



## REGION 8

DENVER, CO 80202

Ref: 8WD-CWQ

### **SENT VIA EMAIL**

Mr. Karl Rockeman  
Director, Water Quality Division  
North Dakota Department  
of Environmental Quality  
krockema@nd.gov

Re: EPA Action on Amendments to North Dakota's Standards of Quality for Waters of the State

Dear Mr. Rockeman:

The U.S. Environmental Protection Agency (EPA) has completed its review of North Dakota Department of Environmental Quality's (DEQ) submittal of amendments to Standards of Quality for Waters of the State N.D. Admin Code (NDAC) ch. 33.1-16-02.1. These amendments were presented to the North Dakota Legislative Council Administrative Rules Committee and approved on December 11, 2023. The amendments became effective under State law on January 1, 2024. The DEQ submitted the revised rules to the EPA for review with a letter dated January 4, 2024. The submittal package included (1) Submittal Letter from David Glatt; (2) Proposed Rules with Strikeouts; (3) Final Rules as Approved; (4) North Dakota Attorney General Certification; (5) Copies of Public Notices Published in North Dakota Papers; (6) Full Public Notices as they appeared on North Dakota DEQ's website and to those on the DEQ's list-serve; and (7) Comments and Responses on Proposed Rules.

As part of the review process, the initial draft revisions were made available for public review and comment from May 28, 2022, through July 31, 2022. The first public hearing was held on July 20, 2022. A second public hearing was held on June 21, 2023. A public comment period was provided from April 13, 2023, through July 3, 2023. On October 24, 2023, the North Dakota Attorney General certified that the revised rules were compliant with state law and approved their legality. Receipt of the submittal package on January 4, 2024, initiated EPA's review pursuant to § 303(c) of the Clean Water Act (CWA) and the implementing federal water quality standards regulation (40 CFR Part 131).

Key revisions to North Dakota's Standards of Quality for Waters of the State include the adoption of criteria for microcystin and cylindrospermopsin for the protection of the designated use of recreation, and the addition of footnote 2 to Table 1 to allow use of the EPA's CWA § 304(a) national recommended aquatic life criteria for aluminum as an option to derive site-specific aluminum criteria to protect freshwater aquatic life designated uses.<sup>1</sup>

## **Clean Water Act Review Requirements**

Section 303(c)(2) of the CWA requires states and authorized Indian tribes<sup>2</sup> to submit new or revised water quality standards to the EPA for review. The EPA is required to review and approve, or disapprove, the submitted standards. Pursuant to CWA § 303(c)(3), if the EPA determines that any standard is not consistent with the applicable requirements of the CWA, the Agency shall, not later than the ninetieth day after the date of submission, notify the state or authorized tribe and specify the changes needed to meet the requirements. If such changes are not adopted by the state or authorized tribe within ninety days after the date of notification, the EPA is to propose and promulgate such standards pursuant to CWA § 303(c)(4)(A). The Region's goal has been, and will continue to be, to work closely with states and authorized tribes throughout the standards revision process so that submitted revisions can be approved by the EPA. Pursuant to 40 CFR § 131.21(c), new or revised state and authorized tribal standards submitted to the EPA after May 30, 2000, are not effective for CWA purposes until approved by the EPA.

## **Today's Action**

Today the EPA is approving the amendments to the Standards of Quality for Waters of the State listed below. The rationale for the EPA's action is discussed in the enclosure.

- Added recreational ambient water quality criteria for microcystins and cylindrospermopsin at ch. 33.1-16-02.1-09 Table 1 for the protection of the beneficial use of recreation.
- Made minor grammatical edits to ch. 33.1-16-02.1-08(2)(a) and (c).
- Edited formatting of ch. 33.1-16-02.1-09 Table 1: (1) currently the text in the column heading is underlined and it should not be underlined, and (2) revised font in the acute and chronic ammonia criteria formulas for consistency.
- Made minor grammatical edit to ch. 33.1-16-02.1-09 Table 2 footnote 6.
- Edited "Little Muddy Creek" to "Little Muddy River" in Appendix I.
- Amended ch. 33.1-16-02.1-09 by adding footnote 2 to its existing aluminum criteria at Table 1 to allow use of the EPA's CWA § 304(a) national recommended aquatic life criteria for aluminum as an option to derive site-specific aluminum criteria to protect freshwater aquatic life beneficial uses.

