

**SUBJECT:**

Request authorization for public hearing for 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: APRIL, 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.

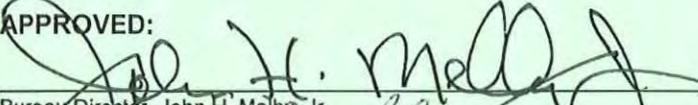
Since the proposed rules are consistent with the federal rules, or of a clean-up nature, there is no controversy expected over potentially adopting these rules.

**RECOMMENDATION:** That the Board authorize the Department to hold hearings on Order AM-16-10.

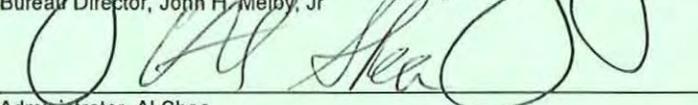
**LIST OF ATTACHED MATERIALS:**

- |  |   |   |          |
|--|---|---|----------|
| No <input type="checkbox"/>            | Fiscal Estimate Required                              | Yes <input checked="" type="checkbox"/> | Attached |
| No <input checked="" type="checkbox"/> | Environmental Assessment or Impact Statement Required | Yes <input type="checkbox"/>            | Attached |
| No <input type="checkbox"/>            | Background Memo                                       | Yes <input checked="" type="checkbox"/> | Attached |

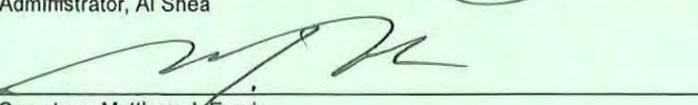
**APPROVED:**

  
Bureau Director, John H. Melby, Jr

3/18/10  
Date

  
Administrator, Al Shea

3/22/10  
Date

  
Secretary, Matthew J. Frank

3-30-10  
Date

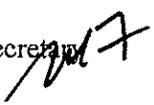
cc: Laurie Ross - AD/8  
Mike Scott - LS/8

Linda Haddix - LS/8  
R. Eckdale - AM/7

DATE: March 30, 2010

FILE REF: 4533

TO: Natural Resources Board Members

FROM: Matt Frank, Secretary 

SUBJECT: Background Memo on Public Hearing Authorization for 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, including a connection between high PM2.5 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 PM2.5.

**What event or action triggered this proposal?**

On May 16, 2008, US EPA published rules that established new source review requirements for sources that emit particulate matter with a diameter equal to or less than 2.5 microns (PM2.5). These rules also allow states, such as Wisconsin which are approved to operate the major source permitting program, until May, 2011 to submit an updated version of the major source permitting rules to US EPA for approval. In order to meet the May, 2011 submission date, the Department needs to begin the rulemaking process to establish these rules prior to submitting the final rules to US EPA for approval.

Some portions of this proposed rule have yet to be finalized by US EPA but are expected to be finalized in spring, 2010. The Department is proposing to adopt provisions identical to the federal rule into the Department's proposed rule when the federal rule is published. The Department expects that the final federal rule will be within the scope of this proposal. Furthermore, the final federal rule will be promulgated in advance of public hearings on this proposal, allowing the public to be aware of what the federal requirements will be. The department will make appropriate adjustments in response to both the final federal rule and public comments on this proposal prior to recommending a final state rule.

**What issues are addressed by this rule?**

Department regulations are being updated because of changes in federal regulations. Several changes of a clean-up nature are also proposed in chapters otherwise unaffected by the PM2.5 rule proposal.

### Summary of the Rules

The rule proposes to:

- Define major source thresholds for PM2.5 and significant emission increase level for PM2.5.
- Establish significant impact levels and increment consumption thresholds for PM2.5.
- Establish inter-pollutant trading ratios for PM2.5, SO2 and NOx.
- Clarify existing non-attainment area permitting rules for permitting in PM2.5 non-attainment areas (presently Milwaukee, Waukesha and Racine counties are PM2.5 non-attainment areas and subject to non-attainment area new source permitting for PM2.5).

### How does this proposal affect existing policy?

Currently, PM2.5 is not regulated under the new source review program in PM2.5 air quality attainment areas. Under federal law and this proposed rule, PM2.5 will be regulated for all emission sources, with a permitting threshold at levels comparable to those previously set for larger particulate matter (PM and PM10).

Permitting rules have been in effect in the three-county PM2.5 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.

### Has the Board dealt with these issues before? If so, when and why?

The Board has dealt with the general issue of updating the new source review rules before, but has not incorporated PM2.5 into permitting regulations prior to this rule proposal.

### Who will be impacted by the proposed rule? How will they be impacted?

Significant sources of PM2.5 emissions may potentially be impacted by this proposal. Major sources of air pollution may become subject to more stringent emission control requirements for PM2.5 emissions. Minor sources of air pollution will also need to evaluate their emissions of PM2.5 in areas where new large sources of PM2.5 are constructed in the future.

Owners/operators of large solid fuel boilers (utilities and paper mills), foundries and other smaller combustion sources such as stationary internal combustion engines and turbines are likely to be most affected by this rule proposal. This is due to these facilities having relatively large quantities of PM2.5 emissions.

