

STATEMENT OF SCOPE

Department of Natural Resources

Rule No.: WY-19-14 re: ch. NR 111

Relating to: Implementation of 40 CFR § 122-125: National Pollution Discharge Elimination System—Regulations Addressing Cooling Water Intake Structures for New Facilities (New Facilities Rule) and Final Regulations To Establish Requirements for Cooling Water Intake Structures at Existing Facilities and Amend Requirements at Phase I (New) Facilities; Final Rule (Existing Facilities Rule)

Rule Type: Permanent

1. Finding/nature of emergency (Emergency Rule only): This will be a permanent rule.

2. Detailed description of the objective of the proposed rule: To adopt the New Facilities and Existing Facilities Rules (40 CFR § 122-125) as a state rule. Under the federal water pollution control act (Clean Water Act), the U.S. Environmental Protection Agency (EPA) has a responsibility to promulgate rules addressing the impingement¹ and entrainment² of aquatic organisms at cooling water intake structures. Effective January 17, 2002 and October 14, 2014, the EPA promulgated rules that specify requirements for New Facilities and Existing Facilities that address impingement and entrainment at cooling water intake structures. On July 18, 2011, EPA informed Wisconsin of seventy-five potential deficiencies in the Wisconsin Pollutant Discharge Elimination System (WPDES) program rules. One of the deficiencies (Issue 61) included a lack of consistency with federal regulations regarding cooling water intake structures at new facilities. EPA’s letter stated, in part, “Wisconsin appears to lack rules that establish permit application requirements for the following categories of dischargers: . . . facilities with cooling water intake structures (40 CFR § 122.21(r)).” Following the release of EPA’s 2011 letter, EPA promulgated the Existing Facilities Rule. In order to be consistent with the EPA-promulgated New Facilities and Existing Facilities Rules, the Department of Natural Resources (the Department) is proposing to create ch. NR 111.

The proposed rules will incorporate the federal rules into state administrative code. Additional rule language pertaining to the Department’s implementation of the federal cooling water intake structure requirements may also be considered.

3. Description of the existing policies relevant to the rule, new policies proposed to be included in the rule, and an analysis of policy alternatives: The Department currently regulates impingement and

¹ Impingement is defined as the “entrapment of any life stages of fish and shellfish on the outer part of an intake structure or against a screening device during periods of intake water withdrawal” (40 CFR § 125.92(n)).

² Entrainment is defined as “any life stages of fish and shellfish in the intake water flow entering and passing through a cooling water intake structure and into a cooling water system, including the condenser or heat exchanger” (40 CFR § 125.92(h)).

entrainment at cooling water intake structures by requiring use of the best technology available (BTA), as determined using best professional judgment (BPJ) and on a case-by-case basis. This authority is granted under s. 283.31 (6), Wis. Stats., which states, *“Any permit issued by the department under this chapter which by its terms limits the discharge of one or more pollutants into the waters of the state may require that the location, design, construction and capacity of water intake structures reflect the best technology available for minimizing adverse environmental impact.”* This authority is also contained in Section 402(a)(1) of the Clean Water Act, which authorizes the Department to issue a permit containing *“such conditions as the [Department] determines are necessary to carry out the provisions of this Act.”* Federal regulations in 40 CFR § 125.90(b) address case-by-case determinations.

The New Facilities Rule establishes national technology-based performance requirements for cooling water intake structures at new facilities. The Existing Facilities Rule establishes specific standards for determination of best technology available at existing facilities. Both rules contain specific requirements for facilities with a design intake flow greater than 2 million gallons per day (MGD) that use more than 25% of the withdrawn water for cooling. For facilities below these thresholds, the rules require best professional judgment to determine the best technology available for minimizing environmental impact.

Through the WPDES permits, facilities with cooling water intake structures will need to demonstrate that existing or proposed cooling water intake structures will comply with requirements that reflect the best technology available for minimizing adverse environmental impact.

As a state authorized by EPA to administer the National Pollutant Discharge Elimination System (NPDES) program, Wisconsin is required to implement federal Clean Water Act regulations. Should Wisconsin choose not to implement the New Facilities and Existing Facilities rules, EPA would implement the rules for facilities in Wisconsin.

