

Eric Williams (Eric Williams)

Please find attached comments regarding Permit MN0031879 and preliminary variance denial.



U. S. Steel Corporation
Minnesota Ore Operations
P.O. Box 417
Mt. Iron, MN 55768

September 22, 2025

Stephanie Handeland
Minnesota Pollution Control Agency (MPCA)
520 Lafayette Road North
St. Paul, MN 55155

RE: Public Notice
United States Steel Corporation – Minnesota Ore Operations (U. S. Steel) – Keetac Mining Area
NPDES/SDS Permit No. MN0031879

Dear Ms. Handeland,

U. S. Steel is the owner and operator of the Keetac Facility and therefore has an interest in the draft permit MN0031879. Please find U. S. Steel – Keetac's comments regarding the draft permit as well as the preliminary variance denial attached.

If you need any additional information, please contact me at clbartovich@uss.com or 218-749-7364.

Sincerely,

Chrissy Bartovich

This document has been electronically signed
Chrissy Bartovich
Environmental Director
Minnesota Ore Operations
United States Steel Corporation

Keetac Mine
NPDES/SDS MN0031879
Public Comments
9/8/2025

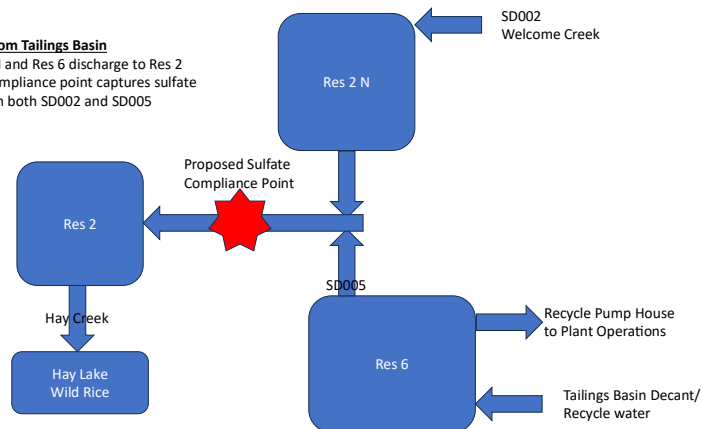
1. **Issue:** Sulfate compliance points for SD002 and SD005 (Tailings Basin Permit MN0055948) do not factually represent sulfate discharges from the facility.

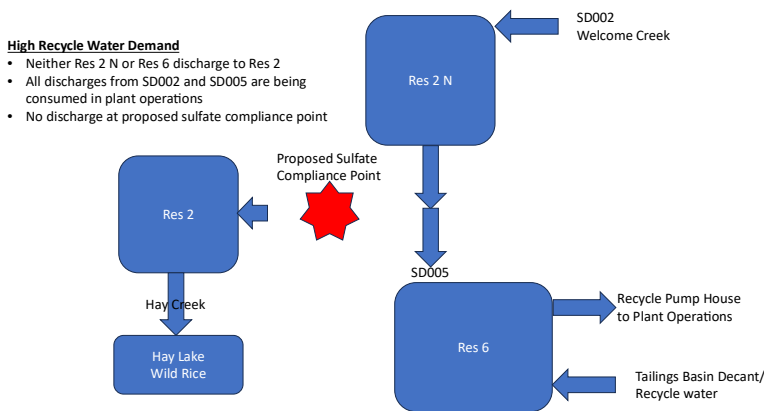
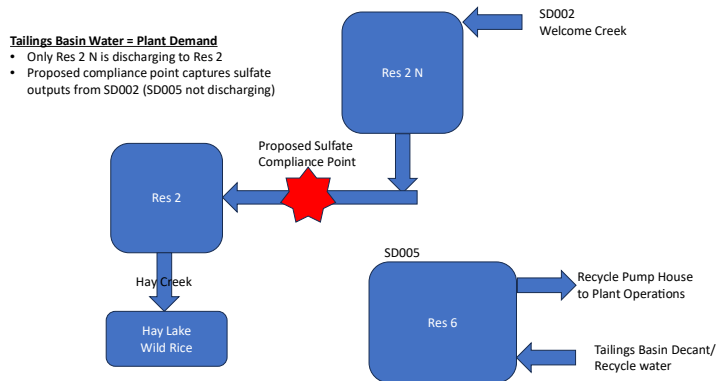
Reference: Permit pages: 17,19, 40, 44 of 50
Fact Sheet pages: 12,21-23, 26, 36, 37 of 55

U. S. Steel Position: A sulfate compliance point downstream of SD002 and SD005 will more accurately capture total offsite sulfate discharges to potential wild rice waters. Due to recycling of the water from Reservoir 6, there are times when there is discharge from SD002 and/or SD005 but not to downstream waters that may affect wild rice. This means that sulfate is counted for compliance purposes in water that is not ultimately discharged to downstream waters. Although U. S. Steel believes this is a change that can be made to the existing permit structure, MPCA indicated that combining the Mine and Tailings Basin permits is the best option to facilitate this request. U. S. Steel submitted a new combined (TB and Mine) application on February 28, 2025, however MPCA denied that request on July 1, 2025.

