

DATE: February 12, 2009

FILE REF: 4503

TO: Natural Resources Board Members

FROM: Matthew J. Frank, Secretary

SUBJECT: Background memo on the request to adopt Order AM-24-08, proposed rules affecting chs. 419 and 484, Wis. Adm. Code, pertaining to establishing volatile organic compounds (VOC) emission control requirements for industrial wastewater collection and treatment operations from major sources in Wisconsin's ozone nonattainment areas

1. Why is this rule being proposed?

Section 182(b)(2) of Clean Air Act requires implementation of reasonably available control technology (RACT) for many emission source categories of VOCs in areas classified as moderate or worse nonattainment areas for the ozone national ambient air quality standard (NAAQS). The U.S. Environmental Protection Agency (EPA) has published Control Techniques Guidelines (CTGs) for many of these VOC RACT categories, including IWCT operations. The DNR has promulgated rules to establish VOC RACT emission limits for most of these CTG VOC source categories – applicable in Wisconsin's moderate and worse ozone nonattainment areas.

However, on March 17, 2008, EPA notified DNR that Wisconsin's state implementation plan (SIP) was deficient because DNR's rules did not set VOC RACT emission limits that are consistent with several EPA CTGs in Wisconsin's ozone nonattainment areas. The IWCT operations comprise one of these CTG VOC source categories for which the DNR has yet to promulgate a mandated RACT rule.

The EPA further notified the DNR that federal sanctions may be imposed in Wisconsin if the ozone SIP deficiencies identified in the March 17, 2008 letter are not fully rectified by mid-September, 2009. These potential federal sanctions include withholding of federal highway funds, and implementation of a federal air quality management plan in place of State rules.

In order to avoid these sanctions, the DNR is taking steps to remove the deficiencies to its ozone SIP. These steps include the proposed rule to establish VOC RACT requirements for IWCT operations in Wisconsin's ozone nonattainment areas.

2. Summary of the proposed rule

The proposed rule would require VOC RACT measures that are listed in EPA guidance (including the CTG) as being highly effective towards reducing VOC emissions from any applicable IWCT operations.

Almost all of the VOC emissions from IWCT processes simply evaporate from the waste stream when exposed to the ambient air. Consequently, the VOC RACT requirements stated in the proposed IWCT rule largely consist of implementing technologies and work practice standards that would combine to substantially suppress the exposure of the VOC-laden waste stream to the ambient air. These proposed requirements include the following:

- Sumps and wastewater separators shall be provided with either a floating cover equipped with seals or a fixed cover, equipped with a closed vent system vented to a pollution control device.

- All sewer lines shall be completely enclosed so that no liquid surface is exposed to the air.
- All process drain shall be equipped with water seal controls.
- All junction boxes shall be totally enclosed with a fixed cover with gasket or a manhole cover.
- Each pollution control device shall achieve a control efficiency of 95% by weight or greater for VOC emissions or emit VOC emissions measured at a concentration of less than 500 parts per million (ppm).

3. How this proposal affects existing policy

This proposed rule is necessary for DNR to meet the requirements under Section 182(b)(2) of the federal Clean Air Act. This proposed rule is consistent with existing policy, which is to adopt and enforce all requirements applicable to Wisconsin under the federal Clean Air Act.

4. Hearing Synopsis

A joint public hearing was held on proposed Orders AM-24-08, AM-19-08 and AM-20-08 at the DNR Southeast Headquarters in Milwaukee on December 5, 2008. Proposed Orders AM-19-08 and AM-20-08 address SIP deficiencies identified by EPA for other source categories. There were no appearances at this hearing. There were no public comments received that directly pertained to Order AM-24-08. Wisconsin Manufacturers and Commerce (WMC) provided written comments collectively on all three Air Management Orders. The principle WMC comment on these Orders was that "...it is absolutely vital that DNR swiftly promulgate any required RACT rules to avoid another missed opportunity for regulatory relief." None of WMC's comments pertained directly to proposed rule provision AM-24-08.

