

# NATURAL RESOURCES BOARD AGENDA ITEM

**SUBJECT:**

Request adoption of Board Order AM-16-10, proposed rules affecting chs. NR 400, 404 to 408, and 484 pertaining to permit requirements for fine particulate matter emissions.

**FOR: AUGUST, 2010 BOARD MEETING**

**TO BE PRESENTED BY:** Andy Stewart, Chief, Permits and Stationary Source Modeling section

**SUMMARY:**

The proposed rules contained in this order reflect changes made by the United States Environmental Protection Agency (EPA) in their regulations regarding the regulation of particulate matter less than 2.5 microns in size (PM2.5) and several changes of a clean-up nature in otherwise affected rules. The Department needs to make these changes to the permitting program in order to retain EPA approval of Wisconsin's air permit programs.

PM2.5 is proposed to be included as a pollutant used to determine whether a facility is a major source of air pollution. Additionally, increases in PM2.5 emissions will potentially trigger the need to obtain an air pollution control construction permit, potentially including requirements to control emissions to levels which represent Best Available Control technology or Lowest Achievable Emission rate.

In the past, the Board has often adopted updates to the air permit program rules to keep them consistent with federal regulations.

There is no controversy expected over adopting these rules.

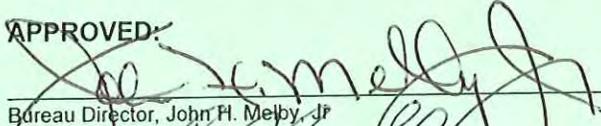
**RECOMMENDATION:** That the Board adopt Order AM-16-10.

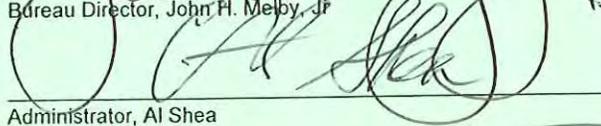
**LIST OF ATTACHED MATERIALS:**

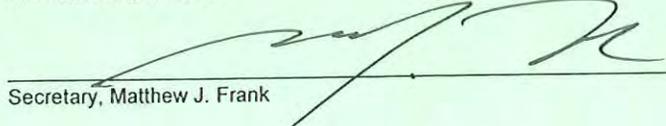
- No  Fiscal Estimate Required
- No  Environmental Assessment or Impact Statement Required
- No  Background Memo

- Yes  Attached
- Yes  Attached
- Yes  Attached

**APPROVED:**

  
 Bureau Director, John H. Melby, Jr.

  
 Administrator, Al Shea

  
 Secretary, Matthew J. Frank

7/9/10  
 Date

7/12/10  
 Date

7-22-10  
 Date

cc: Laurie Ross - AD/8                      Linda Haddix - LS/8  
 Mike Scott - LS/8                         R. Eckdale - AM/7

DATE: July 12, 2010 FILE REF: 4533

TO: Natural Resources Board Members

FROM: Matt Frank, Secretary 

SUBJECT: Background Memo for adoption of Board Order AM-16-10, proposed rules affecting NR 400, 404 to 408, and 484 pertaining to permit requirements relating to particulate matter emissions.

**Why is this rule being proposed?**

This rule is being proposed to amend portions of Department rules to incorporate federal rule changes as required under s. 285.11(16) and (17), Wis. Stats. The revisions are based on changes in federal permitting regulations and are needed so the Department can retain US EPA's approval of state air permit programs.

Studies have shown significant health effects from exposure to fine particulate matter (PM<sub>2.5</sub>), including a connection between high PM<sub>2.5</sub> levels and premature mortality. Adverse health effects also include aggravation of respiratory and cardiovascular disease, lung disease, decreased lung function, asthma attacks and certain other cardiovascular problems. Children, older adults and those with existing cardiovascular and respiratory diseases are particularly sensitive to the effects of PM<sub>2.5</sub>.