Excess water from Tailings Basin

- Both Res 2 N and Res 6 discharge to Res 2
- Proposed compliance point captures sulfate outputs from both SD002 and SD005





Requested Change: Create a new compliance point downstream of SD005 that is representative of sulfate discharges from both SD002 and SD005.

2. **Issue:** Hay Lake is not officially designated as a *Water Used For the Production Of Wild Rice* (WUFPOWER)

Reference: Fact Sheet pages: 23, 33, 37, 44, 48, 50-52 of 55
Permit pages: 17–19, 39, 40, 44, 45 and 47 of 50

U. S. Steel Position: MPCA did not follow the required rulemaking process to designate Hay Lake as a WUFPOWER and incorrectly applied sulfate limits and requirements. In 2011, the Minnesota State Legislature passed a law which unambiguously directed MPCA to undertake rulemaking to “designate each body of water, or specific portion thereof, to which wild rice water quality standards apply.” Minn. Laws 2011, 1st Spec. Sess., Ch. 2, Art. 4, Sect. 32(a)–(e). The Legislature also required that, in the case of waters with naturally occurring wild rice, *before* designating any such water body as subject to a standard, MPCA must establish “criteria” for making the designations, which must include, but not be limited to, a history of wild rice harvests in the water, and minimum levels of acreage of wild rice and wild rice density that must be present in the

water. Id. at Sect. (a). In 2015, MPCA began a rulemaking which proposed an equation for calculating site-specific sulfate values protective of naturally occurring wild rice, and a list of “wild rice waters” that would have to meet wild rice standards. In its proposed rule, MPCA stated: “Because the cost of treating wastewater to remove sulfate is extremely high, it is reasonable and very important to minimize the possibility of applying a standard that is more stringent than necessary to protect the wild rice beneficial use.” MPCA, Statement of Need and Reasonableness: Amendment of the Sulfate Water Quality Standard Applicable to Wild Rice and Identification of Wild Rice Waters (“SONAR”), p. 75 (July 2017). In that rulemaking, MPCA also recognized the mandate to designate waters subject to the sulfate standard by rule (*see id. at p. 13*); however, that rulemaking was abandoned and never finalized. MPCA has not taken additional action to revise the standard since that time.

MPCA never adopted “criteria” for making designations of wild rice waters by rulemaking (which the 2011 and 2015 laws, and the 2017 SONAR require). Furthermore, by improperly adopting incredibly broad criteria via its own informal means, MPCA effectively redefined the underlying “Production of wild rice” beneficial use to include the mere growth of wild rice. This is a departure even from the SONAR, which focused on identifying where waters with wild rice were used as a food source.

In defiance of the 2011 legislative mandate, and without undertaking a rulemaking, MPCA “designated” approximately 2,400 waters, including Hay Lake, that MPCA has “preliminarily determined” can be reasonably considered as constituting ‘waters used for the production of wild rice.’” *See Wild Rice Waters List*, MPCA, available at [Workbook: Protecting wild rice waters](#). MPCA’s designation of Hay Lake as subject to the sulfate standard on that list directly violates the limitations placed on MPCA’s designation power by the 2011 Law and exceeds MPCA’s statutory authority. Minn. Stat. § 14.69. In addition, MPCA’s failure to conduct a rulemaking for the designation of Hay Lake as a WUFPOWR denied U. S. Steel and other affected stakeholders the opportunity to participate and provide meaningful comment on the designation process. Unless and until MPCA completes proper rulemaking to designate Hay Lake as subject to the sulfate standard, the standard does not apply in Hay Lake. Thus, Hay Lake has not been properly designated as a “WUFPOWR” subject to the state’s sulfate standard.

In addition, regardless of whether or not MPCA completed appropriate rulemaking for Hay Lake’s designation, Permittee disagrees with the designation for many reasons, including ownership and access rights.

Please note that, while comments presented herein operate on the assumption of the applicability of a 10 mg/L sulfate water quality standard, these comments are only presented as alternative positions, i.e., we assert these comments in the alternative if our position that the 10 mg/L standard is incorrect pursuant to the 2011, 2015, and 2016 laws, is rejected.

Requested Change: Remove all sulfate limits associated with Class 4A water quality standards and associated compliance schedule unless and until proper rulemaking is undertaken to designate Hay Lake with its appropriate water quality classification.

3. **Issue:** Final compliance date of April 30, 2030 is infeasible due to mandatory EAW requirements.

Reference: Fact Sheet pages: 12, 13 and 40 of 55
Permit pages: 17, 19 and 40 of 50

U. S. Steel Position: Section 5.13.59 requires compliance with sulfate limits no later than April 30, 2030. U. S. Steel cannot meet that deadline due to mandatory EAW requirements associated with treatment implementation. Minnesota Rule 4410.4300 Subp. 18F is a mandatory EAW category for construction of new industrial water treatment facilities. According to the MPCA website, a typical EAW process requires at least 8-14 months after submittal of an initial draft. However, in reviewing the most recent EAW completed by the agency it appears that timeline can take much longer. For the Crow Wing Mixed MSW landfill the initial submittal was May 31, 2023. The final decision was not made until August 26, 2025. That most recent example took approximately 27 months to complete. U. S. Steel applied for a variance to help with the timing issues that are out of U. S. Steel control.

