brake horsepower for dual-fuel units.

(4) MONITORING REQUIREMENTS. (a) *General requirements.* 1. The owner or operator of each NO<sub>x</sub> emissions unit subject to the requirements of sub. (3) shall comply with the monitoring requirements of subch. III.

2. The emissions measurements recorded and reported in accordance with subch. III shall be used to determine compliance by the unit with the NO<sub>x</sub> emissions performance standard under sub. (3).

(b) *Specific requirements.* 1. The owner or operator of a solid fuel-fired utility boiler subject to the requirements of sub. (3) shall determine the annual average NO<sub>x</sub> emission rate, in pound per million Btu, using the methods and procedures specified in 40 CFR part 75, Appendices A through I, incorporated by reference in s. NR 484.04.

2. The owner or operator of a non-utility boiler subject to the requirements of sub. (3) shall determine the annual average NO<sub>x</sub> emission rate,

in pounds per million Btu, using methods and procedures specified in 40 CFR part 60, Appendix B, incorporated by reference in s. NR 484.04.

3. The owner or operator of an industrial process line subject to the requirements of sub. (3) shall determine the annual average NO<sub>x</sub> emission rate, in pounds per million Btu, using methods and procedures specified in 40 CFR part 60, Appendix B, incorporated by reference in s. NR 484.04.

4. The owner or operator of a combustion turbine subject to the requirements of sub. (3) shall determine the annual average NO<sub>x</sub> emission rate, in pounds per million Btu, using methods and procedures specified in 40 CFR part 60, Appendix B, incorporated by reference in s. NR 484.04.

(5) RECORDKEEPING AND REPORTING REQUIREMENTS. (a) Unless otherwise provided, the owner or operator of each NO<sub>x</sub> emissions unit subject to the requirements of this section shall keep on site at the source each of the following documents for a period of 5 years from the date the document is created.

1. All emissions monitoring information, in accordance with subch. III; except that, to the extent that subch. III provides for a 3-year period for record retention, the 3-year period shall apply.

2. Copies of all reports, compliance certifications and other submissions and all records made or required under the NO<sub>x</sub> emissions performance program.

(b) The owner or operator of the NO<sub>x</sub> emissions source shall submit the compliance reports and certifications required under the NO<sub>x</sub> emissions performance program in conjunction with those required under the operation permit requirements of s. NR 407.09.

## SUBCHAPTER II

### NO<sub>x</sub> EMISSIONS PERFORMANCE PROGRAM COMPLIANCE PROVISIONS

NR 428.06 Compliance determination. (1) EMISSIONS AVERAGING. (a)

Beginning on the effective date of this section... [revisor inserts date], the NO<sub>x</sub> emissions per million Btu of heat input from all boilers located in the primary ozone control region under the ownership or control of a NO<sub>x</sub> emissions source may be averaged together for the purpose of determining compliance with the source's aggregate NO<sub>x</sub> emissions limitation.

(b) Total pounds of emissions shall be determined by continuous emissions monitors that meet the requirements of 40 CFR part 60, Appendix B, incorporated by reference in s. NR 484.04.

(2) EMISSIONS TRADING. (a) In accordance with par. (d), 2 NO<sub>x</sub> emissions sources subject to the requirements of this chapter may enter into an agreement for trading emissions unless the sum of the proposed traded emissions and the emissions of the grantor source for the year to which the agreement will apply would exceed the emissions of the grantor source on an annual basis, and on a seasonal basis, if applicable, based on the applicable heat rate and the applicable maximum heat input.

5  
allow

(b) To determine whether the NO<sub>x</sub> emissions source that is the grantor in an agreement under par. (a) is in compliance with sub. (1) or the applicable emission limitation under s. NR 428.04 or 428.05 in a given year, the department shall add the traded emissions and the grantor's emissions and divide the sum by the heat input of the grantor on an annual basis, and on a seasonal basis, if applicable.

(c) To determine whether the NO<sub>x</sub> emissions source that is the grantee in an agreement under par. (a) is in compliance with sub. (1) or the applicable requirements under s. NR 428.05 in a given year, the department shall subtract the traded emissions from the grantee's emissions and divide the difference by the heat input of the grantee on an annual basis, and on a seasonal basis, if applicable.