The Legislative Council Rules Clearinghouse (LCRC) submitted a report on Order AM-24-08 (Clearinghouse Rule 08-104) on November 20, 2008. The LCRC had no comments on AM-24-08.

5. Environmental review for potential impact

An environmental analysis of the impact of the proposed rule revisions is not needed because these changes are considered to be a Type III action under s. NR 150.03(3), Wis. Adm. Code. A Type III action is one that normally does not 1) have the potential to cause significant environmental effects, 2) significantly affect energy usage and 3) involve unresolved conflicts in the use of available resources.

6. Final regulatory flexibility analysis

The DNR does not believe that the proposed rule will have a significant economic impact on small businesses. Due to the 100 ton/year applicability threshold in the rule, it is highly unlikely that a small business, as defined under 227.114(1), Stats., would have an IWCT operation that triggers the emission reduction requirements in the rule.

Fiscal Estimate — 2008 Session

- Original Updated
 Corrected Supplemental

LRB Number	Amendment Number if Applicable
Bill Number	Administrative Rule Number NR 419 and 484

Subject: Department proposal to establish VOC emission control requirements for industrial wastewater collection and treatment (IWCT) operations from major VOC sources in Wisconsin's ozone nonattainment areas (i.e., proposed revisions to chs. NR 419 and NR 484, Wis. Adm. Code).

Fiscal Effect

- State: No State Fiscal Effect
 Indeterminate

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
 Indeterminate

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

Summary: The Department proposes administrative rules to establish reasonably available control technology (RACT) requirements for volatile organic compound (VOC) emissions and compliance testing criteria for industrial wastewater collection and treatment (IWCT) operations from major VOC sources in Wisconsin ozone nonattainment areas.

Fiscal estimate (local government): The proposed IWCT VOC control rule would apply only to companies that process their own industrial wastewater – rather than direct the waste stream to the local municipal wastewater treatment plants, which are already subject to DNR VOC emissions controls. Since municipal wastewater treatment plants are explicitly not involved with any independent IWCT operations which could potentially be regulated for VOCs, there would be no local government costs associated with any IWCT VOC RACT rules.

Fiscal estimate (state government and private): In 2007 the Department's investigation of potential VOC RACT sources yielded no facilities that would be subject to a proposed IWCT VOC RACT rule (page 39 of the Department's June, 2007 report "Revisions to the State Implementation Plan for 8-Hour Ozone"). Consequently, the Department stated that "no major industrial wastewater facilities exist in the seven moderate nonattainment counties."

However, EPA, citing that the DNR does not independently determine VOC emissions from wastewater - rejected DNR's negative declaration on facilities subject to IWCT VOC RACT. The State must correct all ozone SIP deficiencies (including adopt an IWCT VOC RACT rule) in order to avoid sanctions.

Since the Department is not able to identify any IWCT facilities in Wisconsin being subject to a VOC RACT rule, it appears that there are negligible costs to the governmental and private industries. However, if controls are necessary for any IWCT, they would largely be designed to reduce VOC emissions by restricting the waste stream's exposure to ambient air. This is accomplished by installing water seals at those process points (drains, junction boxes, manholes, etc.) where the waste stream is exposed to the ambient air. According to a report on industrial wastewater, there would be a cost (amortized over 10 years) between \$1900 and \$4300 per ton VOC reduction to install these control devices.

Long-Range Fiscal Implications

None

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/S/ Joe Polasek	266-2794	09/08/2008

Fiscal Estimate Worksheet — 2008 Session
 Detailed Estimate of Annual Fiscal Effect

Original Updated
 Corrected Supplemental

LRB Number	Amendment Number if Applicable
Bill Number	Administrative Rule Number NR 419 and 484

Subject: Department proposal to establish VOC emission control requirements for industrial wastewater collection and treatment (IWCT) operations from major VOC sources in Wisconsin's ozone nonattainment areas (i.e., proposed revisions to chs. NR 419 and NR 484, Wis. Admin. Code).

