

Analysis - MPCA Permit Revisions and Responses with Requests for Action

Submitted by Paula Maccabee, Counsel for WaterLegacy

NPDES/SDS Permits for Keetac Mine Area (MN0031879), Tailings Basin (MN0055948) MPCA Citizen Board Hearing for October 25, 2011

POSITIVE CHANGES

- Schedule of Compliance for wild rice water quality standard is more specific, more enforceable. It is clear the wild rice sulfate standard will be enforced.
- Monitoring for selenium is required at the outfall where this pollution is most likely.
- Citizen comments are catalogued and improvements in the sulfate standard compliance schedule are attributed to citizen comment and U.S. EPA comment, demonstrating MPCA accountability and responsiveness.

SPECIFIC PERMIT ACTIONS SOUGHT

- 1) **Interim Sulfate Limits** - *Replace "monitor only" statements for major outfalls in the mine area and tailings basin in the "Interim Period" with the 14 mg/L quarter average interim sulfate limits.*
- 2) **Final Compliance Date for Sulfates** - *Replace 2019 final compliance date in the tailings basin permit with August 17, 2018 date.*
- 3) **Public Disclosure** - *Provide DMR data on EPA ICIS database in accordance with EPA comment.*
- 4) **Nondegradation – Sulfate and Hardness** - *State in permits for mine area and tailings basin that U.S. Steel must immediately install treatment technology to avoid expansion of sulfate loading in violation of Minn. R. 7050.0185 nondegradation. Monitoring of hardness and sulfates must demonstrate compliance.*
- 5) **Mercury** - *Apply a 1.3 ng/L mercury limit for expanded discharge to Lake Superior Basin through either NPDES/SDS permit or amended stormwater permit. Provide that any exceedance of 6.9 ng/L mercury in Keetac mine or tailings basin effluent will trigger imposition of a 6.9 ng/L WQBEL for mercury.*
- 6) **WQBELS for Selenium and Specific Conductance** - *Place WQBELS for selenium and specific conductance in the tailings basin permit.*
- 7) **Monitoring – Hardness, Aluminum, Manganese** - *Monitor for hardness in the mining area. Monitor for aluminum in the mining area. Monitor for manganese at the tailings basin.*

DISCUSSION FROM MPCA BOARD PACKET OF BASIS FOR REQUESTED ACTIONS¹

1) INTERIM SULFATE LIMITS

Findings (Mine Area Permit)

(p. 6, packet page 15) ¶138 “The MPCA staff modified the language to require compliance with an interim effluent limitation for total sulfate of 14 mg/L as a calendar quarter average. This effluent limitation will be applied on any outfalls for which full scale treatment evaluation is approved, following the completion of those evaluations, to ensure continued progress toward compliance with final effluent limitations.”

ISSUE: Interim sulfate standards for effluent are only reflected in the narrative compliance schedule for the mine area permit. The charts for requirements for each pollutant and outfall in both the mine area and tailings basin permit continue to say “monitor only” for sulfate during the interim period. Is this adequately clear and enforceable?

ACTION: Replace “monitor only” statements for major outfalls in the mine area and tailings basin in the “Interim Period “ with the 14 mg/L quarter average interim sulfate limits.

2) FINAL COMPLIANCE DATE FOR SULFATES

Findings (Tailings Basin Permit)

(p. 7, packet page 25) ¶140 “The MPCA staff corrected the final compliance dates to require compliance with final effluent limitations as soon as possible and in no case later than August 17, 2018, for non-tailings basin discharges, and August 17, 2019, for tailings basin discharges.”

ISSUE: Eight years of potential non-compliance still seems to exceed a reasonable deadline. It is not clear that the EPA specifically has agreed that an additional delay in compliance at the tailings basin until 2019 is reasonable.

ACTION: Replace 2019 final compliance date in the tailings basin permit with August 17, 2018 date.

3) PUBLIC DISCLOSURE

Response to Comments – US EPA

(p. 8, packet page 18)

Comment 5-6: There is significant public interest in this facility and both of these permits. MPCA should upload the facility discharge monitoring reports (DMRs) and permit compliance status and history for both permits to EPA’s Integrated Compliance Information System (ICIS) database.

Response: At this time, the MPCA is not uploading the Permittee’s DMRs and compliance status to the ICIS database. The MPCA recognizes the public interest in this facility, and the associated NPDES/SDS permits, and has noted EPA’s comments regarding this issue. Please note that all public information regarding NPDES/SDS Permits MN0031879 and MN0055948, as well as the Permittee’s compliance with these permits, is available for inspection and copying by any person pursuant to Minn. R. 7000.1200.”

¹ Page references are to the page of the specific document first and then to the page of the MPCA Board Packet as a whole. Highlighting is added for the reader’s convenience.

ISSUE: Inspection and copying creates burden and delay for citizens seeking access to DMR data and may not allow citizens to view information without creating a public record of their concern. Disclosure on the EPA ICIS database is becoming standard practice, and no rationale is provided by MPCA for denying convenient public access.