4. Detailed explanation of statutory authority for the rule (including the statutory citation and language): The New and Existing Facilities Rules are amendments to the federal water pollution control act (Clean Water Act). The purpose of this proposed rule is to adopt provisions in state code that are consistent with the federal rules. Statutory authority for the proposed rule on cooling water intake structure requirements is granted in ss. 283.31 (6), 283.31 (3)-(4), and 227.11 (2), Wis. Stats.

s. 283.31 (6): *“Any permit issued by the department under this chapter which by its terms limits the discharge of one or more pollutants into the waters of the state may require that the location, design, construction and capacity of water intake structures reflect the best technology available for minimizing adverse environmental impact.”*

ss. 283.31 (3)-(4): *“(3) The department may issue a permit under this section for the discharge of any pollutant, or combination of pollutants . . . , upon condition that such discharges will meet all the following, whenever applicable: . . .*

(d) Any more stringent limitations, including those:

- 1. Necessary to meet federal or state water quality standards, or schedules of compliance established by the department; or*
- 2. Necessary to comply with any applicable federal law or regulation . . .*

(4) *The department shall prescribe conditions for permits issued under this section to assure compliance with the requirements of sub. (3). Such additional conditions shall include at least the following: . . .*

(d) *That the permittee shall at all times maintain in good working order and operate as efficiently as possible any facilities or systems of control installed by the permittee to achieve compliance with the terms and conditions of the permit”*

s. 227.11 (2): **“(2)** *Rule-making authority is expressly conferred on an agency as follows:*

(a) *Each agency may promulgate rules interpreting the provisions of any statute enforced or administered by the agency, if the agency considers it necessary to effectuate the purpose of the statute, but a rule is not valid if the rule exceeds the bounds of correct interpretation.*

5. Estimate of amount of time that state employees will spend developing the rule and of other resources necessary to develop the rule: Approximately 1200 hours of staff time will be spent to develop the rule package. The Department will consult with permitted facilities and other interested groups as well as EPA as it drafts the new rule.

6. List with description of all entities that may be affected by the proposed rule: Best technology available standards described in this rule will apply to all WPDES permit holders with cooling water intake structures. Specific requirements apply for facilities that are designed to withdraw at least two million gallons of water per day from waters of the United States and use at least 25 percent of the water they withdraw exclusively for cooling. For facilities that fall beneath these thresholds, best professional judgment must be used to determine the best technology available to minimize adverse environmental impact. Facilities with individual WPDES permits in Wisconsin that may be affected by the proposed rule include:

| Facility | Industry Type | COUNTY | SOURCE WATER |
|---|---------------------------|------------|---|
| ERCO WORLDWIDE (USA) INC - PORT EDWARDS | Chemical Mfg. | WOOD | Wisconsin River |
| AMPI JIM FALLS DIVISION | Dairy | CHIPPEWA | Chippewa River |
| COLUMBIA FOREST PRODUCTS | Hardwood Veneer | ASHLAND | Bad River |
| TYCO SAFETY PRODUCTS - ANSUL | Mfg., Plating & Polishing | MARINETTE | Menominee River |
| APPLETON PAPERS LLC, COMBINED LOCKS | Paper Mill | OUTAGAMIE | Fox River |
| CASCADES TISSUE GROUP WISCONSIN INC | Paper Mill | EAU CLAIRE | Chippewa River |
| CELLU TISSUE NEENAH | Paper Mill | WINNEBAGO | Little Lake Buttes Des Morts |
| DOMTAR PAPER CO LLC, Nekoosa | Paper Mill | WOOD | Wisconsin River and Nepco Lake |
| DOMTAR PAPER CO LLC, Rothschild | Paper Mill | MARATHON | Wisconsin River |
| EXPERA - DE PERE FACILITY | Paper Mill | BROWN | Fox River |
| EXPERA – KAUKAUNA | Paper Mill | OUTAGAMIE | Fox River |
| EXPERA - WAUSAU PAPER - BROKAW | Paper Mill | MARATHON | Wisconsin River |
| EXPERA - WAUSAU PAPER - MOSINEE | Paper Mill | MARATHON | Wisconsin River |
| EXPERA - WAUSAU PAPER - RHINELANDER | Paper Mill | ONEIDA | Wisconsin River & Wis. R. mill side canal |
| FLAMBEAU RIVER PAPERS LLC | Paper Mill | PRICE | Flambeau River |
| GEORGIA PACIFIC CONSUMER PRODUCTS LP | Paper Mill | BROWN | Fox River |

