

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

The Wisconsin Natural Resources Board adopts an order to **repeal** NR 172, 420.02 (8m), (26), (32), and (38m), 420.045, 425.035, 439.06 (3) (i), 484.05 (4) and (5), and 494.04; to **amend** NR 404.05 (2) (intro.), (3) (intro.), (4) (intro.), 405.02 (3), (21) (a), (21m) (a), (22) (b), (22m) (a) 1. and (b) 1., and (27) (a) 6., 405.07 (8) (a) 3m. and 5. (Note), 420.02 (39), 420.03 (4) (b) 3., and 420.04 (1) (b) 4. and (3) (c) 1.; and to **create** NR 400.02 (162) (a) 53. to 60., 404.05 (2) (am), (3) (am), (4) (am), 405.02 (21m) (c), (22m) (a) 3., 405.07 (8) (a) 3m. (Note) relating to consistency with U.S. Environmental Protection Agency air pollution control regulations and the repeal of obsolete rules, and affecting small business.

**AM-15-14**

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

**1. Statute interpreted:**

Sections 285.11 (1) and (6), Stats. The State Implementation Plan developed under s. 285.11(6), Stats., will be revised.

**2. Statutory authority:**

Sections 285.11 (1), (6), (16), and (17), 285.17 (1) (a), 285.21 (2) and (4), 285.25 (1), and 285.31 (5), Wis. Stats., establish the authority for promulgation of the proposed rules.

**3. Explanation of agency authority:**

(A) Section 285.11 (1), Wis. Stats., requires that the Department promulgate rules implementing and consistent with ch. 285, Wis. Stats., and thereby establishes authority for the proposed changes to ch. NR 405, Wis. Adm. Code, related to the prevention of significant deterioration permit program as affected by ss. 285.60, 285.61, and 285.63, Wis. Stats. More specific authority for these proposed changes is established as follows:

(1) Section 285.11 (16), Wis. Stats., requires that the Department 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 and limit the classification of a major source to specific air contaminants. Section 285.11 (17), Wis. Stats requires the Department to promulgate rules, consistent with the federal Clean Air Act, that modify the meaning of the term “modification” as it relates to specific air contaminants. These statutory provisions support the Department’s proposed changes to ch. NR 405, Wis. Adm. Code, to identify nitrogen oxides (NOx) as a precursor to ozone formation is consistent with federal Clean Air Act requirements regarding what contaminants to consider when determining whether a source is a major source and describe when an increase in a given air contaminant is considered a modification.

(2) Section 285.17 (1) (a), Wis. Stats., requires the Department to classify by rule the level of an air contaminant source that may cause or contribute to air pollution. This statute supports the proposed change to the significant monitoring concentration for PM2.5 which is established as a threshold below which major source construction permit applicants are not required to provide pre-construction air quality monitoring data.

(3) Section 285.21 (2) and (4), Wis. Stats., supports the Department's proposed change to establish ambient air increments for PM<sub>2.5</sub>. These statutory provisions require that the Department promulgate by rule ambient air increments for air contaminants consistent with, and not more restrictive than, those under the federal Clean Air Act for attainment areas. The Department must keep these rules consistent with any modifications to these increments made under the Clean Air Act.

(4) Section 285.25 (1), Wis. Stats., supports the Department's proposed changes to add PM<sub>2.5</sub> to select definitions in ch. NR 405, Wis. Adm. Code, related to a pollutant's baseline concentration. This statute requires that the Department promulgate rules designating procedures and criteria to determine the allocation of available air resources in an attainment area. The terms affected are used in these procedures and the proposed inclusion of PM 2.5 in the relevant definitions is necessary and appropriate when the Department determines the allocation of air resources for PM<sub>2.5</sub>.

(B) Section 285.11 (6), Wis. Stats., establishes authority for the proposed change to the definition of volatile organic compounds (VOC), by adding compounds to the list of those excluded from the definition. This statute requires that the Department develop a plan for the prevention, abatement, and control of air pollution. For control of atmospheric ozone, the plan, with limited exceptions, must conform to the federal Clean Air Act. Since VOC are a precursor to ozone, the addition of the proposed compounds to the list of those excluded from the definition ensures that the state definition of VOC conforms to the federal definition.