Requested Change: Remove section 5.13.59 from the permit or revise to a reasonable timeframe previously discussed with MPCA staff.

4. **Issue:** Final compliance date of April 30, 2030 is infeasible due to MPCA review and actions.

Reference: Fact Sheet pages: 12, 13 and 40 of 55
Permit pages: 17, 19 and 40 of 50

U. S. Steel Position: Section 5.13.59 requires compliance with sulfate limits no later than April 30, 2030. U. S. Steel cannot control MPCA actions, reviews and approvals, and cannot be held liable for a compliance date that is contingent on their actions.

Requested Change: Remove section 5.13.59 from the permit.

5. **Issue:** Sulfate limits for wild rice and associated compliance schedules should not be included in the permit until the wild rice sulfate standard is updated as directed by the 2011 Minnesota legislature.

Reference: Fact Sheet pages: 12, 13, 21 – 24, 26 - 28, 35, 36, 37 and 40 – 43 of 55
Permit pages: 17–19, 37, 39, 40, 44, 45 and 47 of 50

U. S. Steel Position: In 2011, Minnesota legislature directed that MPCA review and revise the wild rice sulfate standard. MPCA has not done that.

In addition, antibacksliding is not a concern here for removal of the sulfate limits in these permits for many reasons, including (1) new information has come about since the previous permits were issued; and (2) the permit limits in the previous permits were not ever “effective” for purposes of antibacksliding.

First, the 2016 Minnesota Session Law is new “information” that was not available at the time the previous permit was issued in 2011, and that law also prohibited MPCA from enforcing final effluent limits in the 2011 permits. According to the fact sheet attached with this permit, MPCA agrees: “The MPCA believes the compliance schedule proposed in the draft permit qualifies for the exception to antibacksliding under 40 CFR 122.4(l)(2)(B)(1). Information regarding the Minnesota Session Law that was passed in 2016 was not available at the time the permits were issued in 2011. The MPCA had no indication that such a law would be passed by the Minnesota Legislature when the compliance schedules were developed. At that time, it was assumed the Permittee would meet the schedule deadlines and attain compliance with the final effluent limits for sulfate by August 27, 2018 at the Mine Site and August 17, 2019 at the tailings basin site. The 2016 Session Law arguably allowed the Permittee to stop work towards meeting the final effluent limits and it prohibited MPCA from enforcing the final effluent limits in the 2011 permits.”

Second, for purposes of antibacksliding, a permit limit for a parameter does not become effective until a compliance schedule for the parameter has expired. See EPA, Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California; Rule (also known as the California Toxics Rule (CTR)), 65 Fed. Reg. 31682, 31704 (May 18, 2000); Preamble to the Great Lakes Water Quality Initiative, 58 Fed. Reg. 20837, 20981 (Apr. 16, 1993). Because the 2016 Law invalidated the compliance schedule in Keetac’s previous NPDES permits, the sulfate limit never became effective for antibacksliding purposes, and thus antibacksliding does not prohibit relaxation of the standard.

Requested Change: Remove all sulfate limits associated with Class 4A water quality standards and associated compliance schedule until the sulfate standard is revised.

6. **Issue:** Sulfate limits for wild rice and associated compliance schedules should not be included in the permit as per 2016 Minnesota Session Law.

Reference: Fact Sheet pages: 12, 13, 21 – 24, 26 - 28, 35, 36, 37 and 40 – 43 of 55

Permit pages: 17–19, 37, 39, 40, 44, 45 and 47 of 50

U. S. Steel Position: In 2015, the Minnesota Legislature passed a law regarding wild rice that stated that, until MPCA promulgated rules refining the sulfate standard, MPCA is prohibited from requiring permittees to expend money for design or implementation of sulfate treatment technologies or other forms of sulfate mitigation. Minn. Laws 2015, 1st Spec. Sess., Ch. 4, Art. 4, Sect. 136 (a)(1)(i). Following that law, in 2016, Minnesota Legislature passed an additional Session Law that provided that, as applicable to certain NPDES permits, including Keetac's NPDES permits at the time, 1) Sulfate limits resulting from the wild rice water quality standard are no longer valid; and 2) any compliance schedule permit conditions related to those final limits are no longer valid. In accordance with these laws, sulfate limits should not be placed into Keetac's permits until a new sulfate standard has been promulgated.

Requested Change: Remove all sulfate limits associated with Class 4A water quality standards and associated compliance schedule.

7. **Issue:** The February 16, 2022 letter does not require sulfate limits for wild rice to be included in the permit.