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|--|-------------|-----------|--|
| GEORGIA-PACIFIC CONSUMER PRODUCTS LP | Paper Mill | BROWN | Fox River |
| GREEN BAY PACKAGING, INC. - MILL DIVISION | Paper Mill | BROWN | Fox River |
| KIMBERLY CLARK CORPORATION MARINETTE | Paper Mill | MARINETTE | Menominee River |
| LITTLE RAPIDS CORP SHAWANO MILL | Paper Mill | SHAWANO | Wolf River |
| MULE HIDE MFG. COMPANY | Paper Mill | CHIPPEWA | Chippewa River |
| NEENAH PAPER INC NEENAH MILL | Paper Mill | WINNEBAGO | Fox River |
| NEENAH PAPER INC WHITING MILL | Paper Mill | PORTAGE | Wisconsin & Plover Rivers |
| NEW PAGE WISCONSIN, Stevens Point | Paper Mill | PORTAGE | Wisconsin River |
| NEWPAGE WISCONSIN SYSTEM INC, Niagara | Paper Mill | MARINETTE | Menominee River |
| NEWPAGE WISCONSIN, Wis Rapids (Water Quality Center) | Paper Mill | WOOD | Wisconsin River |
| PACKAGING CORPORATION OF AMERICA - TOMAHAWK | Paper Mill | LINCOLN | Wisconsin River (Lake Mohawksin Flowage) |
| PROCTER & GAMBLE PAPER PRODUCTS CO | Paper Mill | BROWN | Fox River |
| SCA TISSUE NORTH AMERICA LLC | Paper Mill | WINNEBAGO | Fox River |
| ST PAPER LLC | Paper Mill | OCONTO | Oconto River |
| DAIRYLAND POWER COOP ALMA 1-5 & J.P. MADGETT | Power Plant | BUFFALO | Mississippi |
| DAIRYLAND POWER COOP GENOA | Power Plant | VERNON | Mississippi |
| DOMINION ENERGY KEWAUNEE, INC. | Power Plant | KEWAUNEE | Lake Michigan |
| DTE STONEMAN LLC | Power Plant | GRANT | Mississippi |
| MADISON GAS & ELECTRIC BLOUNT STATION | Power Plant | DANE | Lake Monona |
| MANITOWOC PUBLIC UTILITIES | Power Plant | MANITOWOC | Lake Michigan |
| MENASHA ELECTRIC AND WATER UTILITY | Power Plant | WINNEBAGO | Fox River (Gov't Canal) |
| NextEra ENERGY POINT BEACH LLC | Power Plant | MANITOWOC | Fox River |
| Northern States Power (NSP) BAY FRONT | Power Plant | ASHLAND | Lake Superior |
| Northern States Power (NSP) FRENCH ISLAND | Power Plant | LACROSSE | Black River |
| WE - PLEASANT PRAIRIE POWER PLANT | Power Plant | KENOSHA | Lake Michigan |
| WE - PORT WASHINGTON GENERATING STATION | Power Plant | OZAUKEE | Lake Michigan |
| WE - VALLEY POWER PLANT | Power Plant | MILWAUKEE | Menomonee River |
| WE ENERGIES OAK CREEK POWER PLANT | Power Plant | MILWAUKEE | Lake Michigan |
| WI POWER AND LIGHT ROCK RIVER PLANT | Power Plant | ROCK | Rock River |
| WIS. POWER AND LIGHT EDGEWATER GEN. STATION | Power Plant | SHEBOYGAN | Lake Michigan |
| WISCONSIN POWER & LIGHT, NELSON DEWEY PLANT | Power Plant | GRANT | Mississippi |
| WISCONSIN POWER AND LIGHT CO - COLUMBIA | Power Plant | COLUMBIA | Wisconsin River |
| WISCONSIN PUBLIC SERVICE CORP PULLIAM | Power Plant | BROWN | Green Bay, near mouth of Fox River |
| WISCONSIN PUBLIC SERVICE CORP WESTON 1 & 2 | Power Plant | MARATHON | Wisconsin River |
| WISCONSIN PUBLIC SERVICE CORP WESTON 3 & 4 | Power Plant | MARATHON | Wisconsin River |
| WISCONSIN UNIVERSITY MILWAUKEE POWER PLANT | Power Plant | MILWAUKEE | Lake Michigan |

The list above includes all facilities that are covered by individual WPDES permits and that have intake structures, of which the Department is aware. Some listed facilities may not use 25 percent or more of their intake water exclusively for cooling purposes and would therefore not be subject to the specific requirements of the rule. There may be other facilities, not listed above, that are covered by general permits and that have cooling water intake structures. These facilities may also be affected by the proposed rule.

7. Summary and preliminary comparison with any existing or proposed federal regulation that is intended to address the activities to be regulated by the proposed rule: The primary purpose of this

rule is to adopt the EPA's New Facilities and Existing Facilities Rules in order to be consistent with the Clean Water Act. Additional rule language may be considered in order to aid in best professional judgment-based determinations.

8. Anticipated economic impact of implementing the rule (note if the rule is likely to have a significant economic impact on small businesses): The economic impact of implementing the two federal rules in Wisconsin is likely to be between \$11.8 million and \$15 million per year, annualized over the period of 2014-2064. Costs are expected to be higher in early years and lower in later years.

This would be a moderate impact (greater than \$50,000 per year but less than \$20 million per year). However, the department does not yet have sufficient information for a precise estimate, and it is possible that impacts could be significant (greater than \$20 million per year). To allow more time to gather information about economic impact, the department expects to use a 60-day solicitation period for economic information, the time given for significant impact rules.