(C) The proposed repeal of s. NR 420.045, Wis. Adm. Code, along with other rules related to its implementation are consistent with the legislature's mandate under s. 285.31 (5), Wis. Stats., to terminate the further implementation of stage 2 vapor recover equipment requirements.

#### **4. Related statute or rule:**

Related to the proposed repeal of s. NR 420.045, the state legislature promulgated s. 285.31 (5), Wis. Stats., effective April 17, 2012, terminating the further implementation of stage 2 vapor recover equipment requirements under s. NR 420.045, Wis. Adm. Code.

#### **5. Plain language analysis:**

The Department has two main objectives in proposing these rules; to address changes needed to maintain consistency with U.S. Environmental Protection Agency (EPA) regulations and to repeal obsolete rule provisions.

##### **(A) Consistency.**

(1) Chapter NR 405, Wis. Adm. Code, establishes requirements and procedures for reviewing and issuing air pollution control construction permits for any new major stationary source and any major modification to an existing stationary source located in areas designated as in attainment with national ambient air quality standards or as unclassifiable. This permit program is referred to as prevention of significant deterioration or PSD and is based on U.S. EPA regulations in 40 CFR 51.166. The Department is the approved authority in the state to implement and enforce many of the federal regulations under the Clean Air Act. This authority is based on a State Implementation Plan submitted to and approved by U.S. EPA. In order to maintain a sufficient State Implementation Plan, the proposed changes to chs. NR 404 and 405 addressed by this rule package are required.

The Department is proposing changes to maintain consistency with existing U. S. EPA regulations in three areas: a., identifying nitrogen oxides as a precursor to ozone; b., updating requirements concerning particulate matter with an aerodynamic diameter less than or equal to 2.5 micrometers (PM<sub>2.5</sub>); and c., amending the definition of volatile organic compound by adding 8 compounds to the list of compounds with negligible photochemical reactivity. These are each described further below:

a. Sections NR 405.02 (21) (a), (22) (b), (27) (a) (6) and 405.07 (8) (a) 5., Wis. Adm. Code, to specifically identify that, in addition to volatile organic compounds, nitrogen oxides (NO<sub>x</sub>) are a precursor to ozone formation consistent with U.S. EPA requirements in 40 CFR 51.166 (b) and (i).

b. 1. Section NR 404.05, Wis. Adm. Code, to adopt ambient air increments for PM<sub>2.5</sub>. Ambient air increments for pollutants with national ambient air quality standards, including PM<sub>2.5</sub>, are established by the U.S. EPA in 40 CFR 51.166 (c), and

2. Section NR 405.02 (3), (21m), and (22m), Wis. Adm. Code, to include PM<sub>2.5</sub> in the definitions of “baseline area”, “major source baseline date”, and “minor source baseline date”, respectively. These terms are defined by the U.S. EPA in 40 CFR 51.166 (b) (14) (i) and (ii) and (15) (i).

3. Section NR 405.07 (8) (a) 3m. to change the significant monitoring concentration for PM<sub>2.5</sub> to zero in accordance with *Sierra Club v. EPA*, 706 F.3d 428 (D.C. Cir. 2013).

c. Chapter NR 400, Wis. Adm. Code, establishes definitions for terms commonly used throughout chs. NR 401 to 499, Wis. Adm. Code. A definition for the term ‘volatile organic compounds’ or ‘VOC’ is included in s. NR 400.02 (162), Wis. Adm. Code. In the ambient air these compounds can participate in photochemical reactions to produce ozone, more commonly referred to as smog, and are therefore subject to emission control requirements and may trigger the need to obtain a construction or operation permit. The U.S. EPA has determined that certain organic compounds have negligible photochemical reactivity in the atmosphere and therefore excludes them from the federal definition of VOC in 40 CFR 51.100 (s). To maintain consistency with federal rule, the Department proposes to add these eight compounds to the list of excluded compounds in the state definition. These compounds are:

