

ADMINISTRATIVE RULES Fiscal Estimate & Economic Impact Analysis

1. Type of Estimate and Analysis <input checked="" type="checkbox"/> Original <input type="checkbox"/> Updated <input type="checkbox"/> Corrected	2. Date 4/6/2023
3. Administrative Rule Chapter, Title and Number (and Clearinghouse Number if applicable) NR 400 – Air Pollution Control Definitions NR 428 – Control of Nitrogen Compound Emissions NR 484 – Incorporation by Reference	
4. Subject Revisions to nitrogen compound emissions regulations in ch. NR 428, AM-05-21.	
5. Fund Sources Affected <input type="checkbox"/> GPR <input type="checkbox"/> FED <input type="checkbox"/> PRO <input checked="" type="checkbox"/> PRS <input type="checkbox"/> SEG <input type="checkbox"/> SEG-S	6. Chapter 20, Stats. Appropriations Affected s. 20.370(4)(bo), s. 20.370(4)(cm), s. 20.370 (4)(co), Wis. Stats.
7. Fiscal Effect of Implementing the Rule <input checked="" type="checkbox"/> No Fiscal Effect <input type="checkbox"/> Increase Existing Revenues <input type="checkbox"/> Increase Costs <input type="checkbox"/> Decrease Costs <input type="checkbox"/> Indeterminate <input type="checkbox"/> Decrease Existing Revenues <input type="checkbox"/> Could Absorb Within Agency's Budget	
8. The Rule Will Impact the Following (Check All That Apply) <input type="checkbox"/> State's Economy <input checked="" type="checkbox"/> Specific Businesses/Sectors <input type="checkbox"/> Local Government Units <input type="checkbox"/> Public Utility Rate Payers <input type="checkbox"/> Small Businesses (if checked, complete Attachment A)	
9. Estimate of Implementation and Compliance to Businesses, Local Governmental Units and Individuals, per s. 227.137(3)(b)(1). \$109,200 annually	
10. Would Implementation and Compliance Costs Businesses, Local Governmental Units and Individuals Be \$10 Million or more Over Any 2-year Period, per s. 227.137(3)(b)(2)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
11. Policy Problem Addressed by the Rule Nitrogen oxides (NOx) react with volatile organic compounds in the presence of sunlight to form ground-level ozone. Concentrations of ozone above the National Ambient Air Quality Standards (NAAQS) are known to adversely impact human health and the environment. The U.S. Environmental Protection Agency (EPA) has designated several areas along the Lake Michigan shoreline in eastern Wisconsin as “nonattainment areas” due to ozone concentrations violating the NAAQS. Emissions sources located in nonattainment areas are subject to more stringent controls under the Clean Air Act (CAA). Chapter NR 428, Wis. Adm. Code, regulates the emissions of NOx from certain stationary sources located in current ozone nonattainment areas and areas with a history of ozone nonattainment, including the counties of Kenosha, Manitowoc, Milwaukee, Ozaukee, Racine, Sheboygan, Washington and Waukesha. Subchapters I through III were added in January 2001 to fulfill the Rate of Progress/Reasonable Further Progress plans as required by Sections 172(c)(2) and 182(b)(1) of the CAA. Subchapter IV of this rule was added in July 2007 to include CAA Section 182(f) Reasonably Available Control Technology (RACT) requirements for major sources of NOx located in ozone nonattainment areas classified as Moderate (or above). Since the promulgation of the 2001 and 2007 revisions to ch. NR 428, Wis. Adm. Code, the department has identified several implementation issues associated with certain parts of the chapter. The department is proposing revisions to the chapter to ensure clear and consistent implementation of this rule. The proposed changes include:	

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- Correcting the emission limit under s. NR 428.04(2)(g)1.d., Wis. Adm. Code, for combined cycle combustion turbines with maximum design power output of 25 megawatt electrical (MWe) or greater and incorporating a site-specific emission limit alternative. These changes are necessary to ensure that limits are achievable in practice at all times of operation (e.g., including periods of emissions unit startup or shutdown).
- Clarifying emission limits and monitoring requirements that apply when a facility uses more than one type of fuel.
- Combining and streamlining redundant monitoring requirements in s. NR 428.04(3)(a) and (b), Wis. Adm. Code.
- Clarifying monitoring requirements for: kilns, furnaces, asphalt plants, process heating units, engines, and other types of units under s. NR 428.08(2), Wis. Adm. Code.
- Providing stationary sources the option to request an alternative time period to the default 180-day waiting period between the compliance monitoring plan submittal deadline and initial operation of a facility.
- Clarifying that the unit exception in s. NR 428.21(3), Wis. Adm. Code, applies only to units constructed before August 1, 2007, as originally intended.
- Updating cross references between s. NR 428.08(2)(g)4.a., Wis. Adm. Code, and federal methods for determining NOx emissions from stationary sources (s. NR 484.04 Table 2).

