ORDER OF THE STATE OF WISCONSIN NATURAL RESOURCES BOARD
REPEALING; RENUMBERING AND AMENDING; CONSOLIDATING, RENUBERING AND AMENDING; AMENDING; AND CREATING RULES

The Wisconsin Natural Resources Board adopts an order **to repeal** NR 422.143 (1) (a) (Note), (1) (b), (3) (c) 1., and (8) (a) and (b) (title); to **renumber and amend** NR 422.142 (3), 422.143 (5), (7) (c), and (8) (b) 1. and 2.; **to consolidate, renumber and amend** NR 422.143 (3) (c) (intro.) and 2.; **to amend** NR 422.142 (1) (a), (1m) (f), (2) (c) (title), 1., and 2. (intro.), (4) (intro.), (a), (d), and (e), (5) (b) 1. and 2., (c), and (d), 422.143 (1) (a), (1m) (f), (2) (intro.) and (a), (6) (intro.), (a), (d), and (e), and (7) (a), (b) 1. and 2.; and **to create** NR 422.02 (7c), (14m) and (45e), 422.142 (3) (b) and (4) (a) 4., 422.143 (1) (a) 1. and 2. and (am), (5) (b), (6) (a) 4., (7) (c) 1. and 2. and (d), and (8) (c), relating to regulating volatile organic compound emissions from lithographic printing facilities and affecting small business.

AM-18-13

Analysis Prepared by the Department of Natural Resources

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

2. Statutory authority: Sections 227.11(2)(a), 285.11(1) and (6), and 285.17, Stats.

3. Explanation of agency authority: Section 227.11(2)(a), Stats., expressly confers rulemaking authority to an agency where such rules are necessary to effectuate the purpose of existing statutory authority. Section 285.11(6), Stats., requires the Wisconsin Department of Natural Resources (the department) to develop one or more comprehensive plans for the prevention, abatement and control of air pollution in this state. In addition, the department is responsible for the revision and implementation of the plans. Sections 285.11 and 285.17, Stats., allow the department to categorize organic compound emissions into separate organic compound air contaminant source categories, and to establish emission limitations or other requirements for these categories of sources in order to protect air quality. The proposed rule changes will clarify the existing state rule requirements for lithographic printing operations in the southeastern part of Wisconsin and will streamline the implementation of these state rules.

4. Related statute or rule: There are no other statutes or rules directly related to the proposed rule changes.

5. Plain language analysis: The main objectives of the proposed rule changes are to clarify and streamline the requirements for lithographic printing facilities. Currently, there are two state rules (ss. NR 422.142 and NR 422.143, Wis. Adm. Code) regulating the volatile organic compound (VOC) emissions from lithographic printing operations.

Section NR 422.142, Wis. Adm. Code (Lithographic printing - Part 1) contains requirements that were established as Reasonably Available Control Technology (RACT) requirements for the 1979 1-hour ozone National Ambient Air Quality Standard (NAAQS) for nine counties in southeast Wisconsin (Kenosha, Kewaunee, Manitowoc, Milwaukee, Ozaukee, Racine, Sheboygan, Washington, and Waukesha Counties), and became effective on July 1, 1995. Section NR 422.143, Wis. Adm. Code (Lithographic printing - Part 2) was established as RACT requirements for the 1997 8-hour ozone NAAQS for seven counties located in southeast Wisconsin (Kenosha, Milwaukee, Ozaukee, Racine, Sheboygan, Washington, and Waukesha), and became effective on August 1, 2009. The requirements in Part 2 are

mostly based on the limits established in the Control Techniques Guidelines (CTG) for Offset Lithographic Printing and Letterpress Printing, published by the U.S. Environmental Protection Agency (EPA) in 2006. While technically sufficient, the department received internal and external feedback that the two-part organizational structure of these rules creates potential confusion in the application of the rules. In order to clarify and streamline the requirements in these two rules, the department is proposing the following changes to ss. NR 422.142 and 422.143, Wis. Adm. Code:

(A) Change the applicability for Part 1: Currently, section 422.142, Wis. Adm. Code, (Part 1) applies to nine counties in southeast Wisconsin. Seven of these counties (Kenosha, Milwaukee, Ozaukee, Racine, Sheboygan, Washington, and Waukesha) are also regulated by s. 422.143, Wis. Adm. Code (Part 2). This creates confusion about the applicable requirements for the lithographic printing facilities located in these seven counties, since the requirements in Part 1 and Part 2 are slightly different. Since the requirements of s. NR 422.143, Wis. Adm. Code, are generally more stringent and are consistent with the latest CTG published by EPA in 2006, the department is proposing to remove these seven counties from the list of the affected facilities under of s. NR 422.142, Wis. Adm. Code.