ACTION: *Provide DMR data on EPA ICIS database in accordance with EPA comment.*

4) NONDEGRADATION – SULFATE AND HARDNESS

Response to Comments - MCEA

(p. 5-6, packet page 35-36) “Please note that the draft Permits do not authorize discharge of sulfate above the nondegradation baseline established by the currently effective Permits, and the Permittee has proposed to implement the mitigation for pollutant increases indicated in the final EIS for the proposed Keetac expansion project in order to prevent the unmitigated impacts predicted by the EIS, as indicated in the applications for the permits. Although the draft permits do not require the Permittee to implement specific mitigation actions, the Permittee is required to implement actions as necessary to prevent degradation of downstream waters and comply with all rules governing nondegradation. The permits do not authorize expansion or change to the characteristics of wastewater discharges that conflict with the requirements of Minn. R. 7050.0180 and Minn. R. 7050.0185 regarding nondegradation for waters of the state, therefore the Permittee must implement mitigation to prevent degradation above currently permitted levels.

Response to Comments – Maccabee/WaterLegacy

(p. 11, packet page 41) “Permittee has proposed installation of treatment technology to ensure compliance with nondegradation rules, and the MPCA believes that the monitoring requirements for sulfate and hardness related parameters in the draft Permits are sufficient to verify that nondegradation rules are not violated following the operational changes associated with the proposed expansion of mining activity, therefore additional limitations and monitoring requirements have not been added. . .

“The Permittee will be required to maintain sulfate loading in the tailings basin discharge below the baseline quality established by Minn. R. 7050.0185 immediately, and must manage water quality in the discharge as necessary to ensure compliance with the nondegradation requirements that are incorporated by reference in the permits. The schedules of compliance included in the permits are for additional reductions that the Permittee is required to make in order to comply with final effluent limitations for sulfate that are based on ambient water quality standards for the protection of wild rice.”

(p. 14, packet page 44) “Please note that, as previously discussed, the levels of sulfate in the permitted discharges are not authorized to exceed the currently permitted levels due to rules governing nondegradation.”

Response to Comments – Citizen Letters

(p. 18, packet page 48, response to citizen comments)

“**Comment 13-3:** The permits do not set any limits on the amount of sulfate allowed to be discharged as the Keetac facility expands.

Response: This is incorrect, due to the fact that the rules governing nondegradation

incorporated in the permits require the Permittee to maintain discharge loading consistent the baseline quality authorized under the current Permits given that the Permits do not authorize expansion of discharge beyond this level. The Permittee is required to restrict sulfate loading in accordance with nondegradation requirements. Additionally, the permits require further reductions of sulfate loads in the permitted discharges in accordance with schedules of compliance, which specifically require the Permittee to make reductions in sulfate discharge concentrations to the extent practical prior to attaining compliance with final effluent limitations.”

ISSUES: MPCA’s response to comments is the first indication we’ve had that the agency anticipates a two-step process with immediate compliance with nondegradation rules and later more stringent compliance with the wild rice sulfate standard. We could find no reference in either the mine area permit or the tailings basin permit to the requirement for compliance with nondegradation rules or the installation of treatment technology/mitigation technology discussed above. Even in their revised versions, neither the mine area permit nor the tailings basin permit make any reference to “nondegradation” or to the nondegradation rule, Minn. R. 7050.0185. There is no document or record or portion of the permit that reflects the immediate compliance with nondegradation requirements described in the MPCA responses or makes such requirement verifiable or enforceable.

The lack of ready public access to data on ongoing sulfate monitoring makes verification of nondegradation with respect to sulfates problematic. More troubling, if the MPCA is relying on monitoring to ensure compliance with nondegradation with respect to hardness, the permits do not provide for *any* monitoring for hardness at the mine area or the plant during the interim period – e.g. potentially for the next seven years. The permits require no monitoring for hardness *at any time* from the tailings basin.

NOTE: As reflected in WaterLegacy Comments submitted on August 18, 2011, p. 6, U.S. Steel’s application for the Keetac expansion stated that removing 50 percent of existing sulfate load from the scrubber wastewater treatment system would be necessary to avoid degradation of water quality. We would appreciate references if the MPCA knows of any law making statements in permit applications enforceable whether or not they are reflected in permits.

ACTION: *State in permits for mine area and tailings basin that U.S. Steel must immediately install treatment technology to avoid expansion of sulfate loading in violation of Minn. R. 7050.0185 nondegradation. Monitoring of hardness and sulfates must demonstrate compliance.*

5) MERCURY POTENTIAL TO EXCEED – LAKE SUPERIOR STANDARDS

Response to Comments – Maccabee/WaterLegacy Mercury

(p. 10-11, packet page 40-41) “Furthermore, the additional runoff to the Lake Superior Basin resulting from the additional stockpiling activities meets the definition of an expanded discharge of industrial stormwater as described in Minn. R. 7052.0310. Therefore, the MPCA has determined that the requirements to maintain best management practices for the control of industrial stormwater as detailed in the permits are adequate to protect the water quality of the Lake Superior Basin, and further analysis beyond the potential impacts evaluated in the EIS for the proposed Keetac expansion is not required.”

