

Overview of EPA's Clean Water Act Section 401(a)(2) Evaluation and Recommendations on Fond du Lac Band's Objection to the Proposed Clean Water Act Section 404 Permit for the NorthMet Mine Project

Tera Fong, Division Director, Water Division
U.S. Environmental Protection Agency, Region 5
May 3, 2022

Summary of the U.S. Environmental Protection Agency's Presentation Today

- **Overview of EPA's evaluation and recommendations**
- **The Clean Water Act (CWA) Section 401(a)(2) process**
- **What EPA's evaluation includes**
 - **Water quality impacts from mercury and methylmercury**
 - **Water quality impacts from specific conductance**
 - **Additional areas reviewed**
- **EPA's recommendations**

Overview of EPA's Evaluation and Recommendations

- EPA's task at this hearing is to submit to the Corps EPA's evaluation and recommendations regarding the Fond du Lac Band of Lake Superior Chippewa's (Band) objection to the issuance of the CWA Section 404 permit for PolyMet's NorthMet project.
- EPA's evaluation is based on our independent scientific evaluation of the record, including the CWA Section 404 permit application and Minnesota's CWA Section 401 water quality certification for that permit as they exist today.
- EPA's key recommendation is that the Corps should not reissue the suspended CWA Section 404 permit, as proposed.
- As the NorthMet project is currently designed, there are no conditions that EPA can provide to the Corps that would ensure that the discharges from the CWA Section 404 permitted activities would comply with the Band's water quality requirements.
- EPA's recommendations do not foreclose any future modifications to the NorthMet permit application or to the NorthMet project design.
- Any future modifications should include meaningful involvement of the Band and Minnesota to ensure compliance with both tribal and state water quality requirements.

What CWA Section 401(a)(2) Provides

- This section of the CWA provides a process for “neighboring jurisdictions” (which include states and tribes that have received “treatment in a similar manner as a state”) to participate in the federal licensing or permitting process where EPA determines that a discharge from an activity that is subject to CWA Section 401 certification from another jurisdiction “may affect” their water quality.
- A federal licensing or permitting agency must “immediately” notify EPA when it receives a license or permit application together with a CWA Section 401 certification, after which EPA has 30 days from receipt to determine whether a discharge from the licensed or permitted activity may affect the water quality of a neighboring jurisdiction and, if so, to notify that neighboring jurisdiction, the licensing or permitting agency, and the project applicant.
- Following EPA’s notification, the neighboring jurisdiction has 60 days to determine whether the discharge “will affect” its water quality so as to violate its water quality requirements, and, if so, it may object in writing to the issuance of the license or permit and request that the licensing or permitting agency conduct a hearing on its objection.
- At the hearing, EPA must submit to the licensing or permitting agency an evaluation and recommendations regarding the objection of the neighboring jurisdiction.
- The licensing or permitting agency must condition the relevant license or permit “as may be necessary to ensure compliance with applicable water quality requirements,” based upon the recommendations of the neighboring jurisdiction and EPA, and any additional evidence presented at the hearing.
- The CWA states that if “the imposition of conditions cannot insure such compliance,” the licensing or permitting agency shall not issue the license or permit.

History of this 401(a)(2) action Regarding the NorthMet Permit Application

- In response to a March 4, 2021 letter from EPA, the Corps suspended the CWA Section 404 permit for the NorthMet project on March 17, 2021 to allow EPA to complete the CWA Section 401(a)(2) review.
- EPA made a “may affect” determination and notified the Band and Wisconsin on June 4, 2021, which gave the State and the Band the opportunity to review whether the project “will affect” their water quality.
- On August 2, 2021, Wisconsin notified EPA and the Corps that it did not object to issuance of the CWA Section 404 permit for the NorthMet project.
- On August 3, 2021, the Band notified the Corps that:
 - Discharges from the NorthMet project would affect the quality of the Band’s waters and violate its downstream water quality requirements,
 - The Band objected to issuance of the permit, and
 - The Band requested that the Corps hold a public hearing.