In addition, the printing industry has suggested that Part 2 requirements apply to the new and modified facilities located in Kewaunee and Manitowoc counties since Part 2 requirements are more consistent with the latest CTG. Although Part 2 has higher control efficiency requirements for the add-on control devices, the printing industry stated that the new control devices will be able to meet the higher efficiency requirements specified in Part 2. Therefore, the department has narrowed the applicability of Part 1 requirements to only cover any existing facility located in Kewaunee and Manitowoc counties. Currently, there is only one existing lithographic printing facility located in these two counties.

(B) Replace the term "blanket or roller wash" with "cleaning solution": The current version of Part 1 and Part 2 includes VOC emission limitations for "blanket or roller wash." The current definition for "blanket or roller wash" in s. NR 422.02 (12), Wis. Adm. Code, could be interpreted to include all the printing press related cleaning activities, including blanket wash, roller wash, metering roller cleaner, plate cleaner, and other cleaners used for cleaning press parts or to remove dried ink or coating from areas around the press. However, the printing industry refers to "blanket or roller wash" as the solvents used for blanket wash and roller wash only. To avoid potential confusion, the department is proposing to replace the term "blanket or roller wash" with "cleaning solution" in ss. NR 422.142 and 422.143, Wis. Adm. Code. This is also consistent with the terms used in EPA's 2006 CTG. The department is proposing to add the definition of "cleaning solution" to s. NR 422.02, Wis. Adm. Code.

(C) Revise the VOC emission limits for blanket or roller wash: The department is proposing to revise the VOC emission limit for "blanket or roller wash" in ss. NR 422.142 (2) (c) and 422.143 (3) (c), Wis. Adm. Code, to be based on the VOC emission limit for "cleaning solution" for the reason discussed in paragraph (B) above. The VOC content limit for "blanket or roller wash" currently contained in s. NR 422.142 (2) (c), Wis. Adm. Code, is less than 30% by weight. The VOC content limits for "blanket or roller wash" currently contained in s. NR 422.143 (3) (c), Wis. Adm. Code, are less than 30% by weight for non-ultraviolet ink application equipment and less than 70% for ultraviolet ink application. The printing industry stated that the VOC content limit of 30% by weight is impractical. The printing industry asserted that this VOC content limit originated in the 1993 draft CTG. The 30% VOC content limit for cleaners is not included in the final 2006 CTG published by EPA. The VOC content limit for cleaning solutions in the final 2006 CTG is less than 70% by weight. The department is proposing to revise the VOC content limits for the cleaning solutions in ss. NR 422.142 (2) (c) and 422.143 (3) (c), Wis. Adm. Code, to be less than 70% by weight, regardless of the type of ink applications. This change is consistent with the VOC content limits in the 2006 CTG.

In addition, in order to assure consistency among the VOC vapor pressure limits used in Part 1 under s. NR 422.142 (1m), Wis. Adm. Code, those used in Part 2, and those used in EPA's 2006 CTG published by EPA, the department is proposing to revise the formula used to calculate the VOC vapor pressure for the cleaning solutions referred in s. NR 422.142 (2) (c) 1. b, Wis. Adm. Code, from "vapor pressure for each VOC component" to "VOC composite partial vapor pressure." These two terms are similar but not idential. The VOC vapor pressure limits remain 10 mm of Hg at 20°C (68°F).

(D) Clarify the monitoring and recordkeeping requirement: The temperature monitoring requirements currently contained in ss. NR 422.142 (3) and 422.143 (5), Wis. Adm. Code, do not specify the temperature monitoring locations for the add-on control devices. The location to measure the temperature differs between thermal and catalytic oxidizers. The department is proposing to revise the monitoring requirements in ss. NR 422.142 (3) and 422.143 (5), Wis. Adm. Code, to further clarify the temperature monitoring and maintenance requirements for control devices. The recordkeeping requirements in ss. NR 422.142 (4) and 422.143 (6), Wis. Adm. Code, will also be revised accordingly.