**Summary of the Rules**

The rule proposes to:

- Define major source thresholds for PM<sub>2.5</sub> and significant emission increase level for PM<sub>2.5</sub>.
- Establish significant impact levels and increment consumption thresholds for PM<sub>2.5</sub>.
- Establish inter-pollutant trading ratios for PM<sub>2.5</sub>, SO<sub>2</sub> and NO<sub>x</sub>.
- Clarify existing non-attainment area permitting rules for permitting in PM<sub>2.5</sub> non-attainment areas (presently Milwaukee, Waukesha and Racine counties are PM<sub>2.5</sub> non-attainment areas and subject to non-attainment area new source permitting for PM<sub>2.5</sub>).

The Department is proposing the lowest value proposed by US EPA for Section 8 of the proposed rule in lieu of a final promulgated federal number. This number is used to determine if monitoring may be required as part of a project. In actual practice, the Department does not require project monitoring to establish pre-construction background concentrations and instead relies on values generated from the existing State monitoring network. Therefore, there should be no impact on proposed projects regardless of whether US EPA promulgates this number or a slightly higher number in the future.

The Department has also removed a proposed amendment to s. NR 405.14(4) related to Class I variances. The proposed amendment would have established a maximum allowable emission increase for PM<sub>2.5</sub>. The Department had thought that US EPA would promulgate this limitation as part of their overall effort to address PM<sub>2.5</sub> permitting requirements. The Department does not now anticipate US EPA promulgating this limitation in the near future.

**How does this proposal affect existing policy?**

Currently, PM<sub>2.5</sub> is not regulated under the new source review program in PM<sub>2.5</sub> air quality attainment areas. Under federal law and this proposed rule, PM<sub>2.5</sub> will be regulated for all emission sources, with a permitting threshold at levels comparable to those previously set for larger particulate matter (PM and PM<sub>10</sub>).

Permitting rules have been in effect in the three-county PM<sub>2.5</sub> non-attainment area since that area was designated by EPA in December 2009. This proposal clarifies existing rules by defining a significant increase and establishing emission offset requirements.

The department is required to update the state new source review rules to keep them consistent with the federal rules to maintain federal approval of Wisconsin's new source review program.

**Hearing synopsis**

Hearings on the proposed rule were held on June 7, June 8 and June 9, 2010 in Madison, Milwaukee and Wausau, respectively. Two people attended the hearing in Madison. No one attended the hearing in Milwaukee. There were four attendees at the hearing in Wausau. Two general comments in support of the proposed rule were received at the hearing in Wausau.

Comments were received on the proposed rule on June 10 from the law firm of Pepper Hamilton on behalf of its client glass manufacturer Saint-Gobain, Inc. These comments suggested a minor correction to the rule, three editorial changes and a recommendation that the Department conduct regional modeling to establish State specific inter pollutant trading ratios for NO<sub>x</sub> and SO<sub>2</sub>. The correction and two of the three editorial changes have been made to the proposed rule. The third editorial change has not been made as it would modify the term "PM<sub>2.5</sub>" in a way that has not been defined in Administrative Code. The Department is not able to do the regional modeling recommended by the commenter as the emission input information for the modeling is not available at this time. The Department estimates it will be mid-2011 before this information may be available.

Comments submitted by the Legislative Council Rules Clearinghouse were generally of a non-substantive nature. Changes specifically suggested by the Clearinghouse to be included in the final rule are included except for suggested changes to s. NR 405.02(25k)(intro.). The federal rule on which this rule is based has "substantive provisions" primarily contained in the definitions. The Department believes that it is both appropriate and allowed by s. 227.14(1m)(b), Stats., to maintain this format and has been carried it forward into ch. NR 405.

No other comments on the proposed rule were received by the Department and the Department does not anticipate any controversy concerning adoption of the final rule.

**Information on environmental analysis.**

Under ss. NR 150.03(3) and 150.03(6)(b)3., Wis. Adm. Code, an environmental analysis is not needed because this proposal is considered a Type III Action which does not result in material impacts on the human environment and where the Department has limited discretion in formulating all important provisions of the rule.