(d) Any NO<sub>x</sub> emissions source may be a grantor to another NO<sub>x</sub> emissions source provided they have demonstrated actual NO<sub>x</sub> emission reductions using continuous emission monitoring, that the NO<sub>x</sub> emission

reductions are not otherwise required by state or federal emission reduction requirements, and that the NO<sub>x</sub> emission reductions represent a reduction from the source's 1999 NO<sub>x</sub> emissions.

### SUBCHAPTER III

#### NO<sub>x</sub> EMISSIONS PERFORMANCE PROGRAM MONITORING AND REPORTING PROVISIONS

**NR 428.07 General requirements.** The owner or operator of a NO<sub>x</sub> emissions unit subject to the requirements of this chapter shall comply with the monitoring and reporting requirements as provided in this subchapter. For purposes of complying with these requirements, the definitions in s. NR 428.02 and in 40 CFR 72.2 shall apply, and the term "affected unit" in 40 CFR part 75 shall be replaced by the term "NO<sub>x</sub> emissions unit" as defined in s. NR 428.02.

##### (1) REQUIREMENTS FOR INSTALLATION, CERTIFICATION AND DATA ACCOUNTING.

The owner or operator of each NO<sub>x</sub> emissions unit shall meet the following requirements:

(a) Install all monitoring systems required under this subchapter for monitoring NO<sub>x</sub> mass. This includes all systems required to monitor NO<sub>x</sub> emission rate, NO<sub>x</sub> concentration, heat input and flow, in accordance with s. NR 439.09.

(b) Install all monitoring systems for monitoring heat input, if required under this chapter, for developing NO<sub>x</sub> emission rate determinations expressed in pounds per million Btu.

(c) Successfully complete all certification tests and meet all other provisions of this subchapter and 40 CFR parts 60 and 75 applicable to the monitoring systems under pars. (a) and (b).

(d) Record and report data from the monitoring systems under pars. (a) and (b).

(2) COMPLIANCE DATES. The owner or operator shall meet the requirements of sub. (1)(a) to (c) on or before the following dates and shall record and report data on and after the following dates:

(a) NO<sub>x</sub> emissions units subject to the requirements of this chapter that commence operation before January 1, 2002, shall comply with the requirements of this subchapter by May 1, 2002.

*Except as in par C.*  
(b) NO<sub>x</sub> emissions units subject to the requirements of this chapter that commence operation on or after January 1, 2002 shall comply with the requirements of this subchapter by the later of the following dates:

1. May 1, 2002.

2. 180 days after the date on which the unit commences operation.

*(S)*  
(c) However, if the applicable deadline under par. (b) does not occur during a control period, the deadline for compliance with the requirements of this subchapter becomes the May 1 immediately following the date determined in accordance with par. (b).

(d) 1. A NO<sub>x</sub> emissions unit with a new stack or flue for which construction is completed after the applicable deadline under par. (a), (b) or (c) shall comply with the requirements of this subchapter 90 days after the date on which emissions first exit through the new stack or flue.

2. However, if the unit reports on a control season basis and the applicable deadline under subd. 1. does not occur during the control period, the deadline for compliance with the requirements of this subchapter becomes the May 1 immediately following the applicable deadline in subd. 1.

(3) REPORTING DATA PRIOR TO INITIAL CERTIFICATION. The owner or operator of a NO<sub>x</sub> emissions unit under sub. (2)(b) or (c) shall determine, record and report NO<sub>x</sub> mass, heat input, if required for purposes of compliance, and any other values required to determine NO<sub>x</sub> mass, (e.g. NO<sub>x</sub> emission rate and heat input or NO<sub>x</sub> concentration and stack flow,) using the provisions of 40 CFR 75.70(g), from the date and hour that the unit starts operating until all required certification tests are successfully completed.

*(2) Note?*

(4) PROHIBITIONS. (a) No owner or operator of a NO<sub>x</sub> emissions unit may use any alternative monitoring system, alternative reference method or any other alternative for the required continuous emission monitoring system

without having obtained prior written approval in accordance with s. NR 428.10.

(b) No owner or operator of a NO<sub>x</sub> emissions unit may operate the unit so as to emit NO<sub>x</sub> emissions without accounting for all NO<sub>x</sub> emissions in accordance with the applicable provisions of this subchapter and 40 CFR part 75 except as provided for in 40 CFR 75.74.

(c) No owner or operator of a NO<sub>x</sub> emissions unit may disrupt the continuous emission monitoring system, any portion thereof, or any other approved emission monitoring method, and thereby avoid monitoring and recording NO<sub>x</sub> mass emissions emitted, except for periods of recertification or periods when calibration, quality assurance testing or maintenance is performed in accordance with the applicable provisions of this subchapter and 40 CFR part 75 except as provided for in 40 CFR 75.74.