(E) Change stack test requirements for small sources: The department is proposing to remove the periodic stack testing requirement in ss. NR 422.142 (5) (b) 2. and 422.143 (7) (b) 2., Wis. Adm. Code, that requires retesting the control device every 48 months. This is being proposed only for the sources with allowable VOC emissions from lithographic printing presses less than 100 tons per year. The department has evaluated stack test results for existing lithographic printing sources located in the nine affected counties and found that the tested control efficiencies all exceed 98%, which is much greater than the control efficiency required in s. NR 422.142 (2) (a), Wis. Adm. Code (85% or 90%) and in s. NR 422.143 (3) (a) 1., Wis. Adm. Code (90% or 95%). Data also indicates that the control efficiency does not go down as the control device ages. Therefore, the department has determined that initial stack testing, periodic monitoring and recording of control device operating temperature, and maintenance of the control device per manufacturer's recommendations are sufficient to demonstrate compliance with the control efficiency requirements for the control devices installed with the lithographic printing presses, and the periodic stack testing requirement for small sources could be removed from Part 1 and Part 2.

For the sources with allowable VOC emissions from lithographic printing presses that are greater than 100 tons per year, the periodic testing requirement (every 24 months) will remain in the rule. However, several testing exception scenarios specified in s. NR 439.075 (4), Wis. Adm. Code, still apply to these larger sources that could reduce the frequency of periodic testing for these sources. The department will revise the language in ss. NR 422.142 (5) (b) 1. and 422.143 (7) (b) 1., Wis. Adm. Code, to clarify that the testing exceptions in s. NR 439.075 (4), Wis. Adm. Code, apply to larger sources.

(F) Add the calculation methods for composite partial vapor pressure calculations in Part 2: The department is proposing to add s. NR 422.143 (7) (d), Wis. Adm. Code, to specify the methods and the equation used to calculate the composite partial vapor pressure for cleaning solutions. Sec. NR 422.143 (3) (c), Wis. Adm. Code, contains limitations based on the composite partial vapor pressure of blanket or roller washes, but the rule does not specify how the composite partial vapor pressure is to be calculated. This change adds clarity as to how affected sources are to demonstrate compliance with the applicable limitations. Section NR 422.142 (5) (d), Wis. Adm. Code, will also be revised to refer to the calculation method specified in s. NR 422.143 (7) (d), Wis. Adm. Code.

(G) Revise the applicable areas in Part 2: For reasons stated in pargraph (A) above, the department is proposing to revise the applicability section of the rule in s. NR 422.143 (1), Wis. Adm. Code, to cover new and modified facilities located in Kewaunee and Manitowoc counties as requested by the printing industry. These types of facilities were originally covered by Part 1 requirements.

Under the Clean Air Act, VOC RACT is required in any moderate, serious, severe, or extreme ozone nonattainment area. Therefore, the department is proposing to revise the applicability section of the Part 2 requirements to cover facilities located in areas designated as moderate, serious, severe, or extreme ozone nonattainment.

In addition, in order to prevent backsliding, this rule will apply in any area formerly designated as a moderate, serious, severe, or extreme ozone nonattainment area that has subsequently been redesignated to attainment, except for Kewaunee and Manitowoc counties. In these two counties, the existing lithographic printing facilities are subject to Part 1. New and modified lithographic printing facilities will be subject to Part 2 requirements after this rule revision becomes effective.

6. Summary of, and comparison with, existing or proposed federal statutes and regulations: There are no existing or proposed federal statues or regulations for lithographic printing operation. However, EPA published an updated CTG for Offset Lithographic Printing and Letterpress Printing in 2006. If the proposed changes are adopted, the requirements in s. NR 422.143, Wis. Adm. Code, will assure that the rule is consistent with EPA's 2006 CTG.

7. Comparison with similar rules in adjacent states (Illinois, Iowa, Michigan and Minnesota): There are no specific state rules for lithographic printing operations for the states of Iowa and Minnesota because no area in these two states has been designated as a moderate (or more severe) ozone nonattainment area, and therefore these states are not required to apply RACT requirements to lithographic printing operations. The state of Michigan regulates existing lithographic printing facilities under its general VOC control requirements for existing graphic arts lines (R 366.1624). Michigan promulgated these rules in response to designations under the 1979 air quality standard for ozone. The state of Illinois includes requirements for lithographic printing operations (Title 35, Section 219.405 through 219.411) that are similar to the requirements in s. NR 422.143, Wis. Adm. Code. These requirements are based on EPA's 2006 CTG and are included in Illinois state rules because, like Wisconsin, Illinois is required to apply RACT to the lithographic printing operations in certain ozone nonattainment areas.