1. Trans-1,3,3,3-tetrafluoropropene (HFO-1234ze).
2. HCF<sub>2</sub>OCF<sub>2</sub>H (HFE-134).
3. HCF<sub>2</sub>OCF<sub>2</sub>OCF<sub>2</sub>H (HFE-236cal2).
4. HCF<sub>2</sub>OCF<sub>2</sub>CF<sub>2</sub>OCF<sub>2</sub>H (HFE-338pcc13).
5. HCF<sub>2</sub>OCF<sub>2</sub>OCF<sub>2</sub>CF<sub>2</sub>OCF<sub>2</sub>H (H-Galden 1040X or H-Galden ZT 130 (or 150 or 180)).
6. Trans-1-chloro-3,3,3-trifluoroprop-1-ene (Solstice™ 1233zd(E)).
7. 2,3,3,3-tetrafluoropropene (HFO-1234yf).
8. 2-amino-2-methyl-1-propanol (AMP; CAS number 124-68-5).

#### (B) Obsolete Rules.

In addition to the changes described above to maintain consistency with U.S. EPA regulations, the Department is also proposing to repeal the stage 2 vapor recovery regulations in s. NR 420.045 and make clean-up changes to associated rules provisions, including the repeal of grant rules in ch. NR 172 for gas stations in Southeastern Wisconsin. Stage 2 vapor recovery equipment captures volatile organic compounds that evaporate into the air when vehicle gasoline tanks are filled and returns the vapors to the underground gasoline storage tank where they condense. Beginning with 1998 model year vehicles, the U.S. EPA began requiring manufactures to equip new vehicles with on-board gasoline vapor recovery systems. These systems serve the same purpose as the stage 2 vapor recovery equipment at gasoline dispensing facilities. The U.S. EPA authorized states to remove stage 2 vapor recovery equipment requirements from their ozone state implementation plan (SIP) which Wisconsin did, effective December 4, 2013.

## **6. Summary of, and comparison with, existing or proposed federal statutes and regulations:**

The Department is proposing changes in ch. NR 405, Wis. Adm. Code, to address changes needed to maintain consistency with U. S. EPA regarding rules for issuing construction permits for any new major stationary source and any major modification to an existing stationary source located in areas designated as in attainment with national ambient air quality standards or as unclassifiable. These changes are needed to

conform with federal requirements in three areas: identifying nitrogen oxides as a precursor to ozone consistent with 40 CFR 51.166; updating the ambient air increment and the significant monitoring concentration for PM<sub>2.5</sub> consistent with 40 CFR 51.166; and adding 8 compounds to the list of compounds with negligible photochemical reactivity consistent with the federal definition of VOC in 40 CFR 51.100 (s)

To address consistency with U. S. EPA regarding nitrogen oxides (NO<sub>x</sub>) as a precursor to ozone, the Department is proposing changes to Sections NR 405.02 (21) (a), (22) (b), (27) (a) (6) and 405.07 (8) (a) 5., Wis. Adm. Code, to specifically identify that, in addition to volatile organic compounds, NO<sub>x</sub> emissions are a precursor to ozone formation consistent with U.S. EPA requirements in 40 CFR 51.166 (b) and (i).

To address consistency with U.S. EPA regarding particulate matter with an aerodynamic diameter less than or equal to 2.5 micrometers (PM<sub>2.5</sub>), the Department is proposing rule changes in three areas:

(A) Section 404.05 to add the Class I, Class II, and Class III increment values to ch. NR 404 as established in 40 CFR 51.166 (c);

(B) Section 405.02 (3), (21m), and (22m), to include PM<sub>2.5</sub> in the definitions of “baseline area”, “major source baseline date”, and “minor source baseline date”, consistent with federal regulations in 40 CFR 51.166 (b); and

(C) Section 405.07 (8) (a) 3m., to adopt the significant monitoring concentration for PM<sub>2.5</sub> of zero (0) as required in 40 CFR 51.166 (i) (5) (i) (c);

To address consistency with U. S. EPA regarding the definition of VOC, the Department proposes to add eight compounds to the list of excluded compounds in the state definition in s. NR 400.02 (162), Wis. Adm. Code. This is consistent with the federal definition of VOC in 40 CFR 51.100 (s).

