

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

The Wisconsin Natural Resources Board adopts an order to **amend** 407.02 (4) (b) (intro.), and Table 3 in 407.05 (5) and to **create** NR 400.02 (74m), 400.03 (3) (om), and (4) (go) and (kg), 405.02 (28m), 405.07 (9), 407.02 (8m) and 407.075 relating to major source permitting thresholds for sources of greenhouse gas emissions and affecting small business.

AM-17-10

Analysis Prepared by the Department of Natural Resources

1. Statute interpreted: Sections 227.11(2)(a), 227.14(1m)(b), 285.11(1) and (16), and 285.60, Stats. The State Implementation Plan developed under s. 285.11(6), Stats., is revised.

2. Statutory authority: Sections 227.11 (2) (a), 227.14 (1m) (b), 285.11 (1) and (16), 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 that specify the amounts of emissions that result in a stationary source being classified as a major source. This section requires the rules to be consistent with but no more restrictive than the federal Clean Air Act.

4. Related statute or rule: None

5. Plain language analysis: On April 1, 2010, US EPA promulgated the first standard for regulating motor vehicle gases contributing to climate change, i.e., greenhouse gases or GHG. Because of the way the Clean Air Act (CAA) is structured, once GHG emissions from motor vehicles are subject to regulation, stationary sources become regulated for these gases. Without further action by EPA, this standard has the unintended affect of subjecting literally tens of thousands of sources across the country to some of the most complex air permit and emission control regulations. In order to mitigate this unintended effect, EPA promulgated on June 3, 2010 (75 FR 31514), an additional "tailoring" rule that limits the number of sources subject to the permit and emission control regulations.

Under current state statutes and administrative code, Wisconsin sources would have become subject to permit and emission control requirements on January 2, 2011. However, Wisconsin sources will not benefit from the tailoring rule limiting applicability under air permit and emission control regulations until revisions can be made to Wisconsin administrative code. The Department therefore promulgated emergency rule AM-48-10(E) to receive the relief intended under the federal tailoring rule. This order proposes to permanently revise the administrative code to make it consistent with the new federal rule.

Specifically, this proposal will define the greenhouse gases subject to regulation, establish greenhouse gas emission thresholds, that if exceeded, will trigger permitting and emission control requirements, and establish

global warming potential factors which are used to calculate individual greenhouse gas emissions on an equivalent and comparable basis.

6. Summary of, and comparison with, existing or proposed federal regulation:

U.S. EPA promulgated rules in 40 CFR parts 51 and 70 as revised on June 3, 2010 (75 FR 31514) to relieve overwhelming permitting burdens that would, in the absence of these rule, fall on permitting authorities and sources. They accomplished this by tailoring the applicability criteria that determine which GHG emission sources become subject to the PSD and Title V programs of the CAA. In particular, EPA established with this rulemaking a phase-in approach for PSD and Title V applicability, and established the first two steps of the phase-in for the largest emitters of GHG.

Under these federal rules, the first step, which will begin on January 2, 2011, PSD or Title V requirements will apply to sources' GHG emissions only if the sources are subject to PSD or Title V anyway due to their non-GHG pollutants. Therefore, EPA will not require source owners or operators to evaluate whether they are subject to PSD or Title V requirements solely on account of their GHG emissions. Specifically, for PSD, Step 1 requires that as of January 2, 2011, the applicable requirements of PSD, most notably, the best available control technology (BACT) requirement, will apply to projects that increase net GHG emissions by at least 75,000 tpy carbon dioxide equivalent emissions, but only if the project also significantly increases emissions of at least one non-GHG pollutant. For the Title V program, only owners or operators of existing sources with, or new sources obtaining, Title V permits for non-GHG pollutants will be required to address GHG during this first step.

The second step of the federal rules, beginning on July 1, 2011, will phase in additional large sources of GHG emissions. New sources as well as existing sources not already subject to Title V that emit, or have the potential to emit, at least 100,000 tpy carbon dioxide equivalent emissions will become subject to the PSD and Title V requirements. In addition, sources that emit or have the potential to emit at least 100,000 tpy carbon dioxide equivalent emissions and that undertake a modification that increases net emissions of GHG by at least 75,000 tpy carbon dioxide equivalent emissions will also be subject to PSD requirements.

An important provision of these federal rules is that PSD and Title V permitting is only triggered when both the appropriate traditional mass-based applicability threshold, i.e., 100 tpy or 250 tpy, and the GHG carbon dioxide equivalent emission threshold are exceeded.

U.S. EPA also makes certain commitments to conduct studies related to potential regulatory burdens which could result from lowering the applicability threshold from what is contained in the current rule. Except for these federal commitments, the rules proposed here are consistent with the federal rules.

