

STATEMENT OF SCOPE

Department of Natural Resources

DNR Rule Number: WY-19-25

Relating To: Revision of chapter NR 105 to update numeric water quality criteria for toxic substances for the protection of human health

Rule Type: Permanent

Rule Scope:

1. Finding/nature of emergency (Emergency Rule only):

The rule will be proposed as a permanent rule.

2. Detailed description of the objective of the proposed rule:

This proposed rule would update human health criteria for some toxic substances in surface waterbodies. Human health criteria are specific levels of substances in a waterbody that are not expected to cause adverse health outcomes when humans are exposed to them over their life course. The department will revise criteria for some toxic substances in surface waters and promulgate new criteria for compounds for which the department currently has secondary values. Secondary values are similar to criteria, but either do not meet the minimum data requirements of criteria or have yet to go through rulemaking to become criteria. These changes would reflect the U.S. Environmental Protection Agency's (EPA's) 2015 revisions to human health criteria for 94 compounds. Revision of these criteria was a high-priority topic for the public and partners in the department's most recent Triennial Standards Review for 2025-2027.

Chapter NR 105, Wis. Adm. Code, is the principal administrative code chapter setting water quality criteria and secondary values for toxic substances in surface waters of the state of Wisconsin. The criteria and values are designed to protect surface waters from potentially toxic levels of chemical compounds, considering both short- and long-term impacts on fish and other aquatic life, wildlife, and human health. The criteria and values may be used as a basis for regulating wastewater discharges to surface waters and for justifying monitoring and remedial action (cleanup) activities statewide.

Criteria were first developed and included in ch. NR 105, Wis. Adm. Code, in February of 1989. The code was revised in August of 1997 to update criteria and incorporate procedures in the EPA Great Lakes Water Quality Initiative (GLI), a federal law passed in 1995. Other revisions have taken place since 1989 to modify existing numeric water quality criteria or create new criteria for toxic substances. The most recent revisions to Wisconsin's numeric criteria for the protection of human health occurred in 2008, when criteria for 12 substances were revised and criteria for an additional 2 substances were added.

Current methods of calculating numeric water quality criteria are detailed in ch. NR 105, Wis. Adm. Code. Some revisions to these methods will be considered. Two risk assessment methodologies will be explored and the resulting criteria from each respective method will be compared against human health-protective acceptable risk levels. Both risk assessment methodologies will incorporate updated exposure factor inputs, such as body weight and the rate of consumption of drinking water and fish. The data to support these inputs will be obtained from multiple sources, including but not limited to statewide population data from the Department of Health Services, national datasets from EPA, scientifically defensible studies, and other high-quality information sources that may result from interactions with stakeholder groups. Criteria and supporting calculations for populations with exposures significantly different than statewide averages will also be considered, such as populations that rely on subsistence fishing (a concurrent rule related to subsistence fishing use is in progress under DNR number WY-18-25). Modifications to ch. NR 105 Table 8, Human Threshold (Non-cancer) Criteria and Table 9, Human Cancer Criteria, Wis. Adm. Code, are needed to reflect updated criteria. Policy decisions about how to apply these criteria will be explored as part of this rule making effort.

Chapter NR 105, Wis. Adm. Code, currently establishes criteria for 74 substances. Numeric criteria changes will likely involve revisions to certain existing substances among the 74 currently regulated. In addition, new criteria are likely for 16 substances with secondary values that Wisconsin has previously calculated to regulate discharges to surface waters through Wisconsin Pollutant Discharge Elimination System (WPDES) permit limits. Compounds that do not currently have criteria or secondary values may be considered as part of this rulemaking effort based on identified needs for additional waterbody protections that impact human health. Additional rule changes or clarifications which are reasonably related to those discussed here may also be considered.

The following substances that were included in EPA's 2015 updates do not currently have promulgated criteria in Wisconsin for surface waters. These will be considered for criteria promulgation:

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| • Anthracene | • Endrin |
| • Benzo(a)pyrene | • Fluorene |
| • Bis(2-Ethylhexyl) Phthalate | • Heptachlor |
| • Butylbenzyl Phthalate | • Heptachlor epoxide |
| • Chlorodibromomethane | • Nitrobenzene |
| • 1,1-Dichloroethylene | • Pentachlorophenol |
| • 2,4-Dichlorophenoxyacetic Acid (2,4-D) | • Phenol |
| • Di-n-Butyl Phthalate | • Pyrene |

Wisconsin has existing criteria for the following compounds that were included in EPA's 2015 updates. Some of these may require revision. Some criteria may become more stringent, while others may become less stringent.