8. Summary of factual data and analytical methodologies used and how any related findings support the regulatory approach chosen: The department has analyzed all 24 lithographic printing facilities located in the nine affected counties in southeast Wisconsin. Three of the 24 facilities are currently permitted under federal Part 70 operation permits (Title V major sources). Twelve facilities are permitted under state operation permit programs, including Federally Enforceable State Operation Permits (FESOP) and Registration Permits. Nine facilities have actual VOC emissions less than 10 tons per year and are exempt from the state operation permit requirements. The analysis results support the following regulatory approach:

(A) Change the applicability for Part 1: Because of the different applicabilities in the current versions of Part 1 and Part 2, facilities located in Kenosha, Milwaukee, Ozaukee, Racine, Sheboygan, Washington, and Waukesha Counties could be subject to the requirements of Part 1, Part 2, or both. The applicability thresholds are 10 tons per year of maximum theoretical VOC emissions for Part 1, and 3 tons per year of actual VOC emissions for Part 2. Although a direct comparison of the applicability thresholds between Part 1 (based on maximum theoretical emissions from all printing presses) and Part 2 (based on actual emissions before control) is not possible, more facilities are subject to Part 2 (21 facilities) than Part 1 (19 facilities). Using the applicability threshold in Part 2 results in more facilities covered by the RACT requirements. Therefore, the department concludes that the proposed change will not be considered backsliding, pursuant to 40 CFR § 51.905(b).

(B) Change the stack test requirements for small sources: Current rules require lithographic printing facilities with allowable VOC emissions from lithographic printing presses of less than 100 tons per year to perform stack tests every 48 months. Currently, five small lithographic printing facilities are required to perform repeated stack tests every 48 months. The department has evaluated previous stack test results for these facilities and found that the tested control efficiencies are all above 98%, which is much greater than the control efficiency required in s. NR 422.142 (2) (a), Wis. Adm. Code (85% or 90%), and in s. NR 422.143 (3) (a) 1., Wis. Adm. Code (90% or 95%). Therefore, the department is proposing to require initial stack testing only for small lithographic printing sources with the control devices. The periodic stack testing requirement (every 48 months) for small sources would be removed from both Part 1 and Part 2.

9. Analysis and supporting documents used to determine the effect on small business or in preparation of an economic impact analysis: The purpose of this rulemaking action is to clarify the existing requirements. It does not impose new emission limitations. The changes will not affect the operation of any existing lithographic printing facility located in the nine counties of southeast Wisconsin (Kenosha, Kewaunee, Manitowoc, Milwaukee, Ozaukee, Racine, Sheboygan, Washington, and Waukesha). The department anticipates little to no economic impact on small businesses. Small businesses could expect modest cost savings due to the clarifications of the rule requirements and the removal of periodic stack test requirements (every 48 months) for small sources. The department also expects savings on the agency's compliance efforts since there will be fewer stack test plans and reports to review.

An economic impact analysis and final fiscal estimate was completed prior to the submittal of this rule to the Legislative Council as required under s. 227.137(2), Stats.

10. Effect on small business: As stated above, this rulemaking will have little to no economic impact on small businesses. The proposal to apply Part 2 to most affected facilities in Wisconsin and to remove periodic stack testing requirements will clarify requirements and lower certain costs for small printers in the affected counties. This rulemaking action is mainly for clarification purposes. It does not change or impose new emission limits, and provides only minor changes to monitoring, recordkeeping, or reporting requirements on small businesses.

11. Agency contact person: Yu-Lien Chu – AM/7, DNR, P.O. Box 7921, Madison, WI 53707-7921; (608) 266-2711; (608) 267-0560 (fax); yulien.chu@wisconsin.gov

12. Place where comments are to be submitted and deadline for submission: The department conducted a public hearing in Waukesha, Wisconsin on November 5, 2018. The public comment period ended on November 12, 2018. No comments were received during the public hearing or the public comment period.

SECTION 1. NR 422.02 (7c), (14m) and (45e) are created to read:

NR 422.02 (7c) "Automatic blanket and roller wash" means any cleaning solution used by the automatic blanket and roller wash cleaning systems associated with lithographic printing presses.

(14m) "Cleaning solution" means a liquid solvent or solution used to clean the operating surfaces of a printing press and its parts. "Cleaning solution" includes a blanket wash, a roller wash, a metering roller cleaner, a plate cleaner, an impression cylinder wash, a rubber rejuvenator, and any other cleaner used for cleaning a press or press parts, or to remove spilled ink or coating from areas around the press. "Cleaning solution" does not include janitorial supplies or any cleaner used on electronic components of a press; a pre-press cleaning operation, such as platemaking; a post-press cleaning operation, such as a binding, finishing, or mailroom activity; or cleaning performed in a parts washer or cold cleaner.

(45e) "Janitorial supplies" means cleaners, including detergent-based products, used for floor cleaning and other general cleaning purposes, except for those products used to clean spilled ink.