Reference: Fact Sheet pages: 37 and 47 of 48

U. S. Steel Position: MPCA has mischaracterized the intent of the February 16, 2022 letter. The letter urged the MPCA to work with legislators to follow the proper procedures as they relate to the 2015 and 2016 session laws. Nothing in the letter requires the 10 mg/L standard to be applied in permits. It also does not preclude the use of compliance schedules, variances and other regulatory mechanisms that are allowed by the Clean Water Act.

Requested Change: Until MPCA follows the proper process to set criteria related to a beneficial use, list waters based on that beneficial use and update the standard as was required by law in 2011, limits related to the wild rice sulfate standard should be removed from the permit.

8. **Issue:** Sulfate limits contained in the draft permit for wild rice and associated compliance schedules are unnecessarily stringent, not appropriate under state law, not supported by science, and do not consider the data in U. S. Steel's 2022 updated Sulfate Site Specific Standard ("SSS") request, originally submitted in 2014

Reference: Fact Sheet pages: 12, 13, 21 – 24, 26 - 28, 35, 36, 37 and 40 – 43 of 55
Permit pages: 17–19, 37, 39, 40, 44, 45 and 47 of 50

U. S. Steel Position: Within the Sulfate Site Specific Standard request submitted to MPCA in 2022, which followed MPCA protocol from MPCA's 2017 proposed rule to replace the sulfate standard data show the limit of 79 mg/L does not have a negative impact on wild rice. This is further supported by the presence of wild rice in the lake after receiving Keetac discharges for over 50 years.

Requested Change: Any sulfate limits appropriately included in the permit should reflect the data contained in our previously submitted Sulfate Site Specific Standard request, i.e., a site-specific sulfate limit of 79 mg/L. U. S. Steel hereby incorporates the request, along with all data and information contained in the 2022 Sulfate Site Specific Standard submittal, into this comment on the draft permit.

9. **Issue:** The Compliance Schedule length of time is inadequate

Reference: Fact Sheet pages: 12, 13, 21, 40, 42 and 43 of 55
Permit pages: 17, 19, 39 and 40 of 50

U. S. Steel Position: The current schedule does not allow enough time to properly complete plan development, pilot testing, evaluation, equipment procurement, construction and ultimately meet final effluent limits. The schedule does not allow sufficient time for the MPCA to: review and approve plans, complete environmental review and issue permits.

It is imperative that a Sulfate Source Evaluation be conducted of the 5 discrete Keetac NPDES outfalls to inform the development of the Sulfate Treatment/Mitigation Alternatives Evaluation Plan.

The Sulfate Source Evaluation will take a minimum of 3 months.

Following the Sulfate Source Evaluation, a minimum of 3 months will be required to develop the Sulfate Treatment/Mitigation Alternatives Evaluation Plan, which must include a review of existing/available technologies and preliminary engineering layouts at the 5 different NPDES outfalls.

Six months will be needed to complete the permit-required tasks specified for the Sulfate Treatment/Mitigation Alternatives Identification Plan.

Three months will be needed to complete the planning for subsequent evaluation and pilot testing of at least 2 of the 5 outfalls.

Pilot testing is projected to be required for at least 2 of the 5 Keetac Outfalls, which would run concurrently for 12 months, including procurement, assembly, operation and individual pilot plant performance evaluation and reporting. Following completion of

the pilot testing an additional 4 months will be required to complete preliminary engineering in preparation for the Final Compliance Plan.

A minimum of 6 months will be required to complete the required elements of the Final Compliance Plan on the 5 Keetac NPDES outfalls, each of which has the potential for implementation of multiple different treatment technologies. MPCA allowed 10 months to assemble the Final Compliance Plan in the Minntac TB NPDES permit (MN0057207) for one source and a single treatment technology. An undetermined amount of time will be required for Environmental Review, but is anticipated to be at least 18 months.

At least 12 months will be needed to develop the Final Plans and Specifications, as that level of detail takes a significant amount of time and vendor input to determine. Electrical design is dependent on structural and mechanical design components. As such, mechanical equipment procurement is required before electrical engineering can be started as equipment specifications and power requirements are not known beforehand. This creates an unavoidable lag in the timeline. MPCA allowed 18 months for development of the Final Plans and Specifications in the Minntac TB NPDES permit for one source and a single treatment technology. An undetermined amount of time will be required for MPCA review and approval, but is anticipated to be at least 60 days. If MPCA disapproves, Permittee is required to respond to MPCA comments within 30 days.

Before construction can begin, MPCA approval of the Final Plans and Specifications may require significant changes to planned construction. Time is needed to incorporate comments into the plan. In addition, construction startup and equipment purchasing is dependent on MPCA approvals, seasonality, and timely receipt of required permits. An additional 12 months must be included in the Compliance Schedule to complete these activities.