12. Summary of the Businesses, Business Sectors, Associations Representing Business, Local Governmental Units, and Individuals that may be Affected by the Proposed Rule that were Contacted for Comments.

Entities that may have an interest in the proposed rule include sources (establishments which emit or cause emissions of air contaminants) which are required to meet NOx limits in ch. NR 428, Wis. Adm. Code. This includes sources in the following business sectors emitting NOx above specified thresholds that are located in affected areas: electric utilities, waste management, landfills, paper mills, glass manufacturing, hospitals, asphalt production, and other sources with large gas or diesel fired stationary engines. The department contacted all sources with permits that reference emission limits under ss. NR 428.04, 428.05, and 428.22, Wis. Adm. Code, as well as the Small Business Environmental Council and Wisconsin Manufacturers and Commerce. In addition, the Air Management Advisory Group, the air program's stakeholder working group, may be interested in the proposed rule. This group includes members representing Clean Wisconsin, environmental law attorneys, academia, utilities, and representatives of large and small businesses. The department contacted all these entities during the environmental impact analysis comment period via email.

13. Identify the Local Governmental Units that Participated in the Development of this EIA.

This rule does not impact local government units directly. However, the department contacted the Wisconsin Counties Association and the League of Wisconsin Municipalities via email so that counties and other local governmental units were consulted as part of the solicitation process. The department did not receive comments from governmental units.

14. Summary of Rule's Economic and Fiscal Impact on Specific Businesses, Business Sectors, Public Utility Rate Payers, Local Governmental Units and the State's Economy as a Whole (Include Implementation and Compliance Costs Expected to be Incurred)

(A) Economic Impact on Businesses

The only proposed change which may economically impact businesses is the incorporation of s. NR 428.08(2)(g), Wis. Adm. Code. The proposed language clarifies monitoring requirements for kilns, furnaces, asphalt plants, process heating units, engines, and other units. Currently there are no monitoring requirements explicitly defined for these types of units under s. NR 428.08(2), Wis. Adm. Code, leading some to potentially conclude that either no compliance measures are required for these units or that continuous emissions monitoring systems (CEMS) are the only approvable compliance

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method for these units. This is an oversight from previous rulemakings. The proposed changes will improve clarity for businesses by ensuring that applicable monitoring requirements are defined clearly. Additionally, the proposed changes may reduce emissions of NO_x to the environment by ensuring the department is able to consistently enforce NO_x emission limits by way of requiring emissions monitoring at all applicable units. The proposed remedy under s. NR 428.08(2)(g), Wis. Adm. Code, offers facilities the flexibility to either operate a CEMS or meet specific operational and performance testing requirements. The department estimates that the potential annual cost of the rulemaking is \$109,200 based on assumptions made as part of its analysis. The department's analysis is described below.

The department estimates that 21 units may be subject to s. NR 428.08(2)(g), Wis. Adm. Code. The number of potentially affected units was determined by conducting a search of facilities with kilns, furnaces, asphalt plants, process heating units, or engine units and whose permits reference the sections of ch. NR 428, Wis. Adm. Code, that could make them subject to s. NR 428.08(2)(g), Wis. Adm. Code (i.e., ss. NR 428.04, 428.05, and 428.20, Wis. Adm. Code).

Based on cost estimates gathered from CEMS manufacturers, initial costs for the purchase of a NO_x CEMS, installation, and training are \$53,500 to \$150,000, depending on the system and facility, or \$101,750 on average. Annualized costs to maintain a NO_x CEMS are approximately \$7,500 to \$15,000 (\$11,250 on average). The total annualized cost for the 21 potentially affected emissions units to comply with s. NR 428.08(2)(g), Wis. Adm. Code, over a 10-year period by operating a CEMS is \$449,925.