(d) No owner or operator of a NO<sub>x</sub> emissions unit may retire or permanently discontinue use of the continuous emission monitoring system, any component thereof or any other approved emission monitoring system under this subchapter, except under one of the following circumstances:

1. During the period that the unit is covered by a retired unit exemption under s. NR 409.05 that is in effect.

2. The owner or operator is monitoring emissions from the unit with another certified monitoring system approved, in accordance with the applicable provisions of this subchapter and 40 CFR part 75, by the department for use at that unit that provides emission data for the same pollutant or parameter as the retired or discontinued monitoring system.

**NR 428.08 Specific provisions for monitoring NO<sub>x</sub> and heat input for the purpose of calculating NO<sub>x</sub> mass emissions.** (1) **UTILITY UNITS.** Boilers owned or operated by a utility as defined in s. NR 409.02(84) shall comply with the requirements of this subsection.

(a) *Coal-fired units.* The owner or operator of a coal-fired boiler

shall do one of the following:

1. Meet the general operating requirements in 40 CFR 75.10 for a NO<sub>x</sub>-diluent continuous emission monitoring system (consisting of a NO<sub>x</sub> pollutant concentration monitor, an O<sub>2</sub>- or CO<sub>2</sub>-diluent gas monitor and a data acquisition and handling system) to measure NO<sub>x</sub> emission rate and for a flow monitoring system and an O<sub>2</sub>- or CO<sub>2</sub>-diluent gas monitor to measure heat input, except as provided in accordance with subpart E of 40 CFR part 75.

2. Meet the general operating requirements in 40 CFR 75.10 for a NO<sub>x</sub> concentration monitoring system (consisting of a NO<sub>x</sub> pollutant concentration monitor and a data acquisition and handling system) to measure NO<sub>x</sub> concentration and for a flow monitoring system. In addition, if heat input is required to be reported under this chapter, the owner or operator also shall meet the general operating requirements for a flow monitoring system and an O<sub>2</sub>- or CO<sub>2</sub>-diluent gas monitor to measure heat input, or, if applicable, use the procedures in appendix D to 40 CFR part 75. These requirements shall be met, except as provided in accordance with subpart E of 40 CFR part 75.

(b) *Moisture correction.* If a correction for the stack gas moisture content is needed to properly calculate the NO<sub>x</sub> emission rate in lb/mmBtu (i.e., if the NO<sub>x</sub> pollutant concentration monitor measures on a different moisture basis from the diluent monitor) or NO<sub>x</sub> mass emissions in tons (i.e., if the NO<sub>x</sub> concentration monitoring system or diluent monitor measures on a different moisture basis from the flow rate monitor), the owner or operator of a boiler shall account for the moisture content of the flue gas on a continuous basis in accordance with 40 CFR 75.11(b) except that the term "SO<sub>2</sub>" shall be replaced by the term "NO<sub>x</sub>".

(c) *Gas-fired nonpeaking units or oil-fired nonpeaking units.* The owner or operator of a boiler or combustion turbine that, based on information submitted by the designated representative in the monitoring plan, qualifies as a gas-fired or oil-fired unit but not as a peaking unit, as defined in 40

CFR 72.2, shall do one of the following:

1. Meet the requirements of par. (a) and, if applicable, par. (b).
2. Meet the general operating requirements in 40 CFR 75.10 for a NO<sub>x</sub>-diluent continuous emission monitoring system, except as provided in accordance with 40 CFR part 75 Subpart E, and use the procedures specified in appendix D to 40 CFR part 75 for determining hourly heat input.
3. Meet the requirements of the low mass emission excepted methodology under par. (e)2. and under 40 CFR 75.19, if applicable.

(d) *Gas-fired or oil-fired peaking units.* The owner or operator of a boiler or combustion turbine that qualifies as a peaking unit and as either gas-fired or oil-fired, as defined in 40 CFR 72.2, based on information submitted by the designated representative in the monitoring plan, shall do one of the following:

1. Meet the requirements of par. (c).
2. Use the procedures in 40 CFR part 75 appendix D for determining hourly heat input and the procedures specified in 40 CFR part 75 appendix E for estimating hourly NO<sub>x</sub> emission rate. In addition, if after certification of an excepted monitoring system under 40 CFR part 75 appendix E, a unit's operations exceed a capacity factor of 20.0% in any calendar year or exceed a capacity factor of 10.0% averaged over 3 years, the owner or operator shall meet the requirements of par. (c) or, if applicable, par. (e), by no later than December 31 of the following calendar year.