SECTION 2. NR 422.142 (1) (a), (1m) (f), and (2) (c) (title), 1., and 2. (intro.) are amended to read:

NR 422.142 (1) (a) This section applies to all lithographic printing presses at any facility ~~which~~ that is located in ~~the county of Kenosha,~~ Kewaunee~~,~~ or Manitowoc county, ~~Milwaukee, Ozaukee, Racine, Sheboygan, Washington or Waukesha~~ was constructed before the effective date of this rule [LRB inserts date], and ~~which~~ has maximum theoretical emissions of VOCs from all lithographic printing presses at the facility greater than or equal to 755.7 kilograms (1666 pounds) in any month.

(1m) (f) A 40% VOC capture efficiency for automatic blanket or roller wash, as defined in s. NR 422.02 (7c), where the VOC composite partial vapor pressure of the automatic blanket or roller wash is less than 10 mm of Hg at 20°C (68°F).

(2) (c) ~~*Blanket or roller wash*~~ *Cleaning solutions*. 1. Except as provided in subd. 2., any person who owns or operates any lithographic printing press shall use ~~blanket or roller wash~~ a cleaning solution which, as applied, has ~~one~~ any of the following:

a. A VOC content of no greater than ~~30%~~ 70% by weight.

b. A ~~vapor pressure for each~~ VOC ~~component~~ composite partial vapor pressure of less than or equal to 10 mm of Hg at 20°C (68°F).

2. The owner or operator of a facility may use ~~blanket or roller wash~~ a cleaning solution ~~which~~ that does not meet the emission limitations of subd. 1., provided the amount used at the facility under this subdivision over any 12 consecutive months does not exceed ~~one~~ any of the following:

SECTION 3. NR 422.142 (3) is renumbered NR 422.142 (3) (a) and NR 422.142 (3) (title) is amended to read:

NR 422.142 (3) (title) ~~TEMPERATURE~~ MONITORING REQUIREMENTS.

SECTION 4. NR 422.142 (3) (b) is created to read:

NR 422.142 (3) (b) The owner or operator of any lithographic printing press subject to the VOC control device requirements of sub. (2) (a) shall comply with the the monitoring requirements in s. NR 422.143 (5) (b).

SECTION 5. NR 422.142 (4) (intro.) and (a) are amended to read:

NR 422.142 (4) RECORDKEEPING REQUIREMENTS. In addition to the applicable recordkeeping requirements in s. NR 439.04, the owner or operator of any lithographic printing press shall collect and record the applicable information specified in this subsection. The information shall be maintained at the facility for a minimum of 5 years and shall be made available to an authorized department representative at any time during normal working hours. The information required is all of the following:

(a) For a heatset web lithographic printing press using a control device, ~~for each day of operation~~ all of the following:

1. ~~Control device~~ Temperature monitoring data for the control device in accordance with sub. (3) (b) for each day of operation.

2. A log ~~of the operating time for~~ or record of any time when the control device~~,~~ or control device monitoring equipment ~~and~~ is offline while the associated printing line ~~or~~ is in operation.

3. A maintenance log for the control device and control device monitoring equipment detailing all ~~routine and non-routine~~ maintenance performed and including the dates and duration of any outages.

SECTION 6. NR 422.142 (4) (a) 4. is created to read:

NR 422.142 (4) (a) 4. Annual inspection results for catalytic oxidizers.

SECTION 7. NR 422.142 (4) (d) and (e), and (5) (b) 1. and 2., (c), and (d) are amended to read:

NR 422.142 (4) (d) For each ~~blanket or roller wash~~ cleaning solution prepared, the percent by weight VOC content or the VOC composite partial vapor pressure as applied ~~and the vapor pressure of each VOC component~~.

(e) For each month of operation, the volume of all ~~blanket or roller wash~~ cleaning solutions used ~~which does~~ that do not meet the emission limitations of sub. (2) (c) 1., as allowed under sub. (2) (c) 2.

(5) (b) 1. Any facility with allowable VOC emissions from lithographic printing presses of 100 tons or more per year shall perform an emission test ~~which~~ that demonstrates compliance with sub. (2) (a) every 24 months. Each biennial test shall be performed within 90 days of the anniversary date of the initial emission test or an alternate date approved by the department. The testing exceptions listed in s. NR 439.075 (4) may apply to this test schedule.

2. Any facility with allowable VOC emissions from lithographic printing presses of less than 100 tons per year shall perform an initial emission test ~~which~~ that demonstrates compliance with sub. (2) (a) ~~every 48 months~~. ~~Each test shall be performed within 90 days of the anniversary date of the initial emission test.~~

(c) The VOC content of ~~lithographic inks, blanket or roller wash~~ the as-applied fountain solutions and cleaning solutions shall be determined in accordance with s. NR ~~439.06 (3) (j)~~ 422.143 (7) (c).