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| • Acrolein | • Chlorobenzene |
| • Alpha-BHC | • Chloroethene (Vinyl chloride) |
| • Benzene | • Chloroform |
| • BHC, Technical Grade | • Cyanide (Total) |
| • Bis(Chloromethyl) Ether | • 4,4'-DDT |
| • Bis(2-Chloroisopropyl) Ether | • 1,2-Dichlorobenzene |
| • Carbon tetrachloride | • 1,3-Dichlorobenzene |
| • Chlordane | • 1,4-Dichlorobenzene |

- 3,3'-Dichlorobenzidien
- 1,2-Dichloroethan
- 1,2-trans Dichloroethylen
- Dichlormethan (Methylenchlorid)
- 2,4-Dichlorophenol
- 1,3-Dichloropropen
- Dieldrin
- Diethyl Phthalat
- Dimethyl Phthalat
- 2,4-Dimethylphenol
- 2,4-Dinitrotoluol
- Ethylbenzol
- Fluoranthren
- Gamma-BHC (Lindan)
- Hexachlorobenzol
- Hexachlorobutadien
- Hexachloroethan
- Isophoron
- Pentachlorobenzol
- Tetrachloroethylen
- Toluol
- 1,1,1-Trichloroethan
- 1,1,2-Trichloroethan
- Trichloroethylen
- 2,4,5-Trichlorophenol
- Toxaphen

The department may consider revisions to other criteria not listed here, pending further research and analysis.

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:

States are required to develop water quality standards under the Clean Water Act. The department has authority to establish water quality standards under s. 281.15, Wis. Stats., and state water quality standards have been promulgated for many toxic pollutants and other parameters in chs. NR 102 to 105, Wis. Adm. Code. Water quality standards protect a variety of "Designated Uses," including public health and welfare, recreational uses, wildlife, and the propagation of fish and other aquatic life.

Water quality standards include both these Designated Uses and water quality criteria. Water quality criteria, which can be narrative or numeric, specify the waterbody conditions or the level of a pollutant that are protective of a Designated Use. Existing numeric criteria for toxic pollutants are listed in ch. NR 105, Wis. Adm. Code. The proposed rule would revise some numeric surface water quality criteria for human health protection in ch. NR 105, Wis. Adm. Code, and may add numeric water quality criteria for an additional 16 substances or more, pending further analysis.

The adoption of new surface water quality criteria for a toxic pollutant may result in new water quality-based effluent limitations (WQBELs) and additional monitoring requirements in WPDES permits issued to municipal and industrial facilities that discharge the pollutant. The department has existing authority to include WQBELs in WPDES permits for any toxic pollutant discharged by facilities using the procedures in ch. NR 106, Wis. Adm. Code.

Policy alternatives:

As discussed above, the department expects to explore the standard approach for calculating risk and criteria, called deterministic risk assessment, as well as an alternative approach called probabilistic risk assessment. The department also expects to explore developing criteria that are protective for groups with additional exposure factors, such as fish consumption rates that are significantly higher than the statewide average, as an additional policy alternative. Policy decisions about how to apply these criteria will be explored as part of this rule making effort.

An alternative is to not revise water quality criteria for the protection of human health. If criteria are not revised, there may be less protection of human health because Wisconsin's criteria for some substances will not adequately reflect the risks of exposure via ingestion of surface water or fish taken from surface waters. Conversely, for other substances for which this rule package may propose less stringent criteria, permitted entities may be unduly burdened by monitoring and treatment conditions that do not reflect the current state of the science.