(e) *Low mass emissions units.* Notwithstanding the requirements of pars. (c) and (d), the owner or operator of a boiler or combustion turbine that qualifies as a low mass emissions unit under 40 CFR 75.19(a) shall comply with one of the following:

1. Meet the applicable requirements specified in par. (c) or (d).
2. Use the low mass emissions excepted methodology in 40 CFR 75.19(c) for estimating hourly emission rate, hourly heat input and hourly NO<sub>x</sub> mass

emissions.

(f) *Other units.* The owner or operator of a boiler or combustion turbine that combusts wood, refuse or other materials shall comply with the monitoring provisions specified in par. (a) and, where applicable, par. (b).

(2) NON-UTILITY UNITS. This subsection applies to NO<sub>x</sub> emissions units except those owned or operated by a utility as defined in s. NR 409.02(84).

(a) *Coal-fired units.* The owner or operator of a coal-fired boiler shall do one of the following:

1. Meet the general operating requirements in 40 CFR 60.13 for a NO<sub>x</sub>-diluent continuous emission monitoring system (consisting of a NO<sub>x</sub> pollutant concentration monitor, an O<sub>2</sub>- or CO<sub>2</sub>-diluent gas monitor, and a data acquisition and handling system) to measure NO<sub>x</sub> emission rate and for a flow monitoring system and an O<sub>2</sub>- or CO<sub>2</sub>-diluent gas monitor to measure heat input, except as provided in accordance with 40 CFR 60.13(i).

2. Meet the general operating requirements in 40 CFR 60.13 for a NO<sub>x</sub> concentration monitoring system, consisting of a NO<sub>x</sub> pollutant concentration monitor and a data acquisition and handling system, to measure NO<sub>x</sub> concentration and for a flow monitoring system. In addition, if heat input is required to be reported under this chapter, the owner or operator also shall meet the general operating requirements for a flow monitoring system and an O<sub>2</sub>- or CO<sub>2</sub>-diluent gas monitor to measure heat input, or, if applicable, use the procedures in appendix E to 40 CFR part 75. These requirements shall be met, except as provided in accordance with 40 CFR 60.13(i).

(b) *Moisture correction.* If a correction for the stack gas moisture content is needed to properly calculate the NO<sub>x</sub> emission rate in lb/mmBtu (i.e., if the NO<sub>x</sub> pollutant concentration monitor measures on a different moisture basis from the diluent monitor) or NO<sub>x</sub> mass emissions in tons (i.e., if the NO<sub>x</sub> concentration monitoring system or diluent monitor measures on a different moisture basis from the flow rate monitor), the owner or operator of

an affected unit shall account for the moisture content of the flue gas on a continuous basis in accordance with 40 CFR 75.11(b) except that the term "SO<sub>2</sub>" shall be replaced by the term "NO<sub>x</sub>".

(c) *Gas-fired nonpeaking units or oil-fired nonpeaking units.* The owner or operator of a boiler or combustion turbine that, based on information submitted by the designated representative in the monitoring plan, qualifies as a gas-fired or oil-fired unit but not as a peaking unit, as defined in 40 CFR 72.2, shall do one of the following:

1. Meet the requirements of par. (a) and, if applicable, par. (b).
2. Meet the general operating requirements in 40 CFR 60.13 for a NO<sub>x</sub>-diluent continuous emission monitoring system, except as provided in accordance with 40 CFR 60.13(i), and use the procedures specified in appendix D to 40 CFR part 75 for determining hourly heat input.

3. Meet the requirements of the low mass emission excepted methodology under par. (e)2. and under 40 CFR 75.19, if applicable.

yes, this is the correct phrase used in 75.19

(d) *Gas-fired or oil-fired peaking units.* The owner or operator of a boiler or combustion turbine that qualifies as a peaking unit and as either gas-fired or oil-fired, as defined in 40 CFR 72.2, based on information submitted by the designated representative in the monitoring plan, shall do one of the following:

1. Meet the requirements of par. (c).
2. Use the procedures in 40 CFR part 75 Appendix D for determining hourly heat input and the procedures specified in 40 CFR part 75 Appendix E for estimating hourly NO<sub>x</sub> emission rate. In addition, if after certification of an excepted monitoring system under 40 CFR part 75 Appendix E, a unit's operations exceed a capacity factor of 20.0% in any calendar year or exceed a capacity factor of 10.0% averaged over 3 years, the owner or operator shall meet the requirements of par. (c) or, if applicable, par. (e), by no later than December 31 of the following calendar year.