(d) The ~~vapor pressure of each~~ VOC composite partial vapor pressure of each cleaning

solution ~~in blanket or roller wash~~ shall be determined ~~by ASTM D2879−10, incorporated by reference in s. NR 484.10 (39m)~~ in accordance with s. NR 422.143 (7) (d).

SECTION 8. NR 422.143 (1) (a) is amended to read:

NR 422.143 Lithographic printing — part 2. (1) APPLICABILITY. (a) ~~Subsections (3) (b) and (c) and (4) apply~~ This section applies to the owner or operator of a printing facility that operates a lithographic printing press ~~in the county of Kenosha, Milwaukee, Ozaukee, Racine, Sheboygan, Washington, or Waukesha if actual VOC emissions from all lithographic printing presses, including related lithographic cleaning activities and fountain solution use at the facility, before consideration of controls, equal or exceed 3 tons on a 12 consecutive month rolling basis. When determining the VOC emissions for applicability under this paragraph, the VOC emissions from the cleaning of electronic components of a lithographic printing press, pre−press and post−press cleaning operations and the use of janitorial supplies used to clean around a lithographic printing press are excluded. The VOC emissions from solvents used in cold cleaners are excluded for applicability purposes~~ and meets the criteria in subd. (1) (a) 1. and 2.

SECTION 9. NR 422.143 (1) (a) (Note) is repealed.

SECTION 10. NR 422.143 (1) (a) 1. and 2. and (am) are created to read:

NR 422.143 (1) (a) 1. The facility has actual VOC emissions from all lithographic printing presses, including related lithographic cleaning activities and fountain solution use at the facility, before consideration of controls, equal to or greater than 3 tons on a 12 consecutive month rolling basis.

2. The facility meets any of the following criteria:

a. The facility is located in Kenosha, Milwaukee, Ozaukee, Racine, Sheboygan, Washington, or Waukesha County.

b. The facility is constructed or modified on or after the effective date of this rule [LRB inserts date] and is located in Kewaunee or Manitowoc county.

c. The facility is located in any area designated as a moderate, serious, severe, or extreme ozone nonattainment area.

d. The facility is located in any area formerly designated as a moderate, serious, severe, or extreme ozone nonattainment area that has subsequently been redesignated to attainment, except for any facility subject to s. NR 422.142.

(am) When determining the VOC emissions for applicability under this paragraph, the VOC emissions shall include the emissions from the use of inks, fountain solutions, and cleaning solutions as defined in s. NR 422.02 (14m).

SECTION 11. NR 422.143 (1) (b) is repealed.

SECTION 12. NR 422.143 (1m) (f), (2) (intro.), and (a) are amended to read:

NR 422.143 (1m) (f) A 40% VOC capture efficiency for automatic blanket or roller wash, as defined in s. NR 422.02 (7c), where the VOC composite partial vapor pressure of the automatic blanket or roller wash is less than 10 mm of Hg at 20°C (68°F).

(2) EXEMPTIONS. ~~The~~ All of the following exemptions apply to lithographic printing operations ~~in Kenosha, Milwaukee, Ozaukee, Racine, Sheboygan, Washington and Waukesha counties~~ affected by this section:

(a) Up to 110 gallons of ~~blanket or roller wash~~ cleaning solutions, on a 12−consecutive month rolling basis, ~~which~~ that do not meet the low VOC composite partial vapor pressure or low VOC content requirements as stated in this section, are exempt from the requirements of this section.

SECTION 13. NR 422.143 (3) (c) (intro.) and 2. are consolidated, renumbered NR 422.143 (3) (c) and amended to read:

NR 422.143 (3) (c) ~~*Blanket or roller wash*~~*Cleaning solutions*. Except as provided in sub. (2) (a), no owner or operator of a lithographic printing press may ~~use, or~~ cause, allow, or permit the use of a ~~blanket or roller wash unless:~~ cleaning solution unless the cleaning solution

~~2. On and after February 1, 2012, for ultraviolet ink application equipment, the~~ has a VOC content ~~of the wash is~~ less than 70% by weight or has a composite partial vapor pressure of less than or equal to 10 mm of Hg at 68ºF.

SECTION 14. NR 422.143 (3) (c) 1. is repealed.

SECTION 15. NR 422.143 (5) is renumbered NR 422.143 (5) (a) and NR 422.143 (5) (title) is amended to read:

NR 422.143 (5) (title) ~~TEMPERATURE~~ MONITORING REQUIREMENTS.