4. Detailed explanation of statutory authority for the rule (including the statutory citation and language):

- Section 281.12, Wis. Stats., grants the department general supervision and control to carry out the planning, management, and regulatory programs necessary for prevention/reduction of water pollution and for improvement of water quality.
- Section 281.13(1)(a) and (b), Wis. Stats., authorize the department to create rules to research and assess water quality in the state.
- Section 281.15, Wis. Stats., mandates that the department promulgate water quality standards, including water quality criteria and designated uses. It recognizes that different use categories and criteria are appropriate for different types of waterbodies, and states that the department shall establish criteria which are not more stringent than reasonably necessary to ensure attainment of the designated use for the waterbodies.
- Section 227.11(2), Wis. Stats., authorizes the department to promulgate rules that are necessary to administer the specific statutory directives in ch. 281, Wis. Stats.

5. Estimate of amount of time that state employees will spend developing the rule and of other resources necessary to develop the rule:

The department estimates that approximately 1,000 hours of staff time will be required to complete the proposed rule.

6. List with description of all entities that may be affected by the proposed rule:

Business/industry and municipalities:

The substances for which new or revised criteria are being proposed are rarely detected in effluent or surface waters, and few facilities discharge these substances in Wisconsin. Nonetheless, affected entities include facilities that discharge a toxic substance to surface waters and are required to conduct monitoring or that currently have or may receive new WQBELs for any of the substances included in this rule. Compliance with new WQBELs may involve the implementation of new treatment methods and/or source reduction measures by wastewater treatment facilities, businesses, and/or industries with current or historic use of these substances. Conversely, promulgation of less restrictive criteria for some substances may remove required monitoring or existing WQBELs, which would lessen the administrative and financial burden for some facilities.

Public:

From a public health perspective, the public will benefit from any reductions in toxic substances discharged associated with any new limitations in WPDES permits.

Groups with known higher exposures:

Criteria that are protective of groups with higher exposure factors will provide additional human health protection.

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:

Federal statutes and regulations direct states to establish and periodically review water quality standards. State adoption of water quality standards and revisions to standards require EPA approval pursuant to 40 CFR 131.20 and 131.21.

- 33 USC s. 1313(c) (section 303(c) of the Clean Water Act) requires that states periodically review and modify or adopt, if necessary, water quality standards. This requirement applies to all surface waters in the state.
- 33 USC s. 1314(a) (section 304 of the Clean Water Act) requires that EPA develop and publish criteria for water quality for all waters for uses such as aquatic life, public health protection, and recreation.
- 40 CFR ss. 131.10 and 11 require states to develop water quality standards, including uses and criteria to protect the uses. 40 CFR s. 131.11 (b) states that the criteria must be based on federal guidance, federal guidance modified to reflect site-specific criteria, or other scientifically defensible methods.
- 40 CFR s. 130.3 defines water quality standards as setting water quality goals for a waterbody that will protect its designated uses (such as protection of fish, wildlife, recreation, and public health and welfare). Criteria will be set to protect those uses.
- 40 CFR s. 131.4 specifies that states are responsible for reviewing, establishing, and revising their own water quality standards.
- 40 CFR s. 131.11 specifies that criteria must be based on sound scientific rationale and must contain sufficient parameters or constituents to protect the designated use. Furthermore, states must review water quality data and information on discharges to identify specific water bodies where toxic pollutants may be adversely affecting water quality or the attainment of the designated use or where the levels of toxic pollutants are at a level to warrant concern and must adopt criteria for such toxic pollutants applicable to the water body sufficient to protect the designated use.
- 40 CFR 131.20 requires states to periodically review water quality standards.

8. Anticipated economic impact of implementing the rule (note if the rule is likely to have an economic impact on small businesses):

The department expects that there will be moderate economic impacts to permitted entities as a result of this rule. The substances for which new or revised criteria are being proposed are rarely detected in effluent or surface waters and few facilities discharge these substances in Wisconsin. It is unlikely that any dischargers of these substances are small businesses.

9. Anticipated number, month and locations of public hearings:

The department anticipates holding one or two public hearings in February 2028.

The department will hold the hearing(s) virtually to allow for as many people to attend as possible and may also provide an option to attend the hearing in person. Comments may be provided by mail, phone, and email as well as in person.

The department also intends to convene an advisory committee consisting of interested parties, such as representatives of Tribal Nations, potentially affected industries and municipalities, and environmental groups, to inform decision-making during rule drafting.

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Date Approved