Because CEMS are relatively expensive to operate and maintain, the department's proposed rule language also provides a more economical alternative to operating a CEMS in order to meet the requirements of s. NR 428.08(2)(g), Wis. Adm. Code.

Instead of operating a CEMS to comply with s. NR 428.08(2)(g), Wis. Adm. Code, facilities are given the flexibility to alternatively meet specific operational and performance testing requirements. The latter would require sources to meet a testing requirement every two years. The department estimates that the annualized cost of the biennial performance tests is \$3,500 to \$5,700, or \$4,600 on average, for each affected emissions unit based on cost information gathered from companies that offer stack testing services. A small percentage of the identified 21 emissions units may have an initial one-time cost if the unit needs to be modified to allow for tests to be conducted. The cost of modification is expected to vary widely depending on unit material type (e.g., if the unit is designed to withstand extreme temperatures), unit location (e.g., if scaffolding or a lift is required), and mechanical modification (e.g., installation of sampling ports). The department estimates this potential one-time modification expense could be \$2,000 to \$10,000 (\$6,000 average), and notes that outliers could exist. To be conservative, the department assumed all 21 units would have a \$6,000 one-time modification cost to accommodate stack testing. The department expects that in reality only a few emissions units may incur an initial modification cost. The total annualized cost, including the potential initial modification costs and biennial performance test costs, over a 10-year period to comply with the operational and performance testing option in s. NR 428.08(2)(g), Wis. Adm. Code, is \$109,200.

In estimating the cost associated with this revision, the department assumes a facility would opt for the less expensive performance testing approach to meet the proposed s. NR 428.08(2)(g), Wis. Adm. Code, requirements because the testing approach is approximately a quarter of the cost of operating a CEMS. The department also notes that the \$109,200 is likely overestimated due to four factors. First, the number of affected emissions units is likely overestimated because some of the 21 identified emissions units may not be subject to the compliance requirements, based on the rule's emissions unit capacity thresholds. Second, the department expects that some sources would only be required to conduct tests every four years, instead of the standard two-year testing schedule, because some emissions units will meet the exception under s. NR 428.08(3)(a)1.b., Wis. Adm. Code. The department is not able to estimate how many units may be eligible for this exception as it is dependent on future emissions tests. Third, the department's analysis assumes none of

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the 21 emissions units are currently operating a CEMS (which could also be used to comply with s. NR 428.08(2)(g), Wis. Adm. Code). Fourth, some facilities may request and receive approval to use an alternative monitoring approach.

The department does not expect any other changes proposed as part of this rulemaking to have an economic impact on businesses. While the creation of additional exemption criteria in s. NR 428.21(3)(d), Wis. Adm. Code, or Section 14 of the rule text, is necessary to ensure NOx Reasonably Available Control Technology (RACT) requirements are appropriately applied, the department is not aware of any facility currently exempt, that would no longer be exempt after finalization of this proposed change. Additionally, the proposed NOx emission limit revision under s. NR 428.04(2)(g)l.d., Wis. Adm. Code, will not result in an economic impact because the revised limit is equivalent to the NOx RACT emission limit under s. NR 428.22(1)(h)1., Wis. Adm. Code, for the same type of unit.

(B) Economic Impacts on Local Governments, Utility Rate Payers and Public Entities

The department does not anticipate that local governments, utility rate payers, or public entities will be economically impacted by the implementation of the proposed rule.

(C) State Economy

The department does not anticipate negative impacts to the state's economy. Ensuring consistent implementation of NOx emission limits will protect air quality and human health in the affected areas.

(D) Fiscal Impacts:

There are no fiscal impacts to this rule. This rule will not require additional state staff to implement or affect state revenues.

15. Benefits of Implementing the Rule and Alternative(s) to Implementing the Rule

The proposed rule will clarify existing requirements, establish emission limits that are achievable in practice, and ensure clear and consistent application of ch. NR 428, Wis. Adm. Code, requirements to limit NOx emissions. An alternative to implementing the rule is to not revise ch. NR 428, Wis. Adm. Code. The known ambiguities and implementation issues in ch. NR 428, Wis. Adm. Code, will continue to consume a disproportionate amount of industry and department time and resources if the proposed rule changes are not promulgated.