At a minimum, 30 months will be needed to complete construction. Procurement has the potential to impact the overall duration of construction. Electrical lead times have recently been as much as 52 weeks. Completion of construction cannot be accurately predicted until equipment is selected, and vendor proposals are in hand and evaluated. In addition, seasonal (winter) construction will negatively impact the project duration. Productivity decreases significantly during the winter months and must be taken into consideration. The compliance schedule also requires MPCA approval to start treatment which is not accounted for in the schedule. In addition, 12 months of full-scale equipment operation, fine tuning and system shakedown will be required to reliably meet the final permit discharge limits. U. S. Steel can comment on and commit to its own timelines, as outlined here, but the schedule becomes infeasible or unrealistic when agency permitting delays are inherently included within U. S. Steel's own schedule. This becomes a significant issue, particularly in consideration of the fact that the Keetac permit had been administratively continued since 2016 prior to this draft permit. The compliance timeline will need to take all of this into account, as well as any other possible contingencies that might affect the permit/timeline related to changes in

standards, while also allowing time for appropriate reviews and permitting from MPCA or other agencies. Minnesota Rule 4410.4300 requires Environmental Review for the treatment systems and will require additional time not accounted for in the compliance schedule.

Ultimately, the actions U. S. Steel must take to meet the final effluent limits in the proposed permit amount to an extensive, time consuming undertaking that requires careful, accurate planning to execute safely and effectively, let alone the additional time it will take to receive the requisite permitting for the actions. U. S. Steel is working to achieve these limits as soon as possible, but the construction needed to achieve these effluent limits require engineering feats that cannot be safely or effectively accelerated beyond the pace at which they are already proceeding.

MPCA has made the comment during several public forums that EPA will not allow a compliance schedule to extend beyond five years. However, there are multiple examples of MPCA issuing permits within the last several years with compliance schedules beyond ten years, and at least one allowing for fifteen years.

Requested Change: Modify Compliance Schedule to reflect more realistic engineering timelines and accounts for timing of MPCA review and approvals, EAW and other permitting requirements, and any other regulatory Agency requirements.

- 10. Issue:** Permittee should be treated fairly with similar regulatory approaches as other dischargers.

Reference: **Reference:** Fact Sheet pages: 12, 13, 21 – 24, 26 - 28, 35, 36, 37 and 40 – 43 of 55

Permit pages: 17–19, 37, 39, 40, 44, 45 and 47 of 50

U. S. Steel Position: U. S. Steel should be held to the same requirements as other dischargers in the Hay Lake watershed.

The recently reissued Keewatin POTW NPDES/SDS permit MN0022012 does not contain any interim or final sulfate limits.

The Statement of Basis for NPDES/SDS permit MN0022012 states that “There are a number of aluminum, sulfate, PCB and PFOS impairments that were not specifically outlined in this review. TMDLs are not underway for these impairments at this time.” (page 8 of 10, 7/16/21, t-wq-wwprm2-36)

The Statement of Basis acknowledges that downstream waters are impaired for sulfate, however there are no limits or requirements associated with those impairments.

Requested Change: Remove all sulfate limits associated with Class 4A water quality standards and associated compliance schedule from the draft permit. Permittee should be treated fairly with similar regulatory approaches as other dischargers.

- 11. Issue:** The Phase 1 sulfate limits of 167 mg/L at SD002, 81 mg/L at SD003, 30 mg/L at SD012 are inappropriate and cannot be achieved consistently.

Reference: Fact Sheet page: 21 and 37 of 55
Permit pages: 42-47 of 50

U. S. Steel Position: The Phase 1 sulfate limits at SD002, SD003, and SD012 are not appropriate. MPCA states in the Fact Sheet that “The interim sulfate limits are concentrations that are currently achievable.” This is not factual. The actual maximum sulfate values observed are as follows:

SD002 = 202 mg/L (July 2024)
SD003 = 84.3 mg/L (September 2021)
SD012 = 28.4 mg/L (July 2023)

These values exceed the proposed Phase 1 limits.

Requested Change: The Phase 1 limits should be the maximum observed value from the last five years plus a 20% safety factor. The Phase 1 limits should be changed to the following:

SD002 = 242.4 mg/L
SD003 = 101.2 mg/L
SD012 = 34.1 mg/L

- 12. Issue:** Discharge limitation at SD002 and SD003 for O&G Quality/Conc. Avg. is specified as 0.5 mg/L Calendar Quarter Average, but there is no analytical test method that can achieve those results.

Reference: Permit pages: 43 and 45 of 50

U. S. Steel Position: The proposed 0.5 mg/L limitation is well below the method detection limit (MDL) for EPA approved method 1664A for O&G analysis. The MDL is 1.4 mg/L, which is almost 3 times higher than the proposed limit in the permit and the minimum level of quantitation (ML) is 5.0 mg/L.

Requested Change: The SD002 and SD003 O&G limitations should be no lower than lowest quantifiable level (ML) of 5.0 mg/L.

13. **Issue:** The timelines specified by the Compliance Schedule sections of the draft permit are untenable based on the requirements listed in Section 5.13.49

Reference: Fact Sheet page: 12 of 55
Permit page: 17 of 50

U. S. Steel Position: The active discharge outfalls listed in the draft permit all discharge quantities greater than the de minimis requiring a mandatory EAW as per Minn R. 4410.4300.