*Final Regulatory Flexibility Analysis.*

Major sources that are currently subject to the Title V and PSD program generally do not qualify as small business under s. 227.114 (1), Wis. Stat. The proposed rule is not expected to have a significant impact on small business.

**Fiscal Estimate — 2009 Session**

- Original       Updated  
 Corrected       Supplemental

LRB Number	Amendment Number if Applicable
Bill Number	Administrative Rule Number AM-16-10

**Subject**

Proposed rules affecting chs. NR 400, 404 to 408, and 484 pertaining to permit requirements for sources of PM2.5 emissions.

**Fiscal Effect**

State:  No State Fiscal Effect

Check columns below only if bill makes a direct appropriation or affects a sum sufficient appropriation.

- Increase Existing Appropriation       Increase Existing Revenues  
 Decrease Existing Appropriation       Decrease Existing Revenues  
 Create New Appropriation

- Increase Costs — May be possible to absorb within agency's budget.  
 Yes       No  
 Decrease Costs

Local:  No Local Government Costs

1.  Increase Costs  
 Permissive       Mandatory  
 2.  Decrease Costs  
 Permissive       Mandatory

3.  Increase Revenues  
 Permissive       Mandatory  
 4.  Decrease Revenues  
 Permissive       Mandatory

5. Types of Local Governmental Units Affected:  
 Towns       Villages       Cities  
 Counties       Others  
 School Districts       WTCS Districts

**Fund Sources Affected**

- GPR       FED       PRO       PRS       SEG       SEG-S

**Affected Chapter 20 Appropriations**

**Assumptions Used in Arriving at Fiscal Estimate**

These proposed rules are not expected to significantly impact the number of facilities requiring permits or the complexity of those permit reviews. Therefore, the Department concludes that there should be no significant fiscal impact as a result of promulgating these rules.

**Long-Range Fiscal Implications**

None

Prepared By: Joseph Polasek	Telephone No. 266-2794	Agency Department of Natural Resources
Authorized Signature 	Telephone No. 266-2794	Date (mm/dd/ccyy) 03-22-10

**Fiscal Estimate Worksheet — 2009 Session**  
 Detailed Estimate of Annual Fiscal Effect

Original       Updated  
 Corrected       Supplemental

LRB Number	Amendment Number if Applicable
Bill Number	Administrative Rule Number AM-16-10

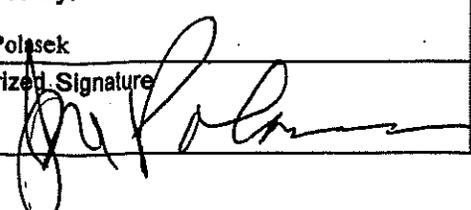
**Subject**  
 Proposed rules affecting chs. NR 400, 404 to 408, and 484 pertaining to permit requirements for sources of PM2.5 emissions.

**One-time Costs or Revenue Impacts for State and/or Local Government (do not include in annualized fiscal effect):**  
 None.

Annualized Costs:		Annualized Fiscal Impact on State Funds from:	
		Increased Costs	Decreased Costs
<b>A. State Costs by Category</b>			
State Operations — Salaries and Fringes	\$	0	\$ - 0
(FTE Position Changes)		( 0.00 FTE )	( - 0.00 FTE )
State Operations — Other Costs		0	- 0
Local Assistance		0	- 0
Aids to Individuals or Organizations		0	- 0
<b>Total State Costs by Category</b>	\$	0	\$ - 0
<b>B. State Costs by Source of Funds</b>		Increased Costs	Decreased Costs
GPR	\$	0	\$ - 0
FED		0	- 0
PRO/PRS		0	- 0
SEG/SEG-S		0	- 0
State Revenues	Complete this only when proposal will increase or decrease state revenues (e.g., tax increase, decrease in license fee, etc.)	Increased Revenue	Decreased Revenue
GPR Taxes		\$ 0	\$ - 0
GPR Eamed		0	- 0
FED		0	- 0
PRO/PRS		0	- 0
SEG/SEG-S		0	- 0
<b>Total State Revenues</b>	\$	0	\$ - 0