(e) *Low mass emissions units.* Notwithstanding the requirements of pars. (c) and (d), the owner or operator of a boiler or combustion turbine that qualifies as a low mass emissions unit under 40 CFR 75.19(a) shall comply with one of the following:

1. Meet the applicable requirements specified in par. (c) or (d).
2. Use the low mass emissions excepted methodology in 40 CFR 75.19(c) for estimating hourly emission rate, hourly heat input and hourly NO<sub>x</sub> mass emissions.

(f) *Other units.* The owner or operator of a boiler or combustion turbine that combusts wood, refuse or other materials shall comply with the monitoring provisions specified in par. (a) and, where applicable, par. (b).

**NR 428.09 Quarterly reports.** The owner or operator of a unit subject to the NO<sub>x</sub> requirements of this chapter shall submit quarterly reports, as follows:

(1) **UNITS SUBJECT TO AN ACID RAIN EMISSION LIMITATION.** If a unit is subject to an acid rain emission limitation or if the owner or operator of the NO<sub>x</sub> emissions unit chooses to meet the annual reporting requirements of this subchapter, the owner or operator shall submit a quarterly report for each calendar quarter beginning with:

(a) For units commencing operation prior to May 1, 2002 the partial calendar quarter from May 1, 2002 through June 30, 2002. Data shall be recorded and reported from the first hour on May 1, 2002; or

(b) For a unit that commences operation after May 1, 2002, the calendar quarter in which the unit commences operation. Data shall be reported from the date and hour corresponding to when the unit commenced operation.

(2) **UNITS NOT SUBJECT TO AN ACID RAIN EMISSION LIMITATION.** If a NO<sub>x</sub> emissions unit is not subject to an acid rain emission limitation, the NO<sub>x</sub> emissions source shall either:

- (a) Meet all of the requirements of 40 CFR part 75 related to

monitoring and reporting NO<sub>x</sub> mass emissions during the entire year and meet the reporting deadlines specified in par. (a), or

(b) The NO<sub>x</sub> emissions source shall submit a quarterly report for each calendar quarter, beginning with:

5  
over  
before?

1. For units commencing operation prior to May 1, 2002, the partial calendar quarter from May 1, 2002 through June 30, 2002. Data shall be reported from the first hour of May 1, 2002, or

2. For units that commence operation after May 1, 2002 during the control period, the calendar quarter in which the unit commences operation. Data shall be reported from the date and hour corresponding to when the unit commenced operation, or

3. For units that commence operation after May 1, 2002 and before May 1 of the year in which the unit commences operation, May 1 of the year in which the unit commences operation. Data shall be reported from the first hour of May 1 of the year after the unit commences operation.

4. For units that commence operation after May 1, 2002 and after September 30 of the year in which the unit commences operation, May 1 of the year after the unit commences operation. Data shall be reported from the first hour of May 1 of the year after the unit commences operation.

(3) DEADLINES FOR SUBMITTALS. The NO<sub>x</sub> emissions source shall submit each quarterly report to the department within 30 days following the end of the calendar quarter covered by the report.

(a) For units subject to an acid rain emissions limitation, quarterly reports shall include all of the data and information required in subpart G of 40 CFR part 75.

(b) For units not subject to an acid rain emissions limitation, reports are only required to the extent that they are required under the facility's operation permit for compliance purposes.

(4) COMPLIANCE CERTIFICATION. The owner or operator of a NO<sub>x</sub> emissions source shall submit to the department a compliance certification in support of

each quarterly report based on reasonable inquiry of those persons with primary responsibility for ensuring that all of the unit's emissions are correctly and fully monitored. The certification shall state that:

(a) The monitoring data submitted were recorded in accordance with the applicable requirements of this subchapter and 40 CFR part 75, including the quality assurance procedures and specifications; and

(b) For a unit with add-on NO<sub>x</sub> emission controls and for all hours where data are substituted in accordance with 40 CFR 75.34(a)(1), the add-on emission controls were operating within the range of parameters listed in the monitoring plan and the substitute values do not systematically underestimate NO<sub>x</sub> emissions; and

(c) For a unit that is reporting on a control period basis under this subsection the NO<sub>x</sub> emission rate and NO<sub>x</sub> concentration values substituted for missing data under subpart D of 40 CFR part 75 are calculated using only values from a control period and do not systematically underestimate NO<sub>x</sub> emissions.