Requested Change: Additional time must be provided in the Compliance Schedule to comply with the requirements of Minn R. 4410.4300 and receive all required permits and regulatory approvals prior to the development of Final Plans and Specifications.

14. **Issue:** Submittal of WET Testing results is confusing and unclear for SD002, SD003, SD012

Reference: Permit pages: 9 - 15 of 50
Fact Sheet page: 38-39 of 48

U. S. Steel Position: The permit says *"the Permittee shall submit quarterly chronic toxicity test battery results: Due by three years after permit issuance thereafter."* WET testing requirements are quarterly during year 3 and annually thereafter.

Requested Change: The permit should state: "the Permittee shall submit quarterly chronic toxicity test battery results during year 3: Due on or before March 31 of the following year ~~three years after permit issuance thereafter.~~"

15. **Issue:** Requirements for submission of annual WET Tests yearly after year three are not clear. Clarify when annual WET Test results should be submitted, if required.

Reference: Permit pages: 9, 11, 13 and 38 of 50

U. S. Steel Position: Permit does not clearly state when annual WET Test results should be submitted.

Requested Change: Clarify that annual WET Test results (after year 3, if required) should be submitted by March 31 of the following year.

16. **Issue:** WET Testing requirements after permit expiration date are arbitrary and capricious for SD002, SD003, SD0012

Reference: Permit pages: 9, 11, 13 of 58;

U. S. Steel Position: This section is in conflict of EPA recommendations regarding the January 2025 pre-public draft

Requested Change: Remove annual WET Testing requirements after year 3, including after permit expiration

17. Issue: The permit is unclear on how and where to submit additional analytical parameters associated with WET Testing

Reference: Fact Sheet page: 38 of 55
Permit page: 10, 12 and 14 of 50

U. S. Steel Position: The permit is unclear on how and where to submit additional analytical parameters associated with WET Testing

Requested Change: Clarify how and where to submit the additional analytical parameters associated with WET Testing

18. Issue: WET Testing requirements for SD002, SD003, SD0012

Reference: Permit pages: 9, 11, 13 and 38 of 50

U. S. Steel Position: Implementation of sulfate reduction technologies can directly influence WET testing results. Technology such as RO and other membrane technologies are not selective to only sulfate, but remove other parameters as well. This can result in water that is 'too clean' for aquatic organisms to survive.

Requested Change: Remove WET Testing requirements from the permit

19. Issue: Incorrect sample type reference

Reference: Permit pages: 16 of 50

U. S. Steel Position: The limits and monitoring sections of the permit only require grab samples. There are no requirements for composite samples.

Requested Change: Remove 'composite' from section 5.12.30

20. Issue: EAW application submittal

Reference: Permit page: 17, 18 and 39 of 50;

Fact Sheet pages: 40 of 55

U. S. Steel Position: EAW and the Major Permit Modification Application submittal should not align with the Final Compliance Plan. A permit modification may or may not be required depending on the scope of Final Compliance Plan and if any delays beyond USS control have occurred. An EAW application and a Major Permit Modification Application should be submitted with the Final Plans and Specs if needed. Please note that the RGU is required to complete the EAW, not the permittee. The permittee will provide the initial data and supplement as needed, but it is the RGU who conducts the EAW.

Requested Change: Remove language related to the Final Compliance Plan in section 5.13.49. The compliance schedule must allow time for the MPCA to complete the EAW process and recognize the potential for third party litigation on the need determination as well as any delays beyond USS control.

21. Issue: Inconsistent and inadequate timelines to restore BMP function

Reference: Permit page: 27 of 50; sections 5.19.312

U. S. Steel Position: Seven days is not feasible to make changes to BMP's if found not meeting objectives.

Requested Change: Corrective actions for BMP's not meeting objectives should be initiated within 30 days. Change section 5.19.312 to "If the findings of a site inspection indicate that the BMP's are not meeting the objectives as identified above, corrective actions shall be initiated within thirty days and the BMP restored to full operation as soon as conditions allow."

22. Issue: Incorrect pH requirements SD002 and SD003

Reference: Fact Sheet pages: 21, 22, 26 and 27 of 55

Permit pages: 43 and 45 of 50

U. S. Steel Position: pH ranges should be consistent as 6.5 to 9.0 for all surface discharges. Anti backsliding does not apply due to Minnesota Rule 7050.0224 revisions, which removed pH upper limit.

Requested Change: Correct pH limits at SD002 and SD003 to show a range from 6.5 to 9.0 to be consistent with 2B waters in Minnesota Rule 7050.0222.

23. **Issue:** WS005 BOD, pH, Phosphorous and TSS sampling frequency should be twice per month as required for nitrogen and fecal coliform, not once per week.

Reference: Fact Sheet page: 30 of 55
Permit pages: 47 and 48 of 50

U. S. Steel Position: Weekly monitoring is excessive since the effluent is discharged to an internal recycle stream and not waters of the state.