7. Comparison with similar rules in adjacent states (Illinois, Iowa, Michigan, and Minnesota): The states of Illinois and Minnesota are US EPA delegated states so they do not need to amend their state rules to implement the provision of the federal tailoring rule. Michigan and Iowa are SIP approved states like Wisconsin, so they will need to implement rules similar to what are being proposed here in order to modify their permit program and implement the provisions of the federal 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. Information on the federal rule changes can be obtained from federal registers published on October 27, 2009 (74 FR 55292), October 30, 2009 (74 FR 56260), and June 3, 2010 (75 FR 31514).

9. Analysis and supporting documents used to determine the effect on small business or in preparation of an economic impact report: The Department did not conduct an independent analysis of the effect on small business, but is relying on the analysis performed by the US EPA. This analysis can be found in US EPA's rule

docket for Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule; Proposed Rule [EPA-HQ-OAR-2009-0517; FRL-8966-7], October 27, 2009 (74 FR 55292).

10. Effect on small business: This proposal will prevent unintended impacts to small businesses resulting from promulgation by U.S. EPA of emission standards for GHG, by limiting the number that may become subject to the Title V and PSD permitting programs.

11. Agency contact person: Andrew Stewart, 608-266-6876, andrew.stewart@wisconsin.gov

SECTION 1. NR 400.02 (74m) is created to read:

NR 400.02 (74m) “Greenhouse gases” or “GHG” means an air pollutant that is the aggregate of carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), sulfur hexafluoride (SF₆), hydrofluorocarbons (HFCs), and perfluorocarbons (PFCs).

SECTION 2. NR 400.03 (3) (om) and (4) (go) and (kg) are created to read:

NR 400.03 (3) (om) “SF₆” – sulfur hexafluoride

(4) (go) “GHG” – greenhouse gases

(kg) “PFC” – perfluorocarbon

SECTION 3. NR 405.02 (28m) is created to read:

NR 405.02 (28m) “Subject to regulation under the Act” means, for any air contaminant, that the contaminant is subject to either a provision of the Act, or a nationally applicable regulation codified by the administrator in title 40, chapter I, subchapter C of the CFR, that requires actual control of the quantity of air emissions of the contaminant, and that the control requirement has taken effect and is operative to control, limit, or restrict the quantity of emissions of the contaminant released from the regulated activity.

SECTION 4. NR 405.07 (9) is created to read:

NR 405.07 (9) (a) Emissions of greenhouse gases at a stationary source shall only be subject to regulation under the Act as follows:

1. Beginning January 2, 2011, if the stationary source is any of the following:

a. A new major stationary source for a regulated NSR contaminant other than GHG, which will emit or will have the potential to emit 75,000 tpy or more of GHG on a carbon dioxide equivalent basis.

b. An existing major stationary source for a regulated NSR contaminant other than GHG, which will have an emissions increase of a regulated NSR contaminant other than GHG, and an emissions increase of 75,000 tpy or more of GHG on a carbon dioxide equivalent basis.

2. Beginning July 1, 2011, in addition to the provisions in subd. 1., if the stationary source is any of the following:

a. A new stationary source that will emit or have the potential to emit 100,000 tpy or more of GHG on a carbon dioxide equivalent basis.

b. An existing stationary source that emits or has the potential to emit 100,000 tpy or more of GHG on a carbon dioxide equivalent basis, and the source undertakes a physical change or change in the method of operation that will result in an emissions increase of 75,000 tpy or more of GHG on a carbon dioxide equivalent basis.

Note: The department intends to regulate GHG consistent with the 40 CFR 51.166 (June 3, 2010). In the event of litigation or congressional action which impacts the federal regulations, the department will commence rulemaking to remain consistent with the resulting federal regulations.

(b) For purposes of this subsection, emissions of GHG on a carbon dioxide equivalent basis shall be determined by multiplying the mass amount of emissions, in tons per year, for each of the constituent gases in the pollutant GHG by the associated global warming potential for the gas in Table B, and then summing the products obtained.

Table B
Global Warming Potentials (GWP)

	Greenhouse Gas	Chemical Abstract Service Number¹	Chemical Formula	GWP
	(a)	(b)	(c)	(d)
1.	Carbon dioxide	124-38-9	CO ₂	1
2.	Methane	74-82-8	CH ₄	21
3.	Nitrous oxide	10024-97-2	N ₂ O	310
4.	HFC-23	75-46-7	CHF ₃	11,700
5.	HFC-32	75-10-5	CH ₂ F ₂	650
6.	HFC-41	593-53-3	CH ₃ F	150
7.	HFC-125	354-33-6	C ₂ HF ₅	2,800
8.	HFC-134	359-35-3	C ₂ H ₂ F ₄	1,000

Table B
Global Warming Potentials (GWP)