#### **7. Comparison with similar rules in adjacent states (Illinois, Iowa, Michigan and Minnesota):**

This proposed rule implements changes needed to assure consistency between state and federal rules and thus, result in rules similar to those in neighboring states. Illinois and Minnesota are direct delegated states, meaning that they are implementing directly the federal program and are not implementing their programs through a State Implementation Plan (SIP), as Wisconsin does. Iowa and Michigan, similar to Wisconsin, are SIP-approved states, so they are implementing the same federal programs, but through their own state rules. It is the goal of SIP-approved states to implement federal programs in accordance with the regulations set out in federal code. This results in similar requirements from state to state.

#### **8. Summary of factual data and analytical methodologies used and how any related findings support the regulatory approach chosen:**

Since the Department is proposing rules consistent with federal regulations, making consistency and clarification changes, and repealing rules as directed by the state legislature, the Department did not make use of any factual data or analytical methodologies in the rule development.

#### **9. Analysis and supporting documents used to determine the effect on small business or in preparation of an economic impact report:**

The economic impact of the proposed rule is expected to be minimal. When U.S. EPA adopts changes to the federal major air pollution control construction permit program, the Department immediately implements those changes through the state’s construction permitting program. For this reason, the consistency changes being proposed, that specifically name NO<sub>x</sub> as a precursor to ozone, will not have any additional economic impact on facilities obtaining major source air pollution construction permits (PSD permits).

The adoption of the PM<sub>2.5</sub> increment will require additional analysis during the air construction permit reviews for minor sources (which may be small businesses) wishing to expand in areas where increment must be analyzed. However, because the Department has developed a weight of evidence approach to evaluate PM<sub>2.5</sub> emissions against the increment, the Department does not anticipate that this additional analysis will cause noticeable delays in minor source permit issuance times and therefore, will not result in any significant impact to small businesses.

The Department has not been implementing the stage 2 vapor recovery program since 2012 when the state legislature terminated further implementation. Repeal of these outdated rules clarifies applicable requirements for the affected businesses and is not expected to have an adverse economic impact on them. As noted above, U.S. EPA already approved the removal of these requirements from Wisconsin's SIP.

The portion of the rule that proposes to change the definition of volatile organic compounds (VOC) to make the rule consistent with the definition in federal regulations will provide clarity to businesses in how to calculate and report VOC emissions and on the applicability of regulations. This change is not expected to have a negative economic impact on businesses and, since the proposed change is specifically to exclude some organic compounds from the definition of VOC, the rule change could have a small, positive economic impact on certain facilities that use the excluded compounds.

#### **10. Effect on small business (initial regulatory flexibility analysis):**

The changes proposed in this rule are not expected to have an adverse economic impact on businesses, including small businesses. Small businesses are usually not major sources for purposes of the major source air pollution control construction permit program (PSD program) because they tend not to have large amounts of emissions. Since the Department is already implementing the PSD program, as required by U.S. EPA, the consistency changes being proposed in this rule will not have any additional economic impacts.

The adoption of the PM<sub>2.5</sub> increment will require some additional analysis during the air construction permit review for some small businesses expanding in certain parts of the state, however, the Department does not anticipate that this additional analysis will cause noticeable delays in permit issuance times and therefore, will not result in any significant impact to the affected businesses.

The portion of the rule that proposes to change the definition of volatile organic compounds (VOC) to make the rule consistent with the definition in federal regulations will provide clarity to businesses in how to calculate and report VOC emissions and on the applicability of regulations. Small businesses affected include coating facilities, paint shops, autobody shops, and printing operations. This change is not expected to have a negative economic impact on these businesses however, because the proposed change is specifically to exclude some organic compounds from the definition of VOC. In fact, the rule change could have a positive economic impact on small businesses that use the compounds proposed to be excluded.

Many gasoline dispensing facilities are small businesses. The proposed repeal of the stage 2 vapor recovery program and related implementing rules will clarify applicable requirements for the affected small businesses and is not expected to have an adverse economic impact on them.

#### **11. Agency contact person:**

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SECTION 1. NR 172 is repealed.