(p. 13, packet page 43) “Please note that reasonable potential analyses have been completed for

total mercury at all outfalls authorized by the Permits utilizing a waste load allocation of 6.9 ng/L based on the applicable water quality standards for the water bodies receiving the permitted discharges. **None of the permitted discharges are to the Lake Superior Basin, therefore the 1.3 ng/L standard is not applicable.**"

ISSUES: MPCA confirms that there is expanded discharge of industrial stormwater to the Lake Superior Basin from additional Keetac stockpiling and that the reasonable potential analysis for the outfalls in the NPDES/SDS permits were conducted using the 6.9 ng/L standard only. If there is a separate stormwater permit for the expanded industrial discharge it should be reviewed in connection with the Keetac expansion. Where is the analysis of the potential for the industrial stormwater discharged to the Lake Superior Basin to exceed the Great Lakes Initiative 1.3 ng/L mercury standard?

WaterLegacy continues to believe that there is a reasonable potential that discharge from Keetac will exceed mercury limits even at the 6.9 ng/L level. From a scientific perspective, the number of samples used for the calculations is inadequate and from a common sense perspective with one of these few samples at 5.2 ng/L -- seventy-five percent of the limit even prior to expansion, the conclusion that there is no reasonable potential for exceedance seems contrived.

ACTION: *Apply a 1.3 ng/L mercury limit for expanded discharge to Lake Superior Basin through either NPDES/SDS permit or amended stormwater permit. Provide that any exceedance of 6.9 ng/L mercury in Keetac mine or tailings basin effluent will trigger imposition of a 6.9 ng/L WQBEL for mercury.*

6) WQBELs FOR SELENIUM AND SPECIFIC CONDUCTANCE

Response to Comments – Maccabee/WaterLegacy

(p. 12-13, packet page 42-43) "The comment correctly notes that **the statement of basis for NPDES/SDS Permit MN0055948 indicates that limits are included in the draft permit for selenium and specific conductance. This statement was included in error, as the MPCA policy is not to include effluent limitations based on limited data.** The MPCA has reviewed the data from the permit application for NPDES/SDS Permit MN0055948, and determined that additional monitoring is warranted for selenium and specific conductance at outfall SD009, however there is not sufficient data to determine whether or not reasonable potential exists to exceed water quality standards to warrant an effluent limitation for either of these parameters."

ISSUE: When available data suggests a potential to exceed, what is the basis for a policy that would not set a WQBEL for the pollutant? Also, wasn't it the responsibility of the Agency under the Clean Water Act to have sufficient sampling prior to issuance of a permit? There is no additional cost in setting the limit if there is no violation, since monitoring is being required in any case. This MPCA policy seems inconsistent with the Clean Water Act and raises a question of whether managers are using the "policy" to overrule technical staff regarding WQBELs.

ACTION: *Place WQBELs for selenium and specific conductance in the tailings basin permit.*

7) MONITORING – HARDNESS, ALUMINUM, MANGANESE

Response to Comments – Maccabee/WaterLegacy

(p. 14, packet page 44) "The comments further indicate that hardness monitoring should be

required on discharges from the Keetac mining area due to anticipated increased use of magnesium chloride as a dust suppressant as a result of the increased footprint of the mine following the proposed expansion. Please note that the mechanism by which this additive contributes to hardness is from precipitation runoff. The increase in the amount of the dust suppressant applied based is anticipated to be accompanied by an equivalent increase in runoff volume, therefore the hardness concentrations observed in the currently discharges are not anticipated to be affected by the proposed expansion, therefore additional monitoring requirements have not been included in the draft Permits.”

ISSUE: The MPCA is making an assumption about the effects of dilution on increased use of magnesium chloride, rather than monitoring to determine if their assumptions regarding hardness have merit. This seems insufficiently protective and objective.

ACTION: *Monitor for hardness in the mining area.*

Response to Comments – Maccabee/WaterLegacy

(p. 14, packet page 44) “The comments indicate that aluminum monitoring must be required due to the use of aluminum chlorhydrate in the turbidity treatment system that is used for discharges via SD002. Due to the use of this additive as a flocculent, the aluminum associated with the product becomes bound to the suspended solids from the wastewater. Due to the high removal of solids associated with the turbidity treatment system, aluminum concentrations are not anticipated to increase appreciably, therefore additional monitoring has not been required.”

ISSUE: The MPCA is anticipating that aluminum will not increase “appreciably” despite increased use rather than monitoring to determine if their assumptions regarding aluminum are borne out when the facility expands. This seems insufficiently protective and objective.

ACTION: *Monitor for aluminum in the mining area.*

Response to Comments – Maccabee/WaterLegacy

(p. 14, packet page 44) “The comments request ongoing monitoring for manganese due to measured concentrations for that parameter in the Keetac tailings basin in excess of the Minnesota Health Risk Limit (HRL), and monitoring data from other mine facilities. Please note that the HRL referenced in the comments is not a water quality standard applicable to the discharges authorized by the Permits, therefore monitoring requirements have not been included in the draft Permits based on this comparison.”

ISSUE: The MPCA has not addressed the question of whether discharge of manganese can impact groundwater and drinking water. This response seems insufficiently protective of human health.

ACTION: *Monitor for manganese at the tailings basin.*