**NR 428.10 Petitions.** The owner or operator of a NO<sub>x</sub> emissions source may submit a petition to the department requesting approval to apply an alternative to any requirement of this subchapter. Application of an alternative to any requirement of this subchapter is in accordance with this subchapter only to the extent that the petition under this subsection is approved by the department.

**NR 428.11 Additional requirements to provide heat input data.** (1) The owner or operator of a unit that elects to monitor and report NO<sub>x</sub> mass emissions using a NO<sub>x</sub> concentration system and a flow system shall also monitor and report heat input at the unit level using the procedures in 40 CFR part 75.

(2) The owner or operator of a unit that monitors and reports NO<sub>x</sub> mass emissions using a NO<sub>x</sub> concentration system and a flow system shall also

monitor and report heat input at the unit level using the procedures in 40 CFR part 75.

SECTION 8. NR 439.096 is created to read:

**NR 439.096 Methods and procedures for combustion optimization.** The owner or operator of a unit subject to the combustion optimization requirements of s. NR 428.04(2) or 428.05(1) shall comply with all applicable methods and procedures for combustion optimization listed in this section.

(1) GENERAL. All combustion optimizations conducted shall be performed according to methods approved in writing by the department. The owner or operator responsible for combustion optimizations shall follow the procedures in this section.

(2) COMBUSTION OPTIMIZATION NOTIFICATION AND PLAN SUBMITTAL. The department shall be notified in writing at least 20 business days in advance of a combustion optimization to provide the department an opportunity to have a representative present to witness the combustion optimization procedures. The notice shall provide a combustion optimization plan which includes, but need not be limited to, the following:

- (a) The results of an engineering study of the process to be optimized.
- (b) A description of the process or operation variables which affect the air contaminant source's emissions.
- (c) A description of the process to be optimized.
- (d) A description of the sampling equipment and the combustion optimization methods and procedures to be used.
- (e) The date and starting time of the combustion optimization.
- (f) A description of the number and location of any sampling ports and sampling points.
- (g) A statement indicating the production rate and the operating conditions at which the combustion optimization will be conducted.

(3) COMBUSTION OPTIMIZATION PLAN EVALUATION. In evaluating the combustion optimization plan, the department shall respond to the source owner or operator within 10 business days of receipt of the plan and may require the following:

(a) A pre-combustion optimization conference which includes the owner or operator of the source, the person conducting the combustion optimization and the department to discuss any deficiencies in the plan or settle any combustion optimization procedure questions the department, the person conducting the combustion optimization or the source owner or operator might have.

(b) Any change to the sampling method that is deemed necessary by the department to conduct a proper combustion optimization.

(c) A rescheduling of the combustion optimization to accommodate witnessing or source production schedules.

(4) NOTIFICATION OF COMBUSTION OPTIMIZATION PLAN REVISION. The source owner or operator shall notify the department of any modifications to a combustion optimization plan at least 5 business days prior to the combustion optimization. In the event the owner or operator is unable to conduct the combustion optimization on the date specified in the plan, due to unforeseeable circumstances beyond the owner or operator's control, the owner or operator shall notify the department at least 5 business days prior to the scheduled compliance combustion optimization date and specify the date when the combustion optimization is rescheduled.

(5) PROPER FACILITIES FOR COMBUSTION OPTIMIZATION. The department may require the owner or operator of a source to provide the following emission testing facilities:

- (a) The installation of sampling ports and safe sampling platforms.
- (b) A safe work area for the test crew or any witnessing personnel.
- (c) Safe access to the work area or sampling platform.
- (d) Utilities for the sampling equipment.

(e) Instrumentation to monitor and record emissions data.

(6) WITNESSING REQUIREMENTS. The department may require that a department representative be present at any compliance combustion optimization. The department representative has the following authority:

(a) The department representative may require the person conducting the combustion optimization to provide the department a copy of all test data and equipment calibration data prepared or collected for the combustion optimization.

(b) The department witness may require the source owner or operator and person conducting the combustion optimization to correct any deficiency in the performance of the combustion optimization provided that the department witness notifies the source owner or operator and person conducting the combustion optimization of the deficiency as soon as it is discovered. The failure of a source owner or operator and person conducting the combustion optimization to correct any deficiency may result in the department refusing to accept the results of the combustion optimization.