**Net Annualized Fiscal Impact**

	<u>State</u>	<u>Local</u>
Net Change in Costs	\$ 0	\$ 0
Net Change in Revenues	\$ 0	\$ 0

Prepared By: Joe Polasek	Telephone No. 266-2794	Agency Department of Natural Resources
Authorized Signature 	Telephone No. 266-2794	Date (mm/dd/ccyy) 03-22-10

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

The Wisconsin Natural Resources Board adopts an order to **renumber and amend** NR 404.02 (4e) and (4m); to **amend** NR 400.02 (40), (70), (79), and (135), 405.02 (25k)(intro.), 406.04 (1) (n) (intro.) and 1. (intro.) and 2., 484.03 (5), and 484.04 (5) and (6g); and to **create** NR 400.02 (123m), 400.03 (4) (ki), 405.02 (27) (a) 5m., 405.07 (8) (a) 3m., 406.04 (2) (cs), 407.03 (2) (be), 408.02 (32) (a) 5m., and 408.06 (1) (cm), relating to permit requirements for particulate matter emissions and affecting small business.

**AM-16-10**

**Analysis Prepared by the Department of Natural Resources**

**1. Statute interpreted:** The State Implementation Plan developed under s. 285.11(1) and (6), Stats., is revised.

**2. Statutory authority:** ss. 227.11(2)(a), 227.14(1m)(b) and 285.11(1), (16) and (17), Stats.

**3. Explanation of agency authority:**

Section 227.11(2)(a), Stats., gives state agencies general rulemaking authority. Section 227.14(1m)(b), Stats., allows the Department to use the format of federal regulations in preparing a proposed rule if it determines that all or part of a state environmental regulatory program is to be administered according to standards, requirements or methods which are similar to standards, requirements or methods specified for all or part of a federal environmental program. Section 285.11(1), Stats., gives the Department authority to promulgate rules consistent with ch. 285, Stats. Section 285.11(16), Stats., requires the Department to promulgate rules, consistent with but no more restrictive than the federal clean air act, that specify the amounts of emissions that result in a stationary source being classified as a major source. Section 285.11(17) requires the Department to develop and implement rules that define the term modification in a manner consistent with the clean air act.

**4. Related statute or rule:**

None.

**5. Plain language analysis:** The proposed rules contained in this order reflect changes made by the United States Environmental Protection Agency (EPA) in their regulations regarding the regulation of particulate matter less than 2.5 microns in size (PM<sub>2.5</sub>). The Department needs to make this change in order to retain EPA approval of Wisconsin's air permit programs.

PM<sub>2.5</sub> is proposed to be included as a pollutant used to determine whether a facility is a major source of air pollution. Additionally, increases in PM<sub>2.5</sub> emissions will potentially trigger the need to obtain an air pollution control construction permit, including requirements to control emissions to levels which represent best available control technology or lowest achievable emission rate.

Additionally, the rule package includes some cleanup changes to otherwise unaffected existing rules. These changes are proposed to include up-to-date test methods and definitions in these existing rules. These changes do not change the effect or intent of these rules.

**6. Summary of, and comparison with, existing or proposed federal regulation:** The proposed PM<sub>2.5</sub> rules will make the regulations consistent with the equivalent Federal rules with one exception. That exception is the inclusion of a maximum air quality impact that can be allowed to be exempt from pre-construction monitoring. The proposed value in this order is based on the lowest value proposed by EPA.

**7. Comparison with similar rules in adjacent states (Illinois, Iowa, Michigan and Minnesota):** The proposed rule is, with one exception, based on the federal rule changes. Adjacent states will all be

implementing the federal rule changes. Whether they adopt a value for a maximum air quality impact that can be allowed to be exempt from pre-construction monitoring in the absence of a final federal number is indeterminate at this time. Failure to adopt a number increases the stringency of the rule.