SECTION 16. NR 422.143 (5) (b) is created to read:

NR 422.143 (5) (b) The owner or operator of any lithographic printing press subject to the VOC control device requirements of sub. (3) (a) shall comply with all of the following monitoring requirements:

1. Install and operate continuous temperature monitoring and recording equipment that measures and records any of the following temperature of the control device at least once every 15 minutes:

a. The combustion chamber or minimum operating temperature for thermal oxidizers.

b. The catalytic bed inlet temperature for catalytic oxidizers.

2. Meet the instrument requirements in s. NR 439.055(3)(a) and (4) for the temperature monitoring devices.

3. Maintain the 3-hour average temperature at or above any of the following levels when the associated printing press is in operation:

a. 50ºF below the minimum operating temperature specified by the manufacturer for regenerative thermal oxidizers.

b. 50ºF below the average temperature measured during the most recent emission test that demonstrated compliance for all other type of oxidizers.

4. For catalytic oxidizers, inspect the catalyst bed material annually for general catalyst condition and any signs of potential catalyst depletion. The owner or operator shall also collect a representative sample of the catalyst from the catalytic oxidizer, in accordance with manufacturer's recommendations, and have it tested to evaluate the catalyst's capability to continue to function at or above the required control efficiency. An evaluation of the catalyst bed material shall be conducted whenever the results of the inspection indicate signs of potential catalyst depletion or poor catalyst condition based on manufacturer's recommendations, but not less than once per year.

5. Perform maintenance for the control devices in accordance with manufacturer's

recommendations.

SECTION 17. NR 422.143 (6) (intro.) and (a) are amended to read:

NR 422.143 (6) RECORDKEEPING REQUIREMENTS. In addition to the applicable recordkeeping requirements in s. NR 439.04, the owner or operator of any lithographic printing press shall collect and record the applicable information specified in this subsection. The information shall be maintained at the facility for a minimum of 5 years and shall be made available to an authorized department representative at any time during normal working hours. The information required is all of the following:

(a) For a heatset web lithographic printing press using a control device, ~~for each day of operation~~ all of the following:

1. ~~Control device~~ Temperature monitoring data for the control device in accordance with ~~s. NR 439.055~~ sub. (5) (b) 1. for each day of operation.

2. A log ~~of the operating time for~~ or record of any time when the control device~~,~~ or control device monitoring equipment~~, and~~ is offline while the associated printing line ~~or~~ is in operation.

3. A maintenance log for the control device and control device monitoring equipment detailing all ~~routine and non-routine~~ maintenance performed and including the dates and duration of any outages.

SECTION 18. NR 422.143 (6) (a) 4. is created to read:

NR 422.143 (6) (a) 4. Annual inspection results for catalytic oxidizers.

SECTION 19. NR 422.143 (6) (d) and (e) and (7) (a) and (b) 1. and 2. are amended to read:

NR 422.143 (6) (d) For each ~~batch of blanket or roller wash~~ cleaning solution prepared, the percent by weight VOC content or the VOC composite partial vapor pressure~~, and the date and time the batch was~~ for the cleaning solution prepared.

(e) For each month of operation, the volume of all ~~blanket or roller wash~~ cleaning solutions used ~~which does~~ that do not meet either of the emission limitations in sub. (3) (c).

(7) (a) The owner or operator of a heat-set web lithographic printing press shall demonstrate compliance with the appropriate destruction efficiency or emission rate in sub. (3)

(a) by performing compliance emission tests on each control device. The initial emission tests shall be performed by the compliance deadline in sub. (8) (am) ~~1. or (b) 1. or 2~~. Each emission test shall follow the methods and procedures listed in s. NR 439.07. Method 18, 25 or 25A in 40 CFR part 60, Appendix A, incorporated by reference in s. NR 484.04 (16), (19) and (20), shall be used to determine the VOC concentration at the sampling points. When determining the VOC concentration, the probe shall be heated during testing to at least the exhaust gas stream temperature.

(b) 1. Any facility with allowable VOC emissions from lithographic printing presses of 100 tons or more per year shall perform an emission test ~~which~~ that demonstrates compliance with sub. (3) (a) every 24 months. Each biennial test shall be performed within 90 days of the anniversary date of the initial emission test or an alternate date approved by the department. The testing exceptions listed in s. NR 439.075 (4) may apply to this test schedule.

2. Any facility with allowable VOC emissions from lithographic printing presses of less than 100 tons per year shall perform an initial emission test ~~which~~ that demonstrates compliance with sub. (3) (a) ~~every 48 months. Each test shall be performed within 90 days of the anniversary date of the initial emission test~~.