Requested Change: Keep the WS005 sampling frequencies as is in the current permit at twice per month for all parameters.

24. **Issue:** Annual meeting

Reference: Fact Sheet page: 12 of 55
Permit pages: 23 and 41 of 50

U. S. Steel Position: The stated requirements for this permit condition are Minn. R. 7001.0150, subp. 2, Minn. Stat. ch. 115.03, subp. 1(2), and Minn. Stat. ch. 115.03, subp. 1(8). None of these listed requirements refer to a rule or statute that requires an annual meeting. Minn. R. 7001.0150, subp. 2 says that the permit must contain conditions necessary for the permittee to achieve compliance with rules, and any conditions the agency determines to be necessary to protect human health and the environment. Neither of those conditions apply. Minn. Stat. ch. 115.03, subp. 1(2) and subp. 1(8) refers to duties of the Commissioner, not the permittee. Therefore, this is not applicable either.

As a further example of our commitment to our local communities and transparent communications, in 2024 U. S. Steel voluntarily started Community Advisory Panel (CAP) meetings for both Minntac and Keetac. The meetings were well attended and the agenda for such meetings is set based on what is happening at the facilities and what is of interest to the CAP. These meetings are ongoing and dates are already planned for 2025. A permit condition dictating the agenda, requiring a meeting and specifying how the meeting will be conducted is not needed for this facility, nor is it supported by any regulatory requirement.

Requested Change: Remove this requirement from the permit

25. Issue: PFAS Requirement is overly burdensome and the time constraint is infeasible

Reference: Fact Sheet pages: 12 and 31 of 55
Permit page: 22, 23, 40 and 41 of 50

U. S. Steel Position: Requiring the information within 18 months is arbitrary and capricious. The information has no regulatory basis and, due to the large amount of resources needed to focus on the compliance plan, requiring this within 18 months is not sufficient.

Requested Change: The PFAS inventory should be due within 60 months of permit issuance.

26. Issue: Recent compliance history does not reflect closure of the April 2017 Compliance Evaluation Inspection

Reference: Fact Sheet pages: 13 of 55
Permit pages: N/A

U. S. Steel Position: Compliance history of the April 2017 Compliance Evaluation Inspection does not state that permittee satisfied all concerns identified. Permittee worked with MPCA and MN DNR to address all findings and there are currently no outstanding issues associated with the 2017 Compliance Inspection.

Requested Change: Modify language in the compliance history section of the Fact Sheet to show that the permittee addressed all concerns and that there are no outstanding issues.

27. Issue: Facility description is not the same between the Fact Sheet and the Permit

Reference: Fact Sheet pages: 6 and 7 of 55
Permit pages: 4 and 5 of 50

U. S. Steel Position: The facility description in the Permit does not have all the information that is contained in the facility description of the Fact Sheet.

Requested Change: Change the facility description in the permit to match what is included in the Fact Sheet.

28. Issue: SD008 is shown on the facility map, but not included in the permit

Reference: Fact Sheet pages: 11 of 55
Permit pages: 7 of 50

U. S. Steel Position: SD008 is no longer included in the permit, therefore all references should be removed from the permit and fact sheet.

Requested Change: Remove SD008 from facility maps/diagrams in both the permit and fact sheet and replace with internal monitoring limits calculation station WS 002.

29. Issue: Authorization for disposal of sanitary wastewater is incorrect

Reference: Fact Sheet pages: 6 of 55
Permit pages: 21 of 50

U. S. Steel Position: There are no drainfields associated with the septic tanks that accept domestic sewage from the coarse crushers and Pit Dry. Septage from the septic tanks are transported from the facility for proper disposal.

Requested Change: Remove 5.16.97 c. and revise 5.16.97 b. to: To portable units or septic tanks, then transported from the facility for proper disposal.

30. Issue: Facility Boundary

Reference: Fact Sheet pages: 9 and 11 of 55
Permit page: 6 and 7 of 50

U. S. Steel Position: The facility boundary in the draft permit and fact sheet does not match that in the application.

Requested Change: U. S. Steel would like to work with MPCA to more accurately define the purpose of and location of the facility boundary and to avoid arbitrary application of the permit to the facility boundaries.

31. Issue: WET testing

Reference: Permit pages: 9 – 14 of 50
Fact Sheet page: 38 - 39 of 48

U. S. Steel Position: Annual WET testing after year 3 is not required if all year 3 quarterly testing passes.

Requested Change: Remove annual WET testing after year 3.