Key Information Considered by EPA in Preparing the Evaluation & Recommendations:

- The Band's objection letter providing its "will affect" determination and supporting documents;
- Documents EPA received from PolyMet during EPA's CWA Section 401(a)(2) "may affect" process and related documents;
- Input received from the Fond du Lac Band during government-to-government consultation with EPA;
- PolyMet's CWA Section 404 application to the Corps for the NorthMet project and supporting documents;
- MPCA's 401 Certification for the Corps' CWA Section 404 permit and supporting documents;
- The Corps' Record of Decision and Final Environmental Impact Statement for the CWA Section 404 permit for the NorthMet Project;
- MPCA's CWA 402 permitting documentation (general construction stormwater permit and individual surface water discharge permit for the NorthMet project);
- Additional scientific review from EPA's Office of Research and Development.

EPA's Office of Research and Development Memos on Mercury and Specific Conductance



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
CENTER FOR COMPUTATIONAL TOXICOLOGY AND EXPOSURE
GREAT LAKES TOXICOLOGY AND ECOLOGY DIVISION
6201 CONGDON BOULEVARD • DULUTH, MINNESOTA 55804-2595

January 25, 2022

OFFICE OF
RESEARCH AND DEVELOPMENT

MEMORANDUM

SUBJECT: Request for Scientific Support Regarding Potential Downstream Impacts of the NorthMet Mine

FROM: Joel C. Hoffman, Supervisory Biologist
Office of Research and Development, Center for Computational Toxicology and Exposure, Great Lakes Toxicology and Ecology Division

Christopher D. Knights, Research Environmental Engineer
Office of Research and Development, Center for Environmental Measurement and Modeling, Atlantic Coastal Environmental Sciences Division

THROUGH: Dale Hoff, Director
Office of Research and Development, Center for Computational Toxicology and Exposure, Great Lakes Toxicology and Ecology Division

Wayne R. Munns, Jr., Director
Office of Research and Development, Center for Environmental Measurement and Modeling, Atlantic Coastal Environmental Sciences Division

TO: Tera Fong, Director
Region 5, Water Division

Introduction

Under the auspices of the Clean Water Act Section 401(a)(2), the United States Environmental Protection Agency (EPA) Region 5 is involved in evaluating the potential impacts to downstream waters related to the construction, operation, and maintenance of Polymet's proposed NorthMet mine. The proposed NorthMet mine is situated in the St. Louis River watershed in northeast Minnesota, upstream of the Fond du Lac Band of the Lake Superior Chippewa reservation, which is situated on the St. Louis River. The NorthMet project will have two facilities that are in adjacent subwatersheds of the St. Louis River. The proposed mine processing plant and associated tailings basin are in the Embarras River and Partridge watersheds, whereas the proposed open pit mine is in the Partridge River watershed. The confluence of the Embarras River and St. Louis River is located 79 river miles from the northern boundary of the Fond du Lac Band reservation.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Center for Environmental Measurement & Modeling
Watershed and Ecosystem Characterization Division
26 W Martin Luther King Drive • Cincinnati, OH 45268

March 15, 2022

OFFICE OF
RESEARCH AND DEVELOPMENT

MEMORANDUM

SUBJECT: Assessment of effects of increased ion concentrations in the St. Louis River Watershed with special attention to potential mining influence and the jurisdiction of the Fond du Lac Band of Lake Superior Chippewa

FROM: Susan Cormier, Senior Scientist
Office of Research and Development, Center for Environmental Measurement and Modeling, Watershed and Ecosystem Characterization Division

THROUGH: Kevin Oshima, Director
Office of Research and Development, Center for Environmental Measurement and Modeling, Watershed and Ecosystem Characterization Division

TO: Tera Fong, Director
Region 5, Water Division

In response to a request for scientific support to evaluate potential downstream impacts of the NorthMet Mine, USEPA Office of Research and Development is providing, for USEPA Region 5's use, a characterization of stream specific conductivity (SC) levels, least disturbed background SC, and SC levels that may exceed the Band's WQ criterion and adversely affect aquatic life, including brook trout (*Salvelinus fontinalis*), lake sturgeon (*Acipenser fulvescens*), and benthic macroinvertebrates.