SECTION 2. NR 400.02 (162) (a) 53. to 60. are created to read:

- NR 400.02 (162) (a) 53. Trans-1,3,3,3-tetrafluoropropene (HFO-1234ze).
54. HCF<sub>2</sub>OCF<sub>2</sub>H (HFE-134).
55. HCF<sub>2</sub>OCF<sub>2</sub>OCF<sub>2</sub>H (HFE-236ca2).
56. HCF<sub>2</sub>OCF<sub>2</sub>CF<sub>2</sub>OCF<sub>2</sub>H (HFE-338pcc13).
57. HCF<sub>2</sub>OCF<sub>2</sub>OCF<sub>2</sub>CF<sub>2</sub>OCF<sub>2</sub>H (H-Galden 1040X or H-Galden ZT 130 (or 150 or 180)).
58. Trans-1-chloro-3,3,3-trifluoroprop-1-ene (Solstice<sup>TM</sup> 1233zd(E)).
59. 2,3,3,3-tetrafluoropropene (HFO-1234yf).
60. 2-amino-2-methyl-1-propanol (AMP; CAS number 124-68-5).

SECTION 3. NR 404.05 (2) (intro.) is amended to read:

NR 404.05 (2) (intro.) CLASS I INCREMENTS. In any area of this state classified under the ~~federal clean air act~~ Act as a class I area, the ambient air increments ~~of particulate matter measured as for~~ PM<sub>10</sub>, PM<sub>2.5</sub>, sulfur dioxide, and nitrogen dioxide may not exceed the following amounts:

SECTION 4. NR 404.05 (2) (am) is created to read:

NR 404.05 (2) (am) *PM*<sub>2.5</sub>.

1. Annual arithmetic mean                                 1 microgram per cubic meter
2. Twenty-four hour maximum                             2 micrograms per cubic meter

SECTION 5. NR 404.05 (3) (intro.) is amended to read:

NR 404.05 (3) (intro.) CLASS II INCREMENTS. In any area of this state classified under the ~~act~~ Act as a class II area, the ambient air increments ~~of particulate matter measured as for~~ PM<sub>10</sub>, PM<sub>2.5</sub>, sulfur dioxide, and nitrogen dioxide may not exceed the following amounts:

SECTION 6. NR 404.05 (3) (am) is created to read:

NR 404.05 (3) (am) *PM*<sub>2.5</sub>.

1. Annual arithmetic mean                                 4 micrograms per cubic meter
2. Twenty-four hour maximum                             9 micrograms per cubic meter

SECTION 7. NR 404.05 (4) (intro.) is amended to read:

NR 404.05 (4) (intro.) CLASS III INCREMENTS. In any area of this state classified under the ~~act~~ Act as a class III area, the ambient air increments ~~of particulate matter measured as for~~ PM<sub>10</sub>, PM<sub>2.5</sub>, sulfur dioxide, and nitrogen dioxide may not exceed the following amounts:

SECTION 8. NR 404.05 (4) (am) is created to read:

NR 404.05 (4) (am) *PM<sub>2.5</sub>*.

1. Annual arithmetic mean 8 micrograms per cubic meter
2. Twenty-four hour maximum 18 micrograms per cubic meter

SECTION 9. NR 405.02 (3), (21) (a), and (21m) (a) are amended to read:

NR 405.02 (3) "Baseline area" means any intrastate area, and every part thereof, designated as attainment or unclassifiable under section 107 (d) (1) ~~(D) or (E)~~ (A) (ii) or (iii) of the Act (42 USC 7407 (d) (1) ~~(D) or (E)~~ (A) (ii) or (iii)) in which the major source or major modification establishing the minor source baseline date would construct or would have an air quality impact for the pollutant for which the baseline date is established equal to or greater than 1 µg/m<sup>3</sup> (annual average) ~~of the air contaminant for which the minor source baseline date is established~~ for SO<sub>2</sub>, NO<sub>2</sub>, or PM<sub>10</sub>, or equal to or greater than 0.3µg/m<sup>3</sup> (annual average) for PM<sub>2.5</sub>. Area redesignations under section 107 (d) (1) ~~(D) or (E)~~ (A) (ii) or (iii) of the Act (42 USC 7407 (d) (1) (A) (ii) or (iii)) cannot intersect or be smaller than the area of impact of any major stationary source or major modification which either establishes a minor source baseline date or is subject to this chapter.