**8. Summary of factual data and analytical methodologies used and how any related findings support the regulatory approach chosen:** The proposed rule is based on the federal rule changes and the data and methodologies used by EPA in developing these rules. One portion of the proposed rule has yet to be finalized by the EPA.

**9. Analysis and supporting documents used to determine the effect on small business or in preparation of an economic impact report:** An analysis of the effect of the proposed rules on small business was not performed since the proposed rule only impacts major sources of air pollution in the State and conforms to federal requirements. Major sources of air pollution are not typically small businesses. Additionally, EPA has concluded that this rule will not impact a significant number of small entities.

**10. Effect on small business:** These rules should not have a significant economic impact on small businesses because major air pollution sources do not generally meet the definition of a small business.

**11. Agency contact person:** Steven Dunn, P.O. Box 7921, Madison, WI 53707, Telephone number: (608) 267-0566; e-mail address: [steven.dunn@wisconsin.gov](mailto:steven.dunn@wisconsin.gov)

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SECTION 1. NR 400.02 (40), (70), and (79) are amended to read:

NR 400.02 (40) "Coal" means all solid fuels classified as anthracite, bituminous, subbituminous or lignite by ASTM designation ~~D388-99e~~ D388-99e1 (2004), incorporated by reference in s. NR 484.10 (7).

(70) "Fuel oil" means any petroleum-based fuel, including diesel fuel or petroleum derivatives such as oil tar, as defined in ASTM ~~D396-02~~ D396-02a, incorporated by reference in s. NR 484.10 (8), and any recycled or blended petroleum products or petroleum by-products used as a fuel whether in a liquid, solid or gaseous state.

(79) "Heat input" means the total gross calorific value per unit of time of all fuels being burned, where gross calorific value of a fuel is measured by ASTM Method D240-02, D1826-94 or ~~D5865-02~~ D5865-04, incorporated by reference in s. NR 484.10 (4), (26) and (55g). Where the test method gives a higher and a lower heating value, heat input is calculated in Btu per hour using the higher heating value of the fuel.

SECTION 2. NR 400.02(123m) is created to read:

NR 400.02(123m) "PM<sub>2.5</sub> emissions" means PM<sub>2.5</sub> emitted to the ambient air as measured by an applicable reference method or an equivalent or alternative method specified by the department.

SECTION 3. NR 400.02 (135) is amended to read:

NR 400.02 (135) "Residual fuel oil" means an industrial fuel oil of grade No. 4, 5 or 6, as determined by the specifications in ASTM ~~D396-02~~ D396-02a, incorporated by reference in s. NR 484.10 (8).

SECTION 4. NR 400.03 (4) (ki) is created to read:

NR 400.03 (4)(kh) "PM<sub>2.5</sub>" -- particulate matter with an aerodynamic diameter  $\leq 2.5 \mu\text{m}$

SECTION 5. NR 404.02 (4e) and (4m) are renumbered NR 400.02 (123e) and (123s), and as renumbered are amended to read:

NR 400.02 (123e) "PM<sub>2.5</sub>" means particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers as measured in the ambient air by a reference method based on Appendix ~~N L~~ of 40 CFR part 50, incorporated by reference in s. NR 484.04(6g), and designated in accordance with 40 CFR part 53, incorporated by reference in s. NR 484.03(5), or by an equivalent method.

(123s) "PM<sub>10</sub>" means particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers as measured in the ambient air by a reference method based on Appendix J of 40 CFR part 50, incorporated by reference in s. NR 484.04 (5), and designated in accordance with 40 CFR part 53, incorporated by reference in s. NR 484.03 (5), or by an equivalent method.

SECTION 6. NR 405.02 (25k) (intro.) is amended to read:

NR 405.02 (25k) (intro.) "Replacement unit" means an emissions unit for which all the criteria listed in pars. (a) to (d) are met. No creditable emission reductions ~~shall~~ may be generated from shutting down the existing emissions unit that is replaced.