It is important to acknowledge that the economic impact described above is a result of federal rules. That is, should Wisconsin choose not to implement the New Facilities and Existing Facilities rules, EPA would implement the rules for facilities in Wisconsin, and the above economic impact will still apply. The cost of Wisconsin adopting the federal rules into state administrative code as NR 111 will likely have a minimal (less than \$50,000 per year) or moderate impact, as the rule will simply follow or clarify the state's implementation of the federal rules.

As this rule will primarily impact power plants and paper mills in Wisconsin, it is not expected to burden small businesses with monitoring or compliance requirements.

Federal New Facilities Rule - Economic Impact:

In 2001, EPA expected that, nationwide, 83 new power generating facilities and 38 new manufacturing facilities would open by 2020 and be subject to the New Facilities Rule. Of these 83 power plants, 74 had already planned to construct systems within the requirements of the New Facilities Rule, leaving only 9 with substantial compliance costs. Using a seven percent discount rate during the first 20 years of the rule's implementation, EPA estimated that the total annualized national cost of the New Facilities Rule would be \$34.7 million to power generating facilities and \$13.0 million to manufacturing facilities. The Department does not have the information needed to infer exactly how much of this cost has or will impact Wisconsin. If the economic impact of the new facilities rule were distributed evenly amongst the 50 states, Wisconsin's portion would be \$1.0 million per year. However, Wisconsin has more manufacturing and power generation than many states, so the impact could be larger.

Benefits of the New Facilities rule include an EPA-estimated national increase of \$531,247 to \$1,780,104 in angler consumer surplus for recreational fisheries, in 1999 dollars.

Federal Existing Facilities Rule - Economic Impact:

The Department believes that the annual economic impact of the Existing Facilities Rule on Wisconsin will be approximately \$11.8 million, annualized over the period from 2014-2064 with a discount rate of

three percent. This period captures the last year in which facilities are expected to achieve compliance (2030) under the final rule, the life of the longest-lived compliance technology (30 years), and a period of five years after the last year of compliance technology operation during which benefits continue to accrue.

The EPA estimates that, on a per-facility basis, the annualized pre-tax regulatory compliance rates for existing electric generators and manufacturers will be \$0.4 million and \$0.1 million, respectively, during the years 2014-2064. Wisconsin has 22 electric generators and 30 manufacturers that have individual WPDES permits and that may be subject to this rule. Using this information, the annual regulatory compliance cost to these industries is estimated to be approximately \$11.8 million per year. This figure includes; (1) the one-time technology and other initial costs of complying with the rule, (2) one-time costs of installation downtime, (3) annual fixed and variable operating and maintenance costs, including auxiliary energy requirement, (4) value of energy penalty from operation of compliance technology, and (5) permitting costs (initial and follow-up start-up costs, initial permit costs, annually recurring costs associated with monitoring, and non-annually recurring permitting costs).

Nationally, EPA estimates that, for 86.5 percent of power generating facilities, annual compliance cost will be less than one percent of total revenue. However, 5.7% of power generating facilities will incur compliance costs greater than or equal to three percent of their total annual revenue. EPA estimates that, nationally, 99 percent of manufacturers subject to the new rule will have costs less than 1% of their revenue. Additionally, EPA estimates that no manufacturers are expected to close as a result of the costs imposed by this rule.

Also as a result of the Existing Facilities Rule, the EPA also predicts that the annual administrative costs to State and Federal government will be \$1 million collectively for all state and federal governments. Wisconsin's share of this administrative cost estimation is difficult to estimate but will likely be small in comparison to the compliance costs for the industry.

Without conducting a time- and resource-intensive study, it is not possible to quantify or monetize the benefits to Wisconsin that will result from the Existing Facilities Rule. On a national level, however, EPA predicts that entrainment and impingement mortality at existing units will be reduced by approximately 2.135 billion aquatic organisms per year. This is equivalent to 652.0 million age-one equivalent organisms, \$18.2 million in recreational fishing benefits, and \$0.9 million in commercial fishing benefits per year in 2011 dollars at a 3% discount rate. Additionally, 34 percent of threatened and endangered species' habitats overlap with facilities covered by the new rule. Reduction of impingement and entrainment can facilitate the recovery or slow the demise of these species. Installation of flow-reducing technologies specified in the rule can reduce thermal pollution, which can harm the structure and function of aquatic ecosystems, as well. The Department does not have the information necessary to infer what amount of these national benefits will impact Wisconsin.

9. Anticipated number, months and locations of public hearings: The Department anticipates holding three public hearings, potentially in late 2015 or early 2016. Hearing cities will be Eau Claire, Green Bay, and Madison.

Contact Person:

Jason R. Knutson

Bureau of Water Quality

Wisconsin Dept. of Natural Resources

101 S. Webster Street

P.O. Box 7921

Madison, WI 53707-7921

Phone: 608-267-7894

Jason.Knutson@wisconsin.gov