cc: Dave Pfeifer

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EPA's Evaluation: EPA Identified Key Areas of Uncertainty

- Uncertainty regarding the full acreage of secondary impacts to wetlands from the anticipated drawdown of groundwater from mine construction and operation.
- Uncertainty in the mercury present in, and the fate and transport of, such mercury from wetlands subject to secondary impacts from the anticipated drawdown of groundwater from mine construction and operation.
- Uncertainty regarding the quantity of total mercury and dissolved ions (contributing to elevated specific conductance) that would be discharged during mine construction.
- Uncertainty regarding the quantity of total mercury and dissolved ions (contributing to elevated specific conductance) that would be discharged from the mine through seepage.
- Uncertainty regarding the reduction in dilution capacity of waterbodies affected by the NorthMet project and that would contribute to elevated specific conductance.

EPA's Evaluation: Mercury Impacts

- The Band's water quality criterion for mercury to protect human health (0.77 ng/L) is not currently attained in waters within its reservation.
- Mercury concentrations in surface waters between the NorthMet project site and the Fond du Lac Reservation are also greater than 0.77 ng/L.
- Mercury release from wetlands adjacent to the mine site as a result of changes in hydrology due to construction and operation of the NorthMet mine is a significant potential source of mercury to the St. Louis River watershed.
- Such mercury releases could exacerbate the ongoing exceedances of the Band's water quality requirements.
- The available data and analyses supporting the CWA Section 404 permit and CWA Section 401 certification are insufficient to fully evaluate the mercury impacts from the NorthMet project in terms of the area of wetlands affected and the effects on the Band's water quality.
- Understanding the scope of the anticipated impacts from the NorthMet project due to changes to wetland hydrologic regimes resulting from the CWA Section 404 permitted activities is essential to estimate the quantities of mercury that may be subject to mercury methylation, mobilization, and export downstream to the Band's already impaired waters.

EPA's Evaluation: Mercury Impacts (continued)

- The CWA Section 402 General Stormwater Permit for construction of the NorthMet project does not contain limits for mercury.
- The individual CWA Section 402 permit for surface water discharges from the NorthMet project does not contain numeric water quality-based effluent limitations for mercury that would ensure compliance with the Band's water quality requirement.
 - MPCA did not find that there was a reasonable potential to exceed applicable water quality standards.
 - The permit includes "operating limits" on mercury at an internal monitoring station set to Minnesota's water quality standard of 1.3 ng/L, which is not sufficient to ensure compliance with the Band's downstream water quality requirements.
 - The permit also contains technology-based effluent limitations on mercury at 1,000 ng/L as a monthly average and 2,000 ng/L as a daily maximum, which are also not sufficient to ensure compliance with the Band's downstream water quality requirement.
- Based on EPA's review of the information including this baseline water quality data for the NorthMet project, EPA's evaluation is that the CWA Section 404 permit and MPCA's CWA Section 401 certification lack conditions sufficient to protect from mercury mobilization, methylation, and export at levels that would exceed the Band's water quality requirements given current project design and discharges outside the CWA Section 404 permitted activities.

EPA's Evaluation: Specific Conductance Impacts

- The Band's numeric water quality standard for specific conductance is 300 $\mu\text{S}/\text{cm}$.
- Due to discharges containing mineral loadings from many sources in the St. Louis River watershed, data collected in the St. Louis River mainstem shows that the River has been exceeding the Band's numeric water quality criterion of 300 $\mu\text{S}/\text{cm}$ as an annual average, in some recent years.
- The CWA Section 404 application and the Corps' suspended CWA Section 404 permit, as proposed, would authorize activities that would contribute additional mineral loadings to the St. Louis River and decrease the specific conductance dilution capacity currently provided by the existing, undisturbed forested wetland mine site.
- The degree of cumulative mineral loadings that would contribute to specific conductance downstream of the NorthMet project is uncertain.
- There are no corrective actions specified in the permits for the NorthMet project that would reverse trends showing that specific conductance is increasing.

