STATE OF WISCONSIN
DEPARTMENT OF ADMINISTRATION
DOA-2049 (R03/2012)

DIVISION OF EXECUTIVE BUDGET AND FINANCE
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ADMINISTRATIVE RULES
Fiscal Estimate & Economic Impact Analysis

1. Type of Estimate and Analysis
☒ Original ☐ Updated ☐ Corrected — Date: 02/04/19

2. Administrative Rule Chapter, Title and Number
NR 102 – Water Quality Standards for Wisconsin Surface Waters
NR 104 – Uses and Designated Standards
NR 210 – Sewage Treatment Works

3. Subject
WY-17-15: Updating Wisconsin's water quality criteria for pathogens (bacteria) and recreational uses and related WPDES permit implementation procedures for the revised water quality standards to be consistent with EPA's recreational water quality criteria.

4. Fund Sources Affected
☒ GPR ☐ FED ☒ PRO ☐ PRS ☐ SEG ☐ SEG-S

5. Chapter 20, Stats. Appropriations Affected
20.370 (4)(ma)

6. Fiscal Effect of Implementing the Rule
☒ No Fiscal Effect
☐ Indeterminate
☐ Increase Existing Revenues
☐ Decrease Existing Revenues
☐ Increase Costs
☐ Could Absorb Within Agency's Budget
☐ Decrease Cost

7. The Rule Will Impact the Following (Check All That Apply)
☐ State's Economy
☒ Local Government Units
☐ Specific Businesses/Sectors
☐ Public Utility Rate Payers
☒ Small Businesses **(if checked, complete Attachment A)**

8. Would Implementation and Compliance Costs Be Greater Than $20 million?
☐ Yes ☒ No

9. Policy Problem Addressed by the Rule
Revisions to Wisconsin's water quality criteria for bacteria to protect recreation, and related implementation procedures, are necessary for several reasons.

- Wisconsin's current criteria are outdated and not adequately protective. Wisconsin uses fecal coliform bacteria as the pathogen indicator while the United States Environmental Protection Agency (EPA) has recommended using *E. coli* as a pathogen indicator since the mid-1980s. These revisions ensure that Wisconsin's criteria are based on the latest scientific knowledge and adequately protect people that are recreating in Wisconsin's waters.
- States with coastal waters are required by the Beaches Environmental Assessment and Costal Health (BEACH) Act to adopt EPA's latest water quality criteria for pathogens (including bacteria) no later than 3 years after publication. If these criteria are not adopted in a timely manner, EPA has the authority to promulgate water quality standards to ensure the requirements of the Clean Water Act are met. EPA published their latest recommendations in 2012.
- Revising the bacteria criteria at this time will also allow Wisconsin to continue to receive federal grants for beach monitoring and notification. To be eligible for these grants, the state's water quality program must be consistent with the performance criteria established by the EPA. In 2014, the EPA added adoption of new or revised recreational water quality standard as a performance criterion. These funds are crucial for supporting Wisconsin's beaches as the department distributes them to local communities to monitor their beaches, notify community members in a timely manner when issues arise, and collect information necessary to restore problem beaches.
- Wisconsin's current bacteria criteria are applied inconsistently throughout the state. Wisconsin has different standards for inland and Great Lakes waters because EPA over-promulgated criteria for the Great Lakes in 2004. This has resulted in an additional burden on permittees to the Great Lakes as they are required to monitor for both fecal coliform and *E. coli* and added complexity in establishing permit requirements and developing total maximum daily loads (TMDLs). This rule revision would apply the same criteria statewide and eliminate duplicative monitoring.

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10. 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.

Facilities that may be affected and other interested parties were contacted and given the opportunity to comment on the draft EIA during the public solicitation period.

11. Identify the local governmental units that participated in the development of this EIA.

Local governments and their treatment facility operators were given the opportunity to comment on the draft EIA during the public solicitation period. Comments were submitted by Milwaukee Metropolitan Sewerage District, City of Chilton Wastewater Treatment Plant, Watertown Wastewater Treatment Plant, Plymouth Utilities, and the Municipal Environmental Group representing municipal treatment plants and including a study from Racine Wastewater Utility. WDNR prepared responses to all comments and revised portions of the EIA and the rule language accordingly.

12. 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)

This rule is expected to have minimal economic impact. The costs incurred will be due to changes in analytical methods associated with monitoring each type of bacteria. These changes solely pertain to facilities subject to ch. NR 210, Wis. Adm. Code (i.e., publicly owned treatment works, privately owned domestic sewage treatment works). We anticipate the total annual cost of compliance for 336 facilities to be $52,986. Cost savings for 20 facilities are estimated at $32,193. Taken together, the net annual cost of compliance is anticipated to be $20,793. The economic impact of alternative compliance methods is also presented.

The department's initial rule revision proposal included creation of a minimum twice-a-week monitoring requirement for all facilities. However, after review of comments on the draft Economic Impact Assessment, review of current code, and consultations with department wastewater staff, it was determined that current regulations provide sufficient flexibility for facilities to select a monitoring frequency that reflects variability in their samples. Removing this requirement greatly reduced the anticipated fiscal burden for most facilities and in particular small facilities, some of which may be small businesses.