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<sup>1</sup> The EPA National Recommended Water Quality Criteria – Aquatic Life Criteria Table at [www.epa.gov/wqc/national-recommended-water-quality-criteria-aquatic-life-criteria-table](http://www.epa.gov/wqc/national-recommended-water-quality-criteria-aquatic-life-criteria-table)

<sup>2</sup> CWA Section 518(e) specifically authorizes the EPA to treat eligible Indian tribes in the same manner as states for purposes of CWA § 303. See also 40 CFR § 131.8.

The EPA is not acting on North Dakota's amendment to NDAC Section 33.1-16-02.1-09 Aquatic Life Criteria (Table 2) withdrawing its chronic aquatic life criterion (ALC) for mercury of 0.88 µg/L in Table 2 and replacing it with its previous chronic ALC for mercury of 0.012 µg/L. The rationale for the EPA not acting on this amendment is discussed in the enclosure.

### **Endangered Species Act Requirements**

Section 7(a)(2) of the Endangered Species Act (ESA) requires that all federal agencies engage in consultation to ensure their actions are not likely to jeopardize the continued existence of any threatened or endangered species or result in adverse modification of designated critical habitat. Consistent with the requirements of Section 7 of the ESA and 50 CFR Part 402, the EPA evaluated whether approval of the amendments to North Dakota's Standards of Quality for Waters of the State would affect federally-listed threatened or endangered species or designated critical habitat. The EPA determined approval of the amendments to North Dakota's Standards of Quality for Waters of the State will have no effect on federally-listed threatened and endangered species or on critical habitat.

### **Indian Country**

The EPA's approval of North Dakota's submitted Standards of Quality for Waters of the State does not extend to Indian country as defined in 18 U.S.C. Section 1151. Indian country in North Dakota generally includes (1) lands within the exterior boundaries of the following Indian reservations located within North Dakota: the Fort Berthold Indian Reservation, the Spirit Lake Reservation, the Standing Rock Sioux Reservation, and the Turtle Mountain Reservation; (2) any land held in trust by the United States for an Indian tribe (including but not limited to the Sisseton-Wahpeton Oyate Tribe); and (3) any other areas that are "Indian country" within the meaning of 18 U.S.C. Section 1151. The EPA or eligible Indian tribes, as appropriate, retain responsibilities under CWA § 303 for water quality standards in Indian country. Today's action is not intended as an action to approve or disapprove water quality standards for waters within Indian country.

### **Conclusion**

The EPA Region 8 thanks the DEQ for its efforts to maintain and improve water quality in North Dakota. If you have any questions, please contact Holly Wirick of my staff at (303) 312-6238 or [wirick.holiday@epa.gov](mailto:wirick.holiday@epa.gov) or Andrew Todd at (303) 312-7821 or [todd.andrew@epa.gov](mailto:todd.andrew@epa.gov).

Sincerely,

Stephanie DeJong, Manager  
Clean Water Branch

Enclosure

cc: Mr. Pete Wax, Division of Water Quality, North Dakota DEQ

## **ENCLOSURE**

### **Rationale for the EPA's Action on North Dakota's Amendments to its Standards of Quality for Waters of the State**

Today's action letter addresses the revisions to North Dakota's Standards of Quality for Waters of the State that became effective under State law on January 1, 2024. This enclosure provides a summary of the revisions and a rationale for the action taken by the EPA. The discussion below covers the changes made to North Dakota's Standards of Quality for Waters of the State.

CWA § 303(c)(2) requires states and authorized Indian tribes to submit new or revised water quality standards to the EPA for review. The EPA is required to review and approve within 60 days or disapprove within 90 days. Pursuant to CWA § 303(c)(3), if the EPA determines that any water quality standard is not consistent with the applicable requirements of the Act, the Agency shall, not later than the ninetieth day after the date of submission, notify the state or authorized tribe and specify the changes to meet the requirements. If the changes are not adopted within ninety days after the date of notification, the EPA is to propose and promulgate such water quality standards pursuant to CWA § 303(c)(4). The Region's goal has been, and will continue to be, to work closely with states and authorized tribes throughout the standards revision process so that submitted revisions can be approved by the EPA. Consistent with federal regulations at 40 CFR § 131.21, new or revised water quality standards do not become applicable water quality standards for CWA purposes until they are approved by the EPA.

The EPA considers four questions when evaluating whether a particular provision is a "new or revised" water quality standard. The four questions are:

- 1) Is it a legally binding provision adopted or established pursuant to state or tribal law?
- 2) Does the provision address designated uses, water quality criteria (narrative or numeric) to protect designated uses, and/or antidegradation requirements for waters of the United States?
- 3) Does the provision express or establish the desired condition (e.g., uses, criteria) or instream level of protection (e.g., antidegradation requirements) for waters of the United States immediately or mandate how it will be expressed or established for such waters in the future?
- 4) Does the provision establish a new water quality standard or revise an existing water quality standard?