(7) COMBUSTION OPTIMIZATION EQUIPMENT CALIBRATION REQUIREMENTS. The following components of any emission sampling train or associated sampling equipment shall be calibrated not more than 60 days before the test:

- (a) Any equipment used to measure gas velocity.
- (b) Any equipment used to meter sample gas volume.
- (c) Any equipment used to regulate sample gas flow.
- (d) Any equipment used to measure temperature.
- (e) Any gas sampling nozzle used during the emission test.
- (f) Any equipment used to determine gas molecular weight.
- (g) Any other sampling equipment that requires periodic calibration.

(8) PROCEDURES FOR CONDUCTING COMBUSTION OPTIMIZATIONS. Any emissions testing conducted in conjunction with combustion optimization shall be conducted in accordance with s. NR 439.07. The following procedures comprise a combustion optimization:

(a) An engineering study to identify the optimized combustion profile or equipment modifications needed to optimize the furnace combustion. The study shall address, but is not limited to, the modification of the following systems: fuel delivery, burner, primary and secondary combustion monitoring, combustion air delivery and burner management.

(b) The combustion optimization shall be based on the burner tune-up procedures identified in s. NR 439.097 which result in the determination of a combustion efficiency and low NO<sub>x</sub> operating curve. This curve shall determine the operating range of combustion variables such as CO and O<sub>2</sub> at the following set points: 20-30% load, 45-55% load, 70-80% load and 95-100% load, for those set points that represent at least 10% of boiler operating hours in a typical year.

(c) The owner or operator of a NO<sub>x</sub> emissions source shall submit to the department copies of the engineering study and combustion efficiency and low NO<sub>x</sub> operating curve required under this section.

(d) A continuous combustion analyzer shall be used to monitor the operation of the furnace in accordance with the combustion efficiency and low NO<sub>x</sub> operating curve required under this section. The analyzer shall monitor the combustion parameters CO and O<sub>2</sub> or monitor NO<sub>x</sub> directly. The fuel flow rate shall be monitored and totaled over the ozone season.

(e) Units that are modified sources with respect to NO<sub>x</sub> due to a change in the method of operation shall perform a new combustion optimization including the determination of a new combustion efficiency and low NO<sub>x</sub> operating curve.

(9) COMBUSTION OPTIMIZATION REPORTING REQUIREMENTS. The owner or operator of a source that conducts a combustion optimization shall submit a copy of the combustion optimization report to the department within 60 days after completion of a compliance combustion optimization. If requested, the department may grant an extension of up to 30 days for combustion optimization report submittal. The failure to include the following information in a

combustion optimization report may result in rejection of the combustion optimization. The combustion optimization report shall include, but need not be limited to, the following information:

(a) A detailed description of the process optimized and the procedures employed.

(b) A log of the operating conditions of the process optimized and any associated air pollution control device.

(c) A summary of results, expressed in terms of the concentrations of  $\text{NO}_x$ ,  $\text{O}_2$  and  $\text{CO}$ , prior to and following the combustion optimization.

(d) Sample calculations employing all the formulas used to calculate the results.

(e) The field and laboratory data for the optimization.

(f) The report of any visible emission evaluations performed during the combustion optimization.

(g) A copy of any steam, opacity or airflow charts made during the optimization.

(h) The report of any fuel analysis performed on the fuel burned during the optimization.

(i) Documentation of any process upset occurring during the optimization.

(j) If the combustion optimization being conducted is one required under sub. (10), the changes made to the process or control device since the last test.

(10) ADDITIONAL COMBUSTION OPTIMIZATIONS. The department may require an  $\text{NO}_x$  emissions source to conduct an additional combustion optimization if the department determines that a source has not satisfied the requirements of sub. (8) or (9).

SECTION 9. NR 439.097 is created to read:

NR 439.097 Methods and procedures for burner tune-ups. The owner or operator of a unit subject to the burner tune-up requirements of s. NR 428.04(3) or 428.05(2) shall comply with all applicable methods and procedures for burner tune-ups listed in this section.

(1) GENERAL. All burner tune-ups conducted under ch. NR 428 shall be performed according to the methods and procedures in this section.

(2) BURNER TUNE-UP NOTIFICATION. The department shall be notified in writing at least 20 business days in advance of a burner tune-up to provide the department an opportunity to have a representative present to witness the tune-up procedures.