One-time Costs or Revenue Impacts for State and/or Local Government (do not include in annualized fiscal effect):

Annualized Costs:		Annualized Fiscal Impact on State Funds from:	
		Increased Costs	Decreased Costs
A. State Costs by Category			
State Operations — Salaries and Fringes		\$ -	\$ -
(FTE Position Changes)		(FTE)	(FTE)
State Operations — Other Costs		-	-
Local Assistance		-	-
Aids to Individuals or Organizations		-	-
Total State Costs by Category		\$ 0	\$ 0
B. State Costs by Source of Funds			
GPR		\$ -	\$ -
FED		-	-
PRO/PRS		-	-
SEG/SEG-S		-	-
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		\$ -	\$ -
GPR Earned		-	-
FED		-	-
PRO/PRS		-	-
SEG/SEG-S		-	-
Total State Revenues		\$ 0	\$ 0

Net Annualized Fiscal Impact

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

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

The Wisconsin Natural Resources Board adopts an order to **amend** NR 484.04(16), (19) and (20) and to **create** NR 419.02 (6g), (6r), (8m), (10m), (14g), (14r), (15m), (19), (20), (21) and (22) and 419.045 relating to VOC emission controls for industrial wastewater collection and treatment operations.

AM-24-08

Summary Prepared by the Department of Natural Resources

1. **Statute interpreted:** Sections 227.11(2)(a), 285.11(1) and (6), Stats. The State Implementation Plan developed under s. 285.11(6), Stats., is revised.
2. **Statutory authority:** Sections 227.11(2)(a) and 285.11(1) and (6), Stats.
3. **Explanation of agency authority:** Section 227.11(2)(a), Stats., gives state agencies general rulemaking authority. Section 285.11(1), Stats., gives the Department authority to promulgate rules consistent with ch. 285, Stats. Section 285.11 (6), Stats., requires DNR to develop a plan for the prevention, abatement and control of air pollution. With limited exceptions, the rules or control strategies for ozone control must conform to section 182(b)(2) of the federal Clean Air Act [42 USC 7511a (b)(2)].
4. **Related statute or rule:** There are no related statutes that are not identified above.
5. **Plain language analysis:** Section 182(b)(2) of Clean Air Act requires implementation of reasonably available control technology (RACT) for sources of volatile organic compounds (VOC) emissions in moderate and worse ozone nonattainment areas, for which EPA has published a Control Techniques Guideline (CTG). The DNR has promulgated rules for VOC RACT emission limits in Wisconsin's moderate ozone nonattainment areas.

However, on March 17, 2008, EPA notified DNR that Wisconsin's state implementation plan was deficient because DNR rules did not establish VOC RACT emission limits consistent with recently published CTGs in Wisconsin's ozone nonattainment areas. One of the identified VOC CTG emission source categories for which the DNR has yet to establish RACT limits is industrial wastewater collection and treatment (IWCT) operations. The rule is necessary to avoid potential federal sanctions.

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

The rule will modify the DNR's ozone state implementation plan to meet the requirements of the federal Clean Air Act and to clarify other state requirements.

7. **Comparison with similar rules in adjacent states:** The proposed rule is based on requirements established in the federal Clean Air Act. Any of the adjacent states which have ozone nonattainment areas are also charged with meeting these same requirements. Minnesota and Iowa do not have ozone nonattainment areas and therefore are not required to develop VOC RACT rules. The US EPA approved Illinois's non-declaration rulings that there are no industrial wastewater control and treatment (IWCT) operations in both the Chicago ozone nonattainment area (Federal Register, Apr.

27, 2001 [Vol 66, Number 82, Pages 21096-21099]) and the Illinois metro-east ozone nonattainment area near St. Louis, MO (Federal Register, Jan. 6, 1999 [Vol 64, Number 3, Pages 756-759]). Michigan currently has no rules that regulate VOC emissions from IWCT operations.

8. Summary of factual data and analytical methodologies used and how any related findings support the regulatory approach chosen: In a March 17, 2008 letter to the DNR, the US EPA outlined why Wisconsin's state implementation plan (SIP) for ozone was being declared deficient with respect to meeting requirements of the Federal Clean Air Act. These reasons included a failure to promulgate an administrative rule to require that VOC emissions from industrial wastewater collection and treatment operations be subject to reasonably available control technology (RACT) in Wisconsin's ozone nonattainment areas. In the same March 17 letter the US EPA notified the DNR that Wisconsin might be subject to federal sanctions if these deficiencies are not fully remedied by September 2009.