If the answer to all four questions is "yes" then the provision would likely constitute a new or revised water quality standard that the EPA has the authority and duty to approve or disapprove under CWA § 303(c)(3). In addition, the EPA considers new or revised water quality standards general policies (pursuant to 40 CFR § 131.13) and non-substantive edits to existing water quality standards to be revisions that the EPA has the authority and duty to approve or disapprove under CWA § 303(c)(3).

The EPA reviewed the revisions to North Dakota's Standards of Quality for Waters of the State and determined that they are new or revised water quality standards subject to EPA review pursuant to CWA § 303(c).

Surface water classifications, mixing zones, and numeric standards (ch. 33.1-16-02.1-09 Table 1 – Cylindrospermopsin and Microcystins)

North Dakota amended NDAC ch. 33.1-16-02.1-09 Table 1<sup>3</sup> by adopting the EPA’s recommended human health recreational ambient water quality criteria for cylindrospermopsin and microcystins which were published in May 2019.<sup>4, 5</sup>

TABLE 1 MAXIMUM LIMITS FOR SUBSTANCES IN OR CHARACTERISTICS OF CLASSES I, IA, II AND III STREAMS

CAS No.	Substance or Characteristic	Maximum Limit
None	Cylindrospermopsin	15 µg/L for CWA water quality criterion, no more than 3 excursions (10-day assessment periods) within a single recreational season in a single year.
None	Microcystins	8 µg/L for CWA water quality criterion, no more than 3 excursions (10-day assessment periods) within a single recreational season in a single year.

Cylindrospermopsin and microcystins are two types of toxins produced by cyanobacteria, which under certain environmental conditions, can rapidly multiply to form harmful algal blooms (HABs). These criteria reflect the latest scientific knowledge on the potential human health effects from recreational exposure to these two cyanotoxins which can be harmful to human health as well as livestock. Primary contact recreation is protected in water bodies at or below the recommended concentrations of cylindrospermopsin and microcystins adopted by the DEQ. Elevated levels of microcystins can potentially lead to liver damage, and cylindrospermopsin toxicity can impact the kidneys and liver. If water containing cyanotoxins is consumed by livestock or companion animals, severe illness or even death may occur following ingestion. Adoption of water quality criteria for these cyanotoxins, in conjunction with the state’s public information program about HABs, its program for reporting suspected blue-green algae blooms, the HAB advisories/warnings program, and the state’s advice for residents on reducing nutrients from entering runoff to surface waters are likely to improve public health protection in North Dakota.

The EPA approves the DEQ’s new recreational ambient water quality criteria for cylindrospermopsin and microcystins because they are scientifically defensible and consistent with the requirements of the CWA § 303(c) and its implementing regulations at 40 CFR § 131.11.

<sup>3</sup> Excerpted from North Dakota DEQ Standards of Quality for Waters of the State NDAC ch. 33.1-16-02.1 -09 submitted to the EPA on January 4, 2024.

<sup>4</sup> *Recommended Human Health Recreational Ambient Water Quality Criteria or Swimming Advisories for Microcystins and Cylindrospermopsin* at [www.epa.gov/sites/production/files/2019-05/documents/hh-rec-criteria-habs-document-2019.pdf](http://www.epa.gov/sites/production/files/2019-05/documents/hh-rec-criteria-habs-document-2019.pdf)

<sup>5</sup> Please note that the EPA also published national drinking water health advisories for these cyanotoxins. Fact sheets and FAQs are available. See [www.epa.gov/ground-water-and-drinking-water/harmful-algal-blooms-and-cyanotoxins-drinking-water-factsheets-and](http://www.epa.gov/ground-water-and-drinking-water/harmful-algal-blooms-and-cyanotoxins-drinking-water-factsheets-and)

## Non-Substantive Changes to Approved Water Quality Standards (ch. 33.1-16-02.1)

North Dakota amended NDAC ch. 33.1-16-02.1 by revising formatting and making minor grammatical edits. The EPA considers non-substantive revisions to existing water quality standards to constitute new or revised water quality standards that the EPA has the authority and duty to approve or disapprove under § 303(c)(3) of the CWA.<sup>6</sup> While these revisions do not substantively change the meaning or intent of the existing water quality standards, the EPA believes that it is reasonable to treat such non-substantive changes in this manner to ensure public transparency as to which provisions are applicable for purposes of the CWA. The EPA notes that the scope of its review and action on non-substantive edits or editorial changes extends only to the edits or changes themselves. The EPA is not re-opening or reconsidering the underlying water quality standards that are the subject of the non-substantive edits or editorial changes. The EPA determined the non-substantive edits to ch. 33.1-16-02.1-08(2)(a), 33.1-16-02.1-08(c), ch. 33.1-16-02.1-09 Tables 1 and 2, and Appendix I listed below are consistent with the CWA and the requirements of 40 CFR Part 131; accordingly, they are approved. The non-substantive edits include:

- Minor grammatical edits to 33.1-16-02.1-08(2)(a) and (c).
- Edited formatting of 33.1-16-02.1-09 Table 1: (1) currently the text in the column heading is underlined and it should not be underlined, and (2) revised font in the acute and chronic ammonia criteria formulas for consistency.
- Minor grammatical edit to 33.1-16-02.1-09 Table 2 footnote 6.
- Edit “Little Muddy Creek” to “Little Muddy River” in Appendix I.

## Surface water classifications, mixing zones, and numeric standards (ch. 33.1-16-02.1-09 (Table 1) - Aluminum

North Dakota amended NDAC ch. 33.1-16-02.1-09 Table 1 by adding footnote 2 to allow use of the EPA’s 2018 CWA Section 304(a) national recommended aquatic life criteria for aluminum as an option to derive site-specific aluminum criteria to protect freshwater aquatic life beneficial uses.<sup>7</sup> North Dakota did not otherwise delete or modify its current statewide aluminum criteria, which were approved by the EPA on April 9, 2007, and are based on the EPA’s 1988 recommended aluminum criteria. Footnote 2 states:

*The US EPA 2018 recommended national criteria (304(a) criteria) for aluminum can be used for site specific chronic and acute criteria when appropriate and data is available. The criteria is based upon multiple linear regression (MLR) models for fish and invertebrate species. Data requirements are pH, [dissolved organic carbon (DOC)], and total hardness to quantify the effects of these water chemistry parameters on the bioavailability and associated toxicity of aluminum to aquatic organisms.*

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<sup>6</sup> What is a new or revised water quality standard under CWA 303(c)(3) frequently asked questions.(October 2012) at: [epa.gov/sites/default/files/2014-11/documents/cwa303faq.pdf](http://epa.gov/sites/default/files/2014-11/documents/cwa303faq.pdf)

<sup>7</sup> The EPA National Recommended Water Quality Criteria – Aquatic Life Criteria Table at [www.epa.gov/wqc/national-recommended-water-quality-criteria-aquatic-life-criteria-table](http://www.epa.gov/wqc/national-recommended-water-quality-criteria-aquatic-life-criteria-table)

The EPA determined the DEQ's addition of footnote 2 to ch. 33.1-16-02.1-09 Table 1 is consistent with the requirements of the CWA § 303(c), and 40 CFR § 131.13 and accordingly, this revision is approved. In our review, the EPA considered the requirements at NDAC ch. 33.1-16-02.1-08(1)(f) and determined that footnote 2 is consistent with them. When the DEQ develops site-specific criteria for aluminum pursuant to footnote 2, it must go through a rulemaking process and submit the site-specific criteria to the EPA for review as required by CWA § 303(c) and 40 C.F.R. Part 131.

The EPA recommends the DEQ consider development of a guidance document to support successful, scientifically defensible derivation of site-specific criteria pursuant to footnote 2. The EPA's 2018 aluminum criteria recommendation establishes freshwater criteria magnitude values resulting from the interactions of aluminum and three water chemistry parameters: pH, total hardness, and dissolved organic carbon (DOC). Studies have shown that these three parameters can affect the toxicity of aluminum by affecting the bioavailability of aluminum in the water to aquatic species. The more bioavailable the aluminum is, the more likely it is to cause a toxic effect.<sup>8</sup> The EPA recommends that site-specific aluminum criteria for each site be derived in a way that will protect aquatic life throughout the range of seasonal and flow conditions at a site, including those conditions of pH, total hardness, and DOC, when aluminum is most bioavailable.<sup>9</sup>

To calculate aluminum criteria concentration values, the EPA developed the recommended Aluminum Criteria Calculator V2.0.xlsm<sup>10</sup> (criteria calculator) that allows users to enter site-specific values for pH, total hardness and DOC to calculate the appropriate recommended freshwater acute and chronic criteria magnitudes for site-specific parameters.<sup>11</sup> The criteria calculator outputs for a given set of inputs are the numeric values for the acute and chronic criteria that are protective of freshwater aquatic life uses for that unique set of input conditions.<sup>12</sup>