### 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.

**Small business 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. <input type="checkbox"/> Increase Costs<br><input type="checkbox"/> Permissive <input type="checkbox"/> Mandatory | 3. <input type="checkbox"/> Increase Revenues<br><input type="checkbox"/> Permissive <input type="checkbox"/> Mandatory | 5. Types of Local Governmental Units Affected:<br><input type="checkbox"/> Towns <input type="checkbox"/> Villages <input type="checkbox"/> Cities<br><input type="checkbox"/> Counties <input type="checkbox"/> Others _____ |
| 2. <input type="checkbox"/> Decrease Costs<br><input type="checkbox"/> Permissive <input type="checkbox"/> Mandatory | 4. <input type="checkbox"/> Decrease Revenues<br><input type="checkbox"/> Permissive <input type="checkbox"/> Mandatory | <input type="checkbox"/> School Districts <input type="checkbox"/> WTCS Districts   |

Fund Sources Affected

- GPR     FED     PRO     PRS     SEG     SEG-S

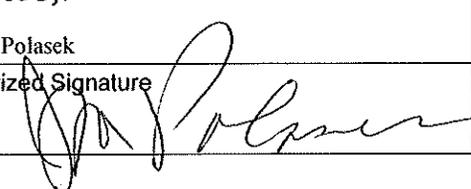
Affected Chapter 20 Appropriations

**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**

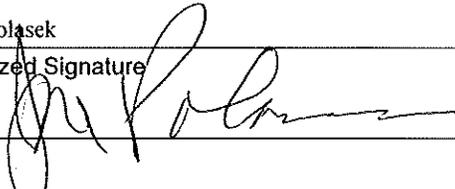
Proposed rules affecting chs. NR 400, 404 to 408, and 484 pertaining to permit requirements for sources of PM2.5 emissions.

**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
<b>State Revenues</b>	<small>Complete this only when proposal will increase or decrease state revenues (e.g., tax increase, decrease in license fee, etc.)</small>	Increased Revenue	Decreased Revenue
GPR Taxes		\$ 0	\$ - 0
GPR Earned		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**

	State	Local
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 proposes 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), 405.14 (4), 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) 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 (PM2.5). The Department needs to make this change 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, 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 PM2.5 rules will make the regulations consistent with the equivalent Federal rules.

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

**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 USEPA in developing these rules. Some portions of the proposed rule have yet to be finalized by the USEPA. Finalization of these rule sections is expected in Spring 2010. Placeholders for these final rule additions are included in the proposed rule.

**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, USEPA 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

**12. Place where comments are to be submitted and deadline for submission:**  
Written comments may be submitted at the public hearings, by regular mail, fax or email to:  
Steven Dunn  
Department of Natural Resources  
Bureau of Air Management  
PO Box 7921  
Madison WI 53707  
Fax: (608) 267-0560

Written comments may also be submitted to the Department using the Wisconsin Administrative Rules Internet Web site at <http://adminrules.wisconsin.gov>.

Hearing dates and the comment submission deadline are to be determined.

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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 particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers, emitted to the ambient air as measure by an applicable reference method based 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 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 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> – [To be adopted by USEPA]

SECTION 9. NR 405.14 (4) is amended to read:

NR 405.14 (4) CLASS I VARIANCES. The owner or operator of a proposed major source or major modification may demonstrate to the federal land manager that the emissions from the source would have no adverse impact on the air quality-related values, including visibility, of these lands, notwithstanding that the change in air quality resulting from emissions from the source or modification would cause or contribute to concentrations which would exceed the maximum allowable increases for a Class I area. If the federal land manager concurs with this demonstration and so certifies to the department, the department may, provided that applicable requirements of this chapter are otherwise met, issue the permit with such emission limitations as may be necessary to assure that emissions of particulate matter measured as PM<sub>10</sub>, sulfur dioxide and nitrogen dioxide would not exceed the following maximum allowable increases over minor source baseline concentration for these air contaminants.

Pollutant	Maximum allowable increase ( $\mu\text{g}/\text{m}^3$ )
PM <sub>10</sub>	
Annual arithmetic mean	17
24-hour maximum	30
PM <sub>2.5</sub>	<u>To be finalized by USEPA</u>
Sulfur dioxide	
Annual arithmetic mean	20
24-hour maximum	91
3-hour maximum	325
Nitrogen dioxide	
Annual arithmetic mean	25

SECTION 10. NR 406.04 (1) (n) (intro.) and 1. and 2. (intro.) are amended to read:

NR 406.04 (10) (n) (intro.) Renovation or demolition operations involving ~~friable~~ regulated asbestos containing material provided that the provisions of subd. 1. or 2. are met:

1. The amount of 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 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 11. 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 12. 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 13. 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 14. 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 15. 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	<del>NR 404.02(4e) and (4m)</del> <u>NR 400.02 (123e) and (123s)</u> NR 404.06(3)(b)

SECTION 16. 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	<del>NR 404.02(4m)</del> <u>NR 400.02 (123s)</u>
(6g) 40 CFR part 50 Appendix L	Reference Method for the Determination of Particulate Matter as PM <sub>2.5</sub> in the Atmosphere	<del>NR 404.02(4e)</del> <u>NR 400.02 (123e)</u>

SECTION 17. 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 18. 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)