9. Analysis and supporting documents used to determine effect on small business or in preparation of economic impact report: Due to the 100 ton/year applicability threshold in the rule, it is highly unlikely that a small business, as defined under 227.114(1), Stats., would have an IWCT operation that triggers the emission reduction requirements in the rule.

10. Effect on small business: This rule will have no effect on small businesses.

11. Agency contact person: Bill Adamski, Wisconsin DNR, P.O. Box 7921, Madison, WI 53707, (608) 266-2660, william.adamski@wisconsin.gov

SECTION 1. NR 419.02 (6g), (6r), (8m), (10m), (14g), (14r), (15m), (19), (20), (21) and (22) are created to read:

NR 419.02(6g) "Fixed cover" means any impermeable cover for industrial wastewater collection and treatment operations installed in a permanent stationary position.

(6r) "Floating cover" means any impermeable cover for industrial wastewater collection and treatment operations that is in contact with a liquid surface at all times.

(8m) "Junction box" means any structure where sewer lines meet with one or more waste streams co-mingled.

(10m) "Manhole" means any service entrance into sewer lines that allows access.

(14g) "Process drain" means any opening, including a covered or controlled opening, that is installed or used to receive or convey wastewater into the wastewater system.

(14r) "Sewer line" means a lateral trunk line, branch line, ditch or other conduit used to convey

wastewater.

(15m) "Sump" means a surface impoundment or excavated depression in the ground, which is part of the wastewater system and is used for storage of wastewater or separation of petroleum liquids, VOC containing liquids, water or solids.

(19) "Wastewater" means a water stream or other liquid waste stream, which may contain petroleum liquid, emulsified oil, VOC or other hydrocarbons.

(20) "Wastewater separator" means any device, used to separate petroleum liquids or VOC containing liquids from the water or liquid waste stream including devices such as separator forebays, clarifiers and tanks including dissolved air flotation tanks, induced gas flotation tanks and induced air flotation tanks.

(21) "Wastewater system" means any system used to receive, convey, separate, treat or process wastewater that consists of one or more process drains, sewer lines, junction boxes, manholes, sumps or wastewater separators, including all of their associated components.

(22) "Water seal" means any seal pot, p-leg trap or other type of trap filled with a liquid not containing organic compounds in order to create a barrier between the sewer and the atmosphere.

SECTION 2. NR 419.045 is created to read:

NR 419.045 **Industrial wastewater collection and treatment operations.** (1) **APPLICABILITY AND EXEMPTIONS.** (a) *Applicability.* This section applies to any industrial wastewater collection and treatment (IWCT) facility that has maximum theoretical emissions of VOCs greater than or equal to 100 tons per year and that is located in the county of Milwaukee, Waukesha, Washington, Ozaukee, Racine, Kenosha or Sheboygan, and whose facility operations are specifically listed under any of the following codes in the North American Industry Classification System United States, 2007, incorporated by reference in s. NR 484.05(17):

1. All codes in the 4-digit industry group 3221, pulp, paper and paperboard mills.

2. Codes 32511, 32512, 32513, 32518, 32519, 32521, 32522 and 32532 from the 4-digit industry group 3251, basic chemical manufacturing.

3. Codes 325411, 325412 and 325414 from the 4-digit industry group 3254, pharmaceutical and medicine manufacturing.

4. Codes 562211, 562212, 562213 and 562219 from the 4-digit industry group 5622, waste treatment and disposal.

5. Code 56292 from the 4-digit industry group 5629, remediation and other waste management services.

(b) *Exemptions.* This section does not apply to IWCT operations that meet either of the following:

1. Discharge to a municipal wastewater treatment plant and is subject to the provisions of ch. NR 211.

2. Equipment, including catch basins that exclusively receive, hold, or discharge rainwater, storm water runoff or water that has not been in contact with any wastewater.