Facilities that may experience an increased cost associated with the revisions to this rule are those that are currently monitoring for fecal coliform and will be required to switch to monitoring for *E. coli*. Facilities may also incur increased costs associated with purchasing equipment to analyze *E. coli* samples using a defined substrate method if they choose to use that analytical technique. To estimate costs associated with this rule, the department looked both at costs for facilities to send samples to an external certified lab for analysis, and at an alternative of conducting analysis in-house if the facility has a certified lab.

The department obtained quotes from several commercial labs in the state for both fecal coliform and *E. coli* monitoring (per sample, *E. coli*: $25; fecal coliform: $19). This information, along with monitoring requirements in current permits, was used to estimate facilities' current cost of monitoring. Projected costs were then calculated assuming facilities will monitor for only *E. coli* at their current monitoring frequency from May 1 through September 30, and send samples to an external lab for analysis (Table 1). For facilities currently monitoring for a longer time frame, the same monitoring time frame currently being used by the facility was used in the analysis.

Table 1. Cost Estimates Due to Changes in Monitoring and Analysis: Using External Lab

Proposed Change	Number of Facilities	Estimated Annual Change per Facility ($)	Total Annual Costs ($)
Switch indicator from fecal coliform to *E. coli*; External lab analysis	336	158	**52,986**

Facilities with a certified lab in-house can determine whether it is more cost-effective for them to send their samples to

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an external lab or do the analysis in-house. If doing in-house analysis, facilities may use membrane filtration methods or defined substrate methods. Most facilities are already doing membrane filtration for fecal coliform. If they continue with membrane filtration for *E. coli*, cost per sample would be generally equivalent. Some facilities may wish to instead purchase equipment to convert to defined substrate analysis, which can save staff time and may be more efficient in the long-term. The department obtained cost estimates from a defined substrate test manufacturer (IDEXX) for upfront capital costs as well as ongoing annual costs for facilities that choose to begin analyzing *E. coli* using a defined substrate method rather than a membrane filtration method (Table 2). Costs shown in Table 2 are optional and would be in place of costs from Table 1 for facilities selecting this option.

Table 2. Cost Estimates Due to Changes in Monitoring and Analysis: In-house Lab Analysis with Defined Substrate Methods

Proposed Change	Number of Facilities	Estimated Annual Change per Facility ($)		Total Annual Costs over 10 years ($)
Switch indicator from fecal coliform to *E. coli*; Purchase defined substrate analytical equipment (optional)	102*	First year**	5000	**51,000**
		Subsequent years**	140	**14,280**

* represents 50% of facilities that have a laboratory certification
** first year costs represent basic equipment; subsequent year costs represent UV bulb replacement

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

For some facilities, changes to the monitoring requirements will reduce costs. There are 20 municipal wastewater treatment facilities that are monitoring for both fecal coliform and *E. coli*. These facilities may see an economic benefit from this rule as they will no longer have to monitor for fecal coliform (Table 3). Each of these 20 facilities is estimated to save $1,610 annually, for a total of $32,193 combined annual savings.

Table 3. Savings Estimates Due to Changes in Monitoring Requirements

Proposed Change	Number of Facilities	Estimated Annual Change per Facility ($)	Total Annual Savings ($)
Drop fecal coliform indicator; continue monitoring *E. coli*	20	-1,610	**-32,193**

Revisions to the water quality criteria and effluent limits are likely to lead to improved water quality and reduced risk of illness in people recreating in Wisconsin's waters. While these benefits are hard to quantify, they are likely to result in an overall benefit to the citizens of Wisconsin.

While the alternative is to not revise the bacteria criteria and maintain the status quo, there are several disadvantages to that approach. First, the inconsistencies and inefficiencies in the wastewater permit program and TMDL development would remain, affecting the regulated community. Second, if the state's criteria are not revised the department may lose federal grant dollars that are passed through to local communities. Third, EPA could promulgate the revised criterion for Wisconsin as they did in 2004. If EPA does promulgate criteria for Wisconsin, its rule-making process is unlikely to include revisions to related rules (e.g. discharge permit requirements, including compliance schedules) and would not eliminate the state's published fecal coliform criteria. As such, Wisconsin's current fecal coliform criteria remain codified, but EPA would likely impose additional monitoring requirements on all relevant dischargers to ensure the

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recreational use is adequately protected. Additionally, if EPA promulgates criteria, Wisconsin would lose the ability to select its own pathogen indicator and acceptable risk level and to develop site specific criterion procedures.

14. Long Range Implications of Implementing the Rule

The revision from fecal coliform to *E. coli* as the state's pathogen indicator will bring the state into compliance with EPA regulations. It will better protect public health and recreational opportunities by keeping bacterial levels in waterways low. Once a facility has come into compliance with their water quality based effluent limits, they must stay in compliance. Therefore, costs for monitoring and daily costs of disinfection will be recurring annual costs as estimated in this analysis.