	Greenhouse Gas	Chemical Abstract Service Number¹	Chemical Formula	GWP
	(a)	(b)	(c)	(d)
9.	HFC-134a	811-97-2	CH ₂ FCF ₃	1,300
10.	HFC-143	430-66-0	C ₂ H ₃ F ₃	300
11.	HFC-143a	420-46-2	C ₂ H ₃ F ₃	3,800
12.	HFC-152	624-72-6	CH ₂ FCH ₂ F	53
13.	HFC-152a	75-37-6	CH ₃ CHF ₂	140
14.	HFC-161	353-36-6	CH ₃ CH ₂ F	12
15.	HFC-227ea	431-89-0	C ₃ HF ₇	2,900
16.	HFC-236cb	677-56-5	CH ₂ FCF ₂ CF ₃	1,340
17.	HFC-236ea	431-63-0	CHF ₂ CHFCF ₃	1,370
18.	HFC-236fa	690-39-1	C ₃ H ₂ F ₆	6,300
19.	HFC-245ca	679-86-7	C ₃ H ₃ F ₅	560
20.	HFC-245fa	460-73-1	CHF ₂ CH ₂ CF ₃	1,030
21.	HFC-365mfc	406-58-6	CH ₃ CF ₂ CH ₂ CF ₃	794
22.	HFC-43-10mee	138495-42-8	CF ₃ CFHCFHCF ₂ CF ₃	1,300
23.	Sulfur hexafluoride	2551-62-4	SF ₆	23,900
24.	Trifluoromethyl sulphur pentafluoride	373-80-8	SF ₅ CF ₃	17,700
25.	Nitrogen trifluoride	7783-54-2	NF ₃	17,200
26.	PFC-14 (Perfluoromethane)	75-73-0	CF ₄	6,500
27.	PFC-116 (Perfluoroethane)	76-16-4	C ₂ F ₆	9,200
28.	PFC-218 (Perfluoropropane)	76-19-7	C ₃ F ₈	7,000
29.	Perfluorocyclopropane	931-91-9	C-C ₃ F ₆	17,340
30.	PFC-3-1-10 (Perfluorobutane)	355-25-9	C ₄ F ₁₀	7,000
31.	Perfluorocyclobutane	115-25-3	C-C ₄ F ₈	8,700
32.	PFC-4-1-12 (Perfluoropentane)	678-26-2	C ₅ F ₁₂	7,500
33.	PFC-5-1-14 (Perfluorohexane)	355-42-0	C ₆ F ₁₄	7,400
34.	PFC-9-1-18	306-94-5	C ₁₀ F ₁₈	7,500
35.	HCFE-235da2 (Isoflurane)	26675-46-7	CHF ₂ OCHClCF ₃	350
36.	HFE-43-10pccc (H-Galden 1040x)	E1730133	CHF ₂ OCF ₂ OC ₂ F ₄ OCHF ₂	1,870
37.	HFE-125	3822-68-2	CHF ₂ OCF ₃	14,900
38.	HFE-134	1691-17-4	CHF ₂ OCHF ₂	6,320
39.	HFE-143a	421-14-7	CH ₃ OCF ₃	756
40.	HFE-227ea	2356-62-9	CF ₃ CHFOCF ₃	1,540
41.	HFE-236ca12 (HG-10)	78522-47-1	CHF ₂ OCF ₂ OCHF ₂	2,800
42.	HFE-236ea2 (Desflurane)	57041-67-5	CHF ₂ OCHF ₂ CF ₃	989
43.	HFE-236fa	20193-67-3	CF ₃ CH ₂ OCF ₃	487
44.	HFE-245cb2	22410-44-2	CH ₃ OCF ₂ CF ₃	708
45.	HFE-245fa1	84011-15-4	CHF ₂ CH ₂ OCF ₃	286
46.	HFE-245fa2	1885-48-9	CHF ₂ OCH ₂ CF ₃	659
47.	HFE-254cb2	425-88-7	CH ₃ OCF ₂ CHF ₂	359
48.	HFE-263fb2	460-43-5	CF ₃ CH ₂ OCH ₃	11
49.	HFE-329mcc2	67490-36-2	CF ₃ CF ₂ OCF ₂ CHF ₂	919

Table B
Global Warming Potentials (GWP)