SECTION 20. NR 422.143 (7) (c) is renumbered (7) (c) (intro.) and amended to read:

NR 422.143 (7) (c) The VOC content of ~~heatset web, sheet-fed and cold set web lithographic inks~~ the as-applied fountain solutions and cleaning solutions shall be determined ~~in accordance with s. NR 439.06 (3) (j).~~ by any of the following methods:

SECTION 21. NR 422.143 (7) (c) 1. and 2. and (d) are created to read:

NR 422.143 (7) (c) 1. The method referred to in s. NR 439.06 (3) (j).

2. If diluted prior to use, a calculation shall be performed for VOC content that combines the method referred in s. NR 439.06(3)(j) for the concentrated materials used to prepare the as-applied fountain solution or cleaning solution, and the proportions in which they are mixed to make the as-applied fountain solution or cleaning solution.

(d) The VOC composite partial vapor pressure of each cleaning solution shall be determined by any of the following methods:

1. If diluted prior to use, calculate the VOC composite vapor pressure of the as-applied

solvent by using the formula for "VOC composite vapor pressure" as follows:

a. Determine the identity and quantity of each compound in a blended organic solvent.

b. Determine the vapor pressure of each pure VOC component.

c. Calculate the VOC composite partial pressure of the solvent by using the formula for "VOC composite partial pressure." For the purpose of this calculation, the blended solvent shall be assumed to be an ideal solution where "Raoult's Law" applies. The partial vapor pressures of each compound at 68ºF shall be used in the formula. The VOC composite partial pressure shall be calculated as follows:

$$PP_c = \sum_{i=1}^{n} \frac{(W_i)(VP_i) \Big/ MW_i}{\frac{M_w}{MW_w} + \frac{W_e}{MW_e} + \sum_{i=1}^{n} \frac{W_i}{MW_i}}$$

where:

Wi is the weight of the "i"th VOC compound, in grams.

Ww is the weight of water, in grams.

We is the weight of exempt compound, in grams.

MWi is the molecular weight of the "i"th VOC compound, in grams per gram-mole.

MWw is the molecular weight of water, in grams per gram-mole.

MWe is the molecular weight of the "e"th exempt compound, in grams per gram-mole.

PPc is the VOC composite vapor pressure at 68ºF, in mm Hg.

VPi is the vapor pressure of the "i"th VOC compound at 68ºF, in mm Hg.

2. If not diluted prior to use, the owner or operator shall use formulation information provided by the supplier, such as a safety data sheet (SDS) or equivalent information from the supplier as long as it is based on results determined in accordance with the procedure in sub. (7) (d) 1.

SECTION 22. NR 422.143 (8) (a) and (b) (title) are repealed.

SECTION 23. NR 422.143 (8) (b) 1. is renumbered NR 422.143 (8) (am), and amended to

read:

NR 422.143 (8) (am) The owner or operator of a heatset web lithographic printing press ~~which~~ that is installed after ~~May 1, 2010~~ the effective date of this rule [LRB inserts date] shall perform a compliance emission test within 180 days after installation of the press and shall submit to the department no later than 60 days after the test written certification that the press is in compliance with the applicable requirements of ~~subs.~~ sub. (3) ~~and (6)~~ and a demonstration of compliance in accordance with subs. (6), (7), and (8).

SECTION 24. NR 422.143 (8) (b) 2. is renumbered NR 422.143 (8) (bm), and amended to read:

NR 422.143 (8) (bm) The owner or operator of any lithographic printing press, other than a heatset web press, ~~which~~ that is installed after ~~May 1, 2010~~ the effective date of this rule [LRB inserts date] shall submit to the department, no later than 180 days after installation of the press, written certification that the press is in compliance with the applicable requirements of ~~subs.~~ sub. (3) ~~and (6)~~ and a demonstration of compliance in accordance with subs. (6), (7), and (8).

SECTION 25. NR 422.143 (8) (c) is created to read:

NR 422.143 (8) (c) Facilities subject to this section and located in an area described under sub. (1) (a) 2. c., shall comply with the applicable requirements of this section by the following deadlines:

1. Facilities that were initially constructed in an area described in sub. (1) (a) 2. c., prior to the effective date of its designation as moderate, serious, severe, or extreme ozone nonattainment, shall comply with applicable requirements within 180 days of the effective date of designation.

2. Facilities that were initially constructed in an area described in sub. (1) (a) 2. c., after the area has been designated as moderate, serious, severe, or extreme ozone nonattainment, shall comply with applicable requirements upon startup.

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 23, 2019.

Dated at Madison, Wisconsin _____.

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES

By_____
Preston D. Cole, Secretary

(SEAL)