15. Compare With Approaches Being Used by Federal Government

Section 303(i)(1)(B) of the Clean Water Act requires states with coastal waters (including the Great Lakes) to promulgate criteria for pathogens/pathogen indicators (including bacteria) and submit these criteria to EPA for approval.

Section 303(c) of the Clean Water Act requires states to periodically review and modify or adopt, if necessary, water quality standards. This requirement applies to all surface waters in the state.

Federal regulations (40 CFR 131.10 and 11) require states to develop water quality standards comprised of designated uses and criteria to protect the uses. 40 CFR 131.10(j) requires states to conduct a use attainability analysis to remove or modify the designated uses specified in Section 101(a)(2) of the Clean Water Act, which include recreation. 40 CFR 131.11(b) states that the criteria must be based on federal guidance, federal guidance modified to reflect site-specific conditions, or other scientifically-defensible methods.

Section 301(b)(1)(C) of the Clean Water Act requires compliance with effluent limits needed to meet water quality standards.

40 CFR 122.44(d) requires that water quality based effluent limits be established when discharge levels have the potential to cause or contribute to an exceedance of a water quality standard.

40 CFR 122.45(d) requires that effluent limits be expressed as average weekly and average monthly values for publicly owned treatment works (POTWs) with continuous discharges.

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

In this rule package, the department has selected an approach that is consistent with neighboring states, selecting *E. coli* as the pathogen indicator. All neighboring coastal states (Michigan, Minnesota, Indiana, Ohio) except Illinois currently use *E. coli* as the pathogen indicator. Illinois is currently in the process of revising their criteria to use *E. coli*. Iowa is not a coastal state and is therefore not subject to the same BEACH Act regulations, but also uses *E. coli* as its indicator. The states vary in certain specifics associated with the criteria and permit implementation, since some states' criteria and implementation procedures are based on older EPA recommendations or they have selected different illness rates, etc. The department is generally consistent with the other states in approach but follows the most recent federal recommendations, similar to Ohio.

17. Contact Name	18. Contact Phone Number
Kristi Minahan	608-266-7055

This document can be made available in alternate formats to individuals with disabilities upon request.

ATTACHMENT A

1. Summary of Rule's Economic and Fiscal Impact on Small Businesses (Separately for each Small Business Sector, Include Implementation and Compliance Costs Expected to be Incurred)

Privately owned sewage treatment facilities that currently disinfect wastewater are likely to be affected by this rule. There are currently seven such facilities that may be small businesses, such as mobile home parks or nursing homes. Annual costs for switching from monitoring wastewater for fecal coliform to monitoring for *E. coli* are projected to be

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approximately $132 per facility under the assumption that these facilities send their wastewater samples to an outside laboratory for analysis. Total costs for these facilities combined are estimated at $924 annually.

2. Summary of the data sources used to measure the Rule's impact on Small Businesses

Privately owned sewage treatment works that are currently disinfecting were identified through the department's permit program data system (System for Wastewater Applications, Monitoring and Permits, or SWAMP). A subset of the seven facilities identified may be small businesses, although WDNR does not have data that specifies this. The difference between current and projected monitoring costs for these facilities was calculated in the same way as described for publicly owned sewage treatment facilities.

3. Did the agency consider the following methods to reduce the impact of the Rule on Small Businesses?

☐ Less Stringent Compliance or Reporting Requirements
☐ Less Stringent Schedules or Deadlines for Compliance or Reporting
☐ Consolidation or Simplification of Reporting Requirements
☐ Establishment of performance standards in lieu of Design or Operational Standards
☐ Exemption of Small Businesses from some or all requirements
☒ Other, describe: See item 4 below.

4. Describe the methods incorporated into the Rule that will reduce its impact on Small Businesses

As mentioned above, the minimum twice a week monitoring requirement was removed from the proposed rule change after review of current Code, consultations with department wastewater staff, and review of comments on the draft Economic Impact Assessment. Removal of this requirement greatly reduced any fiscal burden for small businesses.

5. Describe the Rule's Enforcement Provisions

Enforcement provisions are not included in the portions of the rule affected by the proposed order. These provisions are located in other portions of administrative rule not proposed for revision in this proposed rule order.

6. Did the Agency prepare a Cost Benefit Analysis (if Yes, attach to form)

☒ Yes (see summary table below) ☐ No

		Facilities currently monitoring:	
		Fecal Coliform (switch indicator) ($)	**Fecal Coliform & E. coli (drop indicator)**
Average	**Current**	418	NA
	Projected	550	
	Difference	132	
Total	**Current**	2,926	NA
	Projected	3,850	
	Difference	**924**	
Number of Facilities*:		7	0

* There are 7 privately owned sewage treatment facilities currently disinfecting that may also be small businesses. The number of actual small businesses may be fewer than 7, in which case total costs would be lower. Note that any facilities that are allowed weekly monitoring (instead of twice weekly) would not incur the above costs.