	Greenhouse Gas	Chemical Abstract Service Number ¹	Chemical Formula	GWP
	(a)	(b)	(c)	(d)
50.	HFE-338mcf2	156053-88-2	CF ₃ CF ₂ OCH ₂ CF ₃	552
51.	HFE-338pcc13 (HG-01)	188690-78-0	CHF ₂ OCF ₂ CF ₂ OCHF ₂	1,500
52.	HFE-347mcc3	28523-86-6	CH ₃ OCF ₂ CF ₂ CF ₃	575
53.	HFE-347mcf2	E1730135	CF ₃ CF ₂ OCH ₂ CHF ₂	374
54.	HFE-347pcf2	406-78-0	CHF ₂ CF ₂ OCH ₂ CF ₃	580
55.	HFE-356mec3	382-34-3	CH ₃ OCF ₂ CHF ₂ CF ₃	101
56.	HFE-356pcc3	160620-20-2	CH ₃ OCF ₂ CF ₂ CHF ₂	110
57.	HFE-356pcf2	E1730137	CHF ₂ CH ₂ OCF ₂ CHF ₂	265
58.	HFE-356pcf3	35042-99-0	CHF ₂ OCH ₂ CF ₂ CHF ₂	502
59.	HFE-365mcf3	378-16-5	CF ₃ CF ₂ CH ₂ OCH ₃	11
60.	HFE-374pc2	512-51-6	CH ₃ CH ₂ OCF ₂ CHF ₂	557
61.	HFE-449sl (HFE-7100)	163702-07-6	C ₄ F ₉ OCH ₃	297
	Chemical blend	163702-08-7	(CF ₃) ₂ CF ₂ OCF ₂ OCH ₃	
62.	HFE-569sf2 (HFE-7200)	163702-05-4	C ₄ F ₉ OC ₂ H ₅	59
	Chemical blend	163702-06-5	(CF ₃) ₂ CF ₂ OC ₂ H ₅	
63.	Sevoflurane	28523-86-6	CH ₂ FOCH(CF ₃) ₂	345
64.	HFE-356mm1	13171-18-1	(CF ₃) ₂ CHOCH ₃	27
65.	HFE-338mmz1	26103-08-2	CHF ₂ OCH(CF ₃) ₂	380
66.	(Octafluorotetramethylene) hydroxymethyl group	NA	X-(CF ₂) ₄ CH(OH)-X	73
67.	HFE-347mmy1	22052-84-2	CH ₃ OCF(CF ₃) ₂	343
68.	Bis (trifluoromethyl)-methanol	920-66-1	(CF ₃) ₂ CHOH	195
69.	2,2,3,3,3-pentafluoropropanol	422-05-9	CF ₃ CF ₂ CH ₂ OH	42
70.	PFPME	NA	CF ₃ OCF(CF ₃)CF ₂ OCF ₂ OCF ₃	10,300

¹ The Chemical Abstract Service or CAS numbers refer to the unique chemical abstracts service registry number assigned to a specific chemical, isomer or mixture of chemicals or isomers and recorded in the CAS chemical registry system by the Chemical Abstracts Service, PO Box 3012, Columbus OH 42310, phone: 1-614-447-3600.

Note: The GWPs in Table B are based upon the GWPs codified by the EPA at 40 CFR part 98, Subpart A, Table A-1, as of October 22, 2010.

SECTION 5. NR 407.02 (4) (b) (intro.) is amended to read:

NR 407.02 (4) (b) (intro.) A stationary source that directly emits, or has the potential to emit, 100 tpy or more of any air contaminant subject to regulation under the Act other than particulate matter ~~emissions~~. For particulate matter ~~emissions~~, a stationary source is a major source if it ~~has~~ emits, or has the potential to emit, 100 tpy of PM₁₀ ~~emissions~~. The fugitive emissions of a stationary source may not be considered in determining whether it is a major source for the purposes of this definition, unless the

source belongs to one of the following categories of stationary sources:

SECTION 6. NR 407.02 (8m) is created to read:

NR 407.02(8m) “Subject to regulation under the Act” has the meaning given in s. NR 405.02 (28m).

SECTION 7. A column heading in Table 3 of NR 407.05 is amended, a new table entry added in alphabetical order, and footnotes added to read:

NR 407.05 (5) Table 3

Air Contaminant Name	Sources of Regulation (See Footnotes Below)	Chemical Abstract Service Number⁷	Inclusion Level (lbs/yr <u>unless otherwise noted</u>)
Greenhouse gases	10	*	10,000 tpy on a carbon dioxide equivalent basis ⁹

⁹ Emissions of GHG on a carbon dioxide equivalent basis shall be determined according to s. NR 405.07 (9) (b).

¹⁰Federal greenhouse gases listed under 40 CFR Part 70.

SECTION 8. NR 407.075 is created to read:

NR 407.075 **Greenhouse gases**. Emissions of greenhouse gases at a stationary source shall only be subject to regulation under the Act if, on or after July 1, 2011, the source emits or has the potential to emit 100,000 tpy or more of GHG on a carbon dioxide equivalent basis. For purposes of this section, emissions of GHG on a carbon dioxide equivalent basis shall be determined according to s. NR 405.07 (9) (b).

SECTION 9. 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 10. BOARD ADOPTION. This rule was approved and adopted by the State of Wisconsin Natural Resources Board on April 27, 2011.

Dated at Madison, Wisconsin June 27, 2011.

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES

By Scott Gunderson, EA for
Cathy Stepp, Secretary

(SEAL)