(21) (a) Any significant emissions increase from any emissions units or net emissions increase at a major stationary source that is significant for volatile organic compounds or nitrogen oxides shall be considered significant for ozone.

(21m) (a) In the case of ~~particulate matter~~ PM<sub>10</sub> and sulfur dioxide, January 6, 1975.

SECTION 10. NR 405.02 (21m) (c) is created to read:

NR 405.02 (21m) (c) In the case of PM<sub>2.5</sub>, October 20, 2010.

SECTION 11. NR 405.02 (22) (b) and (22m) (a) 1. and (b) 1. are amended to read:

NR 405.02 (22) (b) A major source that is major for volatile organic compounds or nitrogen oxides shall be considered major for ozone.

(22m) (a) 1. In the case of ~~particulate matter~~ PM<sub>10</sub> and sulfur dioxide, August 7, 1977.

(b) 1. The area in which the proposed source or modification would construct is designated as attainment or unclassifiable under section 107 (d) (1) ~~(D) or (E)~~ (A) (ii) or (iii) of the Act (42 USC 7407(d)(1)~~(D) or (E)~~ (A)(ii) or (iii)) for the air contaminant on the date of its complete application under 40

CFR 52.21 or under regulations approved pursuant to 40 CFR 51.166.

SECTION 12. NR 405.02 (22m) (a) 3. is created to read:

NR 405.02 (22m) (a) 3. In the case of PM<sub>2.5</sub>, October 20, 2011.

SECTION 13. NR 405.02 (27) (a) 6. is amended to read:

NR 405.02 (27) (a) 6. Ozone: 40 tpy of volatile organic compounds or nitrogen oxides.

SECTION 14. NR 405.07 (8) (a) 3m. is amended to read:

NR 405.07 (8) (a) 3m. PM<sub>2.5</sub> – ~~2.3~~ 0 µg/m<sup>3</sup>, ~~24-hour average~~ .

SECTION 15. NR 405.07 (8) (a) 3m. (Note) is created to read:

NR 405.07 (8) (a) 3m. (Note) In accordance with *Sierra Club v. EPA*, 706 F.3d 428 (D.C. Cir. 2013), no exemption is available with regard to PM<sub>2.5</sub>.

SECTION 16. NR 405.07 (8) (a) 5. (Note) is amended to read:

NR 405.07 (8) (a) 5. (Note) No de minimis air quality level is provided for ozone. However, any source with a net increase of 100 tons per year or more of volatile organic compounds or nitrogen oxides subject to regulation under this chapter would be required to perform an ambient impact analysis, including the gathering of ambient air quality data.

SECTION 17. NR 420.02 (8m), (26), (32), and (38m) are repealed.

SECTION 18. NR 420.02 (39) is amended to read:

NR 420.02 (39) “Vapor recovery system” or “vapor control system” ~~means~~ mean a system that gathers organic compound vapors released during the operation of any transfer, storage, or process equipment and processes the vapors so as to prevent their emission into the ambient air.

SECTION 19. NR 420.03 (4) (b) 3. is amended to read:

NR 420.03 (4) (b) 3. All gauging and sampling devices are ~~vapor-tight~~ vapor tight except when gauging or sampling is taking place.

SECTION 20. NR 420.04 (1) (b) 4. and (3) (c) 1. are amended to read:

NR 420.04 (1) (b) 4. All loading and vapor lines are equipped with fittings which make ~~vapor-tight~~ vapor tight connections and which close automatically when disconnected.



(3) (c) 1. vapor balance system with a ~~vapor-tight~~ vapor tight vapor return line from the storage tank to the delivery vessel and a system that will ensure the vapor line is connected before gasoline can be transferred into the storage tank.

SECTION 21. NR 420.045 is repealed.

SECTION 22. NR 425.035 is repealed.

SECTION 23. NR 439.06 (3) (i) is repealed.

SECTION 24. NR 484.05 (4) and (5) are repealed.

SECTION 25. NR 494.04 is repealed.

SECTION 26. 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 27. BOARD ADOPTION. This rule was approved and adopted by the State of Wisconsin Natural Resources Board on January 27, 2016.