(3) TUNE-UP EQUIPMENT CALIBRATION REQUIREMENTS. The following components of any burner tune-up equipment shall be calibrated not more than 60 days before the test:

- (a) Any equipment used to measure gas velocity.
- (b) Any equipment used to meter sample gas volume.
- (c) Any equipment used to regulate sample gas flow.
- (d) Any equipment used to measure temperature.
- (e) Any gas sampling nozzle used during the emission test.
- (f) Any equipment used to determine gas molecular weight.
- (g) Any other sampling equipment that requires periodic calibration.

(4) PROCEDURES FOR CONDUCTING BURNER TUNE-UPS. Burner tune-ups shall utilize a combustion analyzer for the measurement of  $\text{NO}_x$ ,  $\text{O}_2$ , and  $\text{CO}$  concentrations. A burner tune-up shall be conducted with a minimum sampling time of one hour. Shorter sampling times may be used with the written approval of the department. The following procedures comprise a burner tune-up:

- (a) Measure and record the initial stack gas  $\text{O}_2$ ,  $\text{CO}$ , and  $\text{NO}_x$  concentrations, temperatures, and fuel flow at the required operation or firing load.

(b) Increase combustion air flow to raise stack gas O<sub>2</sub> by 1 - 2 percent.

(c) Decrease combustion air slowly in small increments or by each available air flow setting. After each increment, record stack gas O<sub>2</sub>, CO, and NO<sub>x</sub> concentrations, temperatures, and fuel flow.

(d) Continue to decrease O<sub>2</sub> until the minimum setting as been reached as determined by the optimization analysis or one of these limits have been reached:

1. Unacceptable flame conditions including impingement on furnace walls or burner parts, excessive flame carryover, or flame instability.

2. Stack gas CO concentrations greater than 400 ppm.

3. Smoking or exceedence of opacity limits.

4. Loss of unit efficiency or other adverse operational impact that was not addressed under the optimization analysis.

5. Equipment limitations not addressed by the optimization analysis.

(e) The maximum O<sub>2</sub> setting is that needed to address potential fuel, equipment, and safety considerations without significant decreases in combustion efficiency. Typical operating levels of excess combustion air for common boiler fuels are as follows:

1. Gaseous fuel - 0.5%.

2. Liquid fuel - 2.0%.

3. Solid fuel - 5.0%.

(f) This process is repeated for each load or firing point for each operational load or firing point as required under the optimization or tuning requirements.

(5) BOILER TUNE-UP REPORTING REQUIREMENTS. The owner or operator of the source tuned up shall submit a copy of the burner tune-up report to the department within 30 days after completion of a burner tune-up. The burner tune-up report shall include, but need not be limited to, the following information:

(a) A detailed description of the process tested and the sampling

procedure employed.

(b) A summary of results expressed in terms of NO<sub>x</sub>, O<sub>2</sub> and CO stack concentrations prior to and following the burner tune-up.

(c) The field and laboratory data for the tune-up.

(d) Calibration data for the components of the tune-up equipment used.

(e) The report of any visible emission evaluations performed by the tester or source owner or operator.

(f) Documentation of any process upset occurring during the test.

(g) If the boiler tune-up being conducted is one required under sub. (6), the changes made to the process or control device since the last tune-up.

(6) ADDITIONAL BURNER TUNE-UPS. The department may require an NO<sub>x</sub> emissions source to conduct an additional burner tune-up if the department determines that a source has not satisfied the requirements of sub. (4) or (5).

SECTION 10. NR 484.04 (21) and (27) are amended to read:

NR 484.04 (21) 40 CFR part	Performance Specifications	NR 428
60 Appendix B		NR 439
		NR 460 to 469
(27) 40 CFR part 75		NR 428
Appendices A to I		NR 439

SECTION 11. NR 485.04 (9) (title) and (a) are renumbered 485.04 (9) and amended to read:

NR 485.04(9) (title) EFFECTIVE DATE FOR OXIDES OF NITROGEN REQUIREMENTS+ EPA-WAIVER. ~~(a) NO<sub>x</sub> emissions.~~ An inspection under s. 110.20 (6) (a), Stats., shall include an inspection for emissions of oxides of nitrogen. However, the emission limitations for oxides of nitrogen in subs. (2) (c) and (7) (a) 3. shall apply for compliance purposes only to inspections conducted after November 30, 1997 May 1, 2001.