(2) EMISSION CONTROL REQUIREMENTS. The owner or operator of a facility subject to this section shall ensure that all of the following are met:

(a) *Sumps and wastewater separators.* Sumps and wastewater separators shall include one of the following:

1. A floating cover equipped with seals.

2. A fixed cover, equipped with a closed vent system vented to a control device that shall achieve either of the following:

a. A destruction efficiency of 95% by weight or greater of VOC as determined by Method 25A in 40 CFR part 60, Appendix A, incorporated by reference in s. NR 484.04 (20), at the outlet of the control device. Each emissions test shall be performed annually to determine control efficiency and follow the methods and procedures listed in s. NR 439.07.

b. The VOC emission concentration from the outlet of the control device shall be less than 500 ppm, as determined by Method 18, 25 or 25A in 40 CFR part 60, Appendix A, incorporated by reference in s. NR 484.04(16), (19) and (20). The frequency of monitoring shall be at least monthly. Each emission test shall follow the methods and procedures listed in s. NR 439.07.

(b) *Sumps and wastewater separator covers.* Sump and wastewater separator covers, both fixed and floating, shall meet all of the following requirements:

1. The cover material shall be impermeable to VOCs and free from holes, tears and openings.
2. Drains on covers shall be equipped with a slotted membrane fabric cover, or an equivalent cover material, over at least 90% of the open area.
3. Gauging or sampling openings on the separator shall be covered. The covers shall be kept closed, with no visible gaps between cover and separator, except when the sampling device is actively being used.
4. Hatches on covers shall be kept closed and free of gaps, except when opened for active inspection, maintenance, sampling or repair.

(c) *Sewer lines.* All sewer lines shall be completely enclosed so that no liquid surface is exposed to the atmosphere. The manhole cover shall remain fully closed, except when opened for active inspection, maintenance, sampling or repair.

(d) *Process drains.* Each process drain shall be equipped with a water seal.

(e) *Junction boxes.* Each junction box shall be totally enclosed with a solid, gasketed fixed cover or a manhole cover. If a fixed cover is used, it may have an open vent pipe that is no more than 4 inches in diameter and that is at least 3 feet in length. If a manhole cover is used, the cover's total openings may not exceed 12 square inches and the manhole cover shall remain fully closed, except when opened for active inspection, maintenance, sampling or repair.

(3) COMPLIANCE SCHEDULE. The owner or operator of any facility subject to this section shall do both of the following:

(a) Notify the department's bureau of air management in writing by 60 days after the effective date of this section ... [LRB insert date] that the facility is subject to the requirements of this section. The notification shall provide the name and location of the affected facility.

(b) Achieve final compliance with the requirements of this section no later than 18 months after the effective date of this section ... [LRB insert date].

(4) RECORDKEEPING. The owner or operator of a facility subject to this section shall do both of the following:

(a) Record in a daily log both of the following:

1. Operation time for all control devices and monitoring equipment.
2. Details of all routine and non-routine maintenance performed on all control devices and monitoring equipment including dates and duration of any outages.

(b) Maintain detailed records of all air emission tests performed.

SECTION 3. NR 484.04(16), (19) and (20) in Table 2 are amended to read:

NR 484.04

	CFR Appendix Referenced	Title	Incorporated by Reference For
(16)	40 CFR part 60 Appendix A, Method 18	Measurement of Gaseous Organic Compound Emissions by Gas Chromatography	NR 400.02(77) NR 422.142(5)2 <u>NR 419.045 (2) (a)2.</u>
(19)	40 CFR part 60 Appendix A, Method 25	Determination of Total Gaseous Nonmethane Organic Emissions as Carbon	NR 422.142(5)(a) <u>NR 419.045 (2) (a)2.</u>
(20)	40 CFR part 60 Appendix A, Method 25A	Determination of Total Gaseous Organic Concentration Using a Flame Ionization Analyzer	NR 422.142(5)(a) <u>NR 419.045 (2) (a)2.</u>

SECTION 4. 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 5. 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)