EPA's Evaluation: Specific Conductance Impacts (continued)

- Based on the information that EPA reviewed, even relatively small increases in specific conductance loading and/or decreases in dilution capacity would result in violations of the Band's water quality requirements pertaining to specific conductance and antidegradation.
- The Corps' CWA Section 404 permit and Minnesota's CWA Section 401 certification predate the Band's adoption of its numeric specific conductance water quality criterion.
- EPA notes that Corps' CWA Section 404 permit and Minnesota's CWA Section 401 certification do not account for the potential impact of increased specific conductance on the Band's water quality requirements.
- Based on this review, EPA is unaware of any CWA Section 404 permit conditions that the Corps could add to the NorthMet CWA Section 404 permit that would ensure compliance with the Band's water quality requirements for specific conductance for Reservation waters, given the NorthMet project's current design and discharges outside the CWA Section 404 permitted activities.

Additional Concerns Raised by Fond du Lac Band that EPA Considered:

- **Risk of a Tailings Basin Failure:**

- EPA acknowledges the Band's concern that a failure of the tailings basin, if it occurred, would likely constitute an unpermitted discharge of pollutants into the St. Louis River watershed, potentially contributing to a violation of the Band's water quality standards.
- EPA defers to the Corps' conclusion in the ROD that the "design of the tailings basin impoundment dam complies with industry standards for stability and safety."

- **Future Mine Expansion**

- EPA acknowledges the Band's concerns regarding potential expansion of the NorthMet project.
- EPA defers to the Corps' response to this concern included in the Corps' ROD that at this time further expansion is speculative and, if proposed, may require additional environmental review and would need to meet appropriate regulatory requirements, including applicable water quality requirements.

- **Treaty Rights**

- EPA acknowledges that the Band has raised many concerns relating to its treaty rights to fish and aquatic-dependent species that are important to the Band both culturally and ecologically. EPA acknowledges that the Band's water quality requirements are intended to protect the Band's water-dependent designated uses within their Reservation.

- **Environmental Justice**

- EPA acknowledges that the Band has raised important considerations of environmental justice and EPA encourages the Corps to consider these as it moves forward in this CWA Section 401(a)(2) process.

EPA's Conclusions

- EPA's evaluation has identified both significant uncertainties related to the extent of the potential discharge and release of mercury and the potential for additional mineral loadings contributing to elevated specific conductance from the CWA Section 404 permitted activities related to the NorthMet project. These include:
 - The scale of wetland dewatering that would contribute methylmercury to the system;
 - Net loading from all the discharges of mercury and mineral loadings in the watershed; and
 - The loss of dilution capacity that will contribute to elevated specific conductance in affected waterbodies.
- Because of these uncertainties, in addition to the reasonably foreseeable discharges of methylmercury, mercury, and mineral loadings contributing to specific conductance that are unaccounted for in the NorthMet CWA Section 404 permit application and suspended permit, MPCA's CWA Section 401 certification for the Corps CWA Section 404 permit, and both of MPCA's CWA Section 402 permits for the NorthMet project, EPA is unaware of any CWA Section 404 permit conditions that would ensure compliance with the Band's water quality requirements for reservation waters, given current project design and discharges outside the CWA Section 404 permitted activities.

EPA's Recommendations

- EPA recommends that the Corps not reissue the suspended CWA Section 404 permit for the NorthMet project, as currently proposed, given current project design, and discharges outside the CWA Section 404 permitted activities.
- EPA's recommendations do not foreclose any future modifications to PolyMet's CWA Section 404 permit application for the NorthMet project, or to the NorthMet project's design.
- Any future modifications should include meaningful involvement of the Band and Minnesota to ensure compliance with both tribal and state water quality requirements.

More Information Can Be Found Here

- EPA website: <https://www.epa.gov/mn/polymet-northmet-mine>
 - EPA's evaluation and recommendations document
 - EPA's slide presentation, May 3, 2022
- Corps website:
<https://www.mvp.usace.army.mil/Missions/Regulatory/PolyMet/>