The alternative site-specific emission limit provision proposed under s. NR 428.055, Wis. Adm. Code, may accommodate transitions toward cleaner energy production and consumption. This proposed provision allows the department to set site-specific NOx emission limits in situations when applicable emission limits and other requirements under s. NR 428.04 or 428.05 are technologically or economically infeasible for the facility to meet. For example, a utility may plan to modify the operation schedule of its emissions units as it transitions away from coal and, as a result, may seek a site-specific NOx emission limit to accommodate these changes. Additionally, the proposed changes under s. NR 428.08(2), Wis. Adm. Code, may reduce emissions of NOx to the environment by ensuring the department is able to enforce NOx emission limits by way of requiring emissions monitoring at all applicable units.

16. Long Range Implications of Implementing the Rule

Implementing the proposed rule will ensure clear and consistent application of ch. NR 428, Wis. Adm. Code, requirements while continuing to meet federal CAA requirements for protection of the National Ambient Air Quality

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Standards for ozone. The department does not anticipate any adverse long-term implications to implementing the rule. Ultimately, the department expects the proposed alternative site-specific emission limit provision may facilitate businesses' transitions toward cleaner energy production and consumption and ensure the department is able to enforce emissions monitoring requirements at all applicable NOx emissions units covered by ch. NR 428, Wis. Adm. Code.

17. Compare With Approaches Being Used by Federal Government

Sections 172(c)(2) and 182(b)(1) of the federal CAA require states with a Moderate (and above) ozone nonattainment area to develop and implement "Reasonable Further Progress" plans to help the area reach attainment. Subchapters I through III of ch. NR 428, Wis. Adm. Code, were promulgated as part of Wisconsin's Reasonable Further Progress demonstration to reduce NOx emissions in the state's ozone nonattainment areas. Section 182(f) of the CAA requires states to implement Reasonably Available Control Technology (RACT) requirements for sources with high emissions of NOx in Moderate (and above) ozone nonattainment areas. Subchapter IV of ch. NR 428, Wis. Adm. Code, was promulgated to meet NOx RACT requirements for areas classified as Moderate nonattainment under the 1997 ozone NAAQS.

18. Compare With Approaches Being Used by Neighboring States (Illinois, Iowa, Michigan and Minnesota)

Wisconsin's NOx emission limits in ch. NR 428, Wis. Adm. Code, were compared to similar rules in the adjacent states of Michigan, Illinois, Iowa, and Minnesota, as well as Indiana. Portions of Wisconsin, Illinois, and Indiana comprise a tri-state area currently designated by EPA as nonattainment for the 2015 ozone NAAQS and was previously designated as nonattainment for the 2008 ozone NAAQS prior to being redesignated to attainment in 2022. As such, the three states are federally required to limit emissions of ozone precursors like NOx (e.g., CAA Section 182(f) NOx RACT requirements).

Unlike Wisconsin, Illinois's and Indiana's administrative rules limiting NOx emissions have not been approved by EPA as meeting CAA section 182(f) NOx RACT requirements. Illinois has promulgated administrative rules limiting NOx emissions under Title 35 Part 217 of the Illinois Administrative Code. Overall, ch. NR 428, Wis. Adm. Code, establishes NOx emission limits based on emissions unit size and fuel type while the Illinois rules generally set NOx emission limits for broad categories of units (e.g., one emission limit for all solid fuel boilers above a certain maximum heat input). As a result, ch. NR 428, Wis. Adm. Code, sets many more emission limits compared to Illinois. For categories of emissions units that are directly comparable, the limits in ch. NR 428, Wis. Adm. Code, are similar to or slightly more stringent than the NOx emission limits in Illinois. Indiana has promulgated NOx emission limits under Title 326 Article 10 of the Indiana Administrative Code only for certain types of cement kilns and for a specific energy utility company.

Michigan's emissions limits for NOx are incorporated under Michigan Administrative Rules 336.1801-336.1834 and are similar to the NOx rules promulgated by Illinois in that emission limits are set for broad emissions unit categories and are approximately similar to or slightly less stringent than Wisconsin's rules (when direct comparison is possible). The department notes that Michigan only became subject to CAA Section 182(f) NOx RACT requirements in November 2022, whereas Illinois, Indiana, and Wisconsin became subject to NOx RACT requirements in 2004.

Minnesota and Iowa do not have ozone nonattainment areas classified Moderate, and as such, are not required to implement Reasonable Further Progress and NOx RACT requirements under the CAA like those in ch. NR 428, Wis. Adm. Code.

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