SECTION 7. NR 405.02 (27) (a) 5m. in Table A is created to read:

NR 405.02 (27) (a) 5m. PM<sub>2.5</sub>: 10 tpy, also 40 tpy of nitrogen oxides or 40 tpy of sulfur dioxide

SECTION 8. NR 405.07 (8) (a) 3m. is created to read:

NR 405.07 (8) (a) 3m. PM<sub>2.5</sub> – 2.3 µg/m<sup>3</sup>, 24 hour average

SECTION 9. NR 406.04 (1) (n) (intro.) and 1. and 2. (intro.) are amended to read:

NR 406.04 (1) (n) (intro.) Renovation or demolition operations involving ~~friable asbestos~~ containing regulated asbestos-containing material provided that the provisions of subd. 1. or 2. are met:

1. The amount of ~~asbestos-containing~~ regulated asbestos-containing material is less than 260 linear feet on pipes or 160 square feet on other facility components.

2. If the amount of ~~asbestos-containing~~ regulated asbestos-containing material is at least 260 linear feet on pipes or at least 160 square feet on other facility components, all of the following conditions are met:

SECTION 10. NR 406.04 (2) (cs) is created to read:

NR 406.04 (2) (cs) The maximum theoretical emissions from the source for PM<sub>2.5</sub> do not exceed 2.2 pounds per hour.

SECTION 11. NR 407.03 (2) (be) is created to read:

NR 407.03 (2) (be) The maximum theoretical emissions from the source for PM<sub>2.5</sub> do not exceed

2.2 pounds per hour.

SECTION 12. NR 408.02 (32) (a) 5m. is created to read:

NR 408.02 (32) (a) 5m. PM<sub>2.5</sub>: 10 tpy; 40 tpy for nitrogen oxides; and 40 tpy for sulfur dioxide.

SECTION 13. NR 408.06 (1) (cm) is created to read:

NR 408.06 (1) (cm) PM<sub>2.5</sub> emission increases may be offset by decreases in nitrogen oxides or sulfur dioxide emissions, that are otherwise creditable, at a ratio of 40 tpy of sulfur dioxide for each ton of direct PM<sub>2.5</sub> emissions and 200 tpy of nitrogen oxides for each ton of direct PM<sub>2.5</sub> emissions.

SECTION 14. NR 484.03 (5) in Table 1 is amended to read:

NR 484.03 (5)

**Table 1**  
**CFR References**

CFR Reference	Title	Incorporated by Reference For
(5) 40 CFR part 53	Ambient Air Monitoring Reference and Equivalent Methods	NR 404.02(4e) and (4m) NR 400.02 (123e) and (123s) NR 404.06(3)(b)

SECTION 15. NR 484.04 (5) and (6g) in Table 2 are amended to read:

NR 484.04 (6g)

**Table 2**  
**CFR Appendix References**

CFR Appendix Referenced	Title	Incorporated by Reference For
(5) 40 CFR part 50 Appendix J	Reference Method for the Determination of Particulate Matter as PM <sub>10</sub> in the Atmosphere	NR 404.02(4m) NR 400.02 (123s)
(6g) 40 CFR part 50 Appendix L	Reference Method for the Determination of Particulate Matter as	NR 404.02(4e) NR 400.02 (123e)

CFR Appendix Referenced	Title	Incorporated by Reference For
	PM <sub>2.5</sub> in the Atmosphere	

SECTION 16. EFFECTIVE DATE. This rule shall take effect on the first day of the month following publication in the Wisconsin administrative register as provided in s. 227.22 (2) (intro.), Stats.

SECTION 17. BOARD ADOPTION. This rule was approved and adopted by the State of Wisconsin Natural Resources Board on \_\_\_\_\_.

Dated at Madison, Wisconsin \_\_\_\_\_.

STATE OF WISCONSIN  
DEPARTMENT OF NATURAL RESOURCES

By \_\_\_\_\_  
Matthew J. Frank, Secretary

(SEAL)