A draft technical support document (TSD) was created by the EPA to support states and tribes that are interested in adopting the EPA's recommended water quality criteria for aluminum.<sup>13</sup> The draft TSD provides information about the criteria calculator, the development of protective criteria values for sites, permitting, assessments and development of TMDLs, and the adoption of water quality criteria that are modified to reflect site-specific conditions. As described in the EPA's draft TSD, the EPA recommends that the DEQ develop a guidance document to support site-specific criteria derivation addressing the following possible elements:

- A reference to applicable sections of the CWA § 304(a) recommended criteria document, which

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<sup>8</sup> *Fact sheet: Final 2018 Aquatic Life Ambient Water Quality Criteria for Aluminum in Freshwaters* at [epa.gov/sites/default/files/2018-12/documents/aluminum-criteria-final-factsheet.pdf](https://epa.gov/sites/default/files/2018-12/documents/aluminum-criteria-final-factsheet.pdf)

<sup>9</sup> *Draft Technical Support Document: Implementing the 2018 Recommended Aquatic Life Water Quality Criteria for Aluminum* at [epa.gov/system/files/documents/2021-11/aluminum-tsd-draft-2021.pdf](https://epa.gov/system/files/documents/2021-11/aluminum-tsd-draft-2021.pdf)

<sup>10</sup> *Final Aquatic Life Ambient Water Quality Criteria for Aluminum 2018* (EPA-822-R-18-001) December 2018 at [epa.gov/sites/default/files/2018-12/documents/aluminum-final-national-recommended-awqc.pdf](https://epa.gov/sites/default/files/2018-12/documents/aluminum-final-national-recommended-awqc.pdf)

<sup>11</sup> *Fact sheet: Final 2018 Aquatic Life Ambient Water Quality Criteria for Aluminum in Freshwaters* at [epa.gov/sites/default/files/2018-12/documents/aluminum-criteria-final-factsheet.pdf](https://epa.gov/sites/default/files/2018-12/documents/aluminum-criteria-final-factsheet.pdf)

<sup>12</sup> *Draft Technical Support Document: Implementing the 2018 Recommended Aquatic Life Water Quality Criteria for Aluminum* at [epa.gov/wqc/aquatic-life-criteria-aluminum#draft](https://epa.gov/wqc/aquatic-life-criteria-aluminum#draft)

<sup>13</sup> *Ibid.*



includes the criteria calculator;

- A statement of the duration and frequency applicable to the output;
- A statement of, or reference to, data and sampling requirements for criteria calculator inputs (i.e., pH, total hardness, and DOC);
- Where appropriate, consideration of whether seasonal criteria are to be used;
- A description of how data inputs will be incorporated into the criteria calculator;
- A description of representative sampling methods, how any continuous data will be used, and what standard procedures will be followed if one of the input parameters could not be collected; and
- A description of how criteria will be generated from a distribution of criteria calculator output values for sites with varying conditions of pH, total hardness, and DOC over time.

The DEQ should also consider whether to include additional information about sampling or quality assurance plans defining the spatial extent to which criteria calculator-derived criteria values would apply, what the DEQ considers to be sufficient ambient water chemistry data to run the criteria calculator, and how output values from the criteria calculator may be interpreted. Providing additional guidance will increase transparency and facilitate implementation by interested entities.

### **Provisions the EPA is Not Acting on Today**

North Dakota amended NDAC Section 33.1-16-02.1-09 Aquatic Life Criteria (Table 2) by withdrawing its chronic aquatic life criterion (ALC) for mercury of 0.88 µg/L in Table 2 and replacing it with its previous chronic ALC for mercury of 0.012 µg/L. On July 15, 2022, the EPA disapproved the DEQ's revision of its chronic ALC for mercury at NDAC § 33.1-16-02.09. North Dakota's prior chronic ALC for mercury of 0.012 µg/L (total recoverable), was based on EPA's CWA § 304(a)(1) recommendation from 1986. During its previous triennial review, the DEQ adopted a revised chronic ALC for mercury of 0.88 µg/L (total recoverable). The State indicated that it based this value on the EPA's 1995 national recommended freshwater chronic ALC for mercury and that it had converted the EPA's dissolved concentration value to a total recoverable value. Pursuant to 40 CFR § 131.21(e), and as a result of the EPA's 2022 disapproval, North Dakota's chronic ALC for mercury of 0.012 µg/L has continued to remain in effect for all CWA purposes. Accordingly, the EPA is taking no action on this provision having determined it is not a new or revised WQS that the EPA has the authority to review and approve or disapprove pursuant to its CWA § 303(c) authority and 40 CFR Part 131.