U. S. Steel Corporation
Minnesota Ore Operations
P.O. Box 417
Mt. Iron, MN 55768

September 19, 2025

Ashley Kneemueller, Supervisor Wastewater Services Unit,
Minnesota Pollution Control Agency
520 Lafayette Road N.
St. Paul, MN 55155-4194
C: Stephanie Handeland, MPCA

**Re: Facility-specific Preliminary Determination WQS Variance for Sulfate, U. S. Steel Keetac
Facility and Tailings Basin Permits MN0031879 and MN0055948**

Dear Ms. Kneemueller:

United States Steel Corporation (U. S. Steel) is responding to the Minnesota Pollution Control Agency's (MPCA) Water Quality Program Facility-specific Preliminary Determination Water Quality Standard Variance for Sulfate (preliminary determination) for U. S. Steel's National Pollutant Discharge Elimination System (NPDES)/State Disposal System (SDS) Permit Nos. MN0031879 and MN0055948. On May 30, 2025, U. S. Steel submitted a water quality standard (WQS) variance request from the Class 4A sulfate WQS for water used for production of wild rice (WUFPOWR) applied to Hay Lake (Assessment Unit Identification (AUID) No. 31-0037-00). On July 8, 2025, MPCA issued a Preliminary Determination, concluding that U. S. Steel "has not satisfied the conditions necessary to grant the sulfate variance," and therefore, recommended denial of the sulfate WQS variance.

As an initial matter, based on Minnesota statutes and rules governing variance applications, U. S. Steel's variance application has been by default approved. U. S. Steel submitted its variance petition on May 30th, 2025 and, although MPCA provided a preliminary denial on that application on July 8th, 2025, MPCA has not made a final decision granting or denying the petition. The agency is required to issue that decision within 60 days of receipt of the completed petition or the petition is deemed approved. According to the statute:

The agency shall grant or deny a variance petition as soon as practicable, **and within 60 days of receipt of the completed petition**, unless the petitioner agrees to a later date. **Failure of the agency to act on a petition within 60 days constitutes approval of the petition.**

Minn. Stat. § 14.056(5) (emphasis added); *see also* Minn. R. 7000.7000. The 60-day window for final denial or approval expired July 28th, 2025. Thus, the failure of MPCA to act on the petition constitutes approval of U. S. Steel's variance petition.

However, out of an abundance of caution and to ensure a clear record related to its variance application, U. S. Steel provides the following rebuttal in the alternative.

MPCA's preliminary determination examined U. S. Steel's application which is based on federal regulations 40 CFR 131.10(g)(3) & (6) and state regulations Minnesota (Minn.) Rules (R.) 7050.0190, Subpart (Subp.) 4(A)(3) & (6), otherwise referred to as Factor 3 and Factor 6, respectively. The preliminary determination discusses the MPCA's expectations for variance demonstrations and provides its rationale for the preliminary determination to deny the variance application.

As stated in previous filings and communications, U. S. Steel does not believe that Hay Lake has been properly designated as a Class 4A water via formal rulemaking, as required under the state's statutes. Similarly, U. S. Steel objects to the application of the 10 mg/L sulfate water quality standard to Hay Lake and U. S. Steel's respective NPDES permits for the Keetac facility. Reserving all rights with regard to U. S. Steel's opposition to Hay Lake's alleged designation and the 10 mg/L sulfate standard, U. S. Steel is moving forward with comments on the preliminary decision to deny the variance application.

U. S. Steel believes it has sufficiently addressed the requirements of the regulations and has successfully demonstrated the need for the sulfate WQS variance. U. S. Steel offers the following responses to MPCA's examination and conclusions for each of these factors and respectfully requests the MPCA reconsider the variance request.

Factor 3

U. S. Steel believes that the Factor 3 demonstrations have been satisfied. As MPCA noted, there are two demonstrations that need to be made under this rule:

1. Human-caused conditions or sources of pollution prevent the attainment of the use; and,
2. The conditions or sources
 - a. cannot be remedied; or
 - b. would cause more environmental damage to correct than to leave in place.

Factor 3 – Demonstration 1

The first demonstration requires the identification of human-caused conditions or sources of pollution that prevent the attainment of the use. U. S. Steel clearly achieved the first demonstration. The Keetac mining area and tailings basin discharges are point sources from mining operations, which are anthropogenic activities. The MPCA has identified U. S. Steel's discharges as sources of sulfate in Hay Lake and is the basis for their reasonable potential determination and inclusion of sulfate limits in the NPDES permits.

Based on this information, it is reasonable to conclude that U. S. Steel satisfied the first demonstration: 1) Climate change is a significant human-caused contributor to the decline of wild rice growth (**Communications** earth & environment (2025)6:288, *Climate change contributes to the decline in off-reservation tribal harvest availability in the Great Lakes Region*, <https://doi.org/10-1038/s43247-025-02233-0>). Climate change is leading to shorter and warmer winters which does not allow the wild rice seed to germinate properly, contributing to its overall decline over time and preventing the attainment of the use. Climate change is outside the control of the U. S. Steel Keetac Facility. 2) the Keetac mining area and tailings basin discharges are the human-caused source of pollution; and 3) the Keetac mining area and tailings basin discharges flowing into Hay Lake contribute to the human-caused condition in Hay Lake. Contrary to the evidence, the MPCA did not make the same conclusions. The preliminary determination states that the regulation requires the human-caused source or human-caused condition to be something other than the permittee seeking the variance:

"Factor 3 variances are typically considered in cases where the pollution is from an indirect cause, outside the control of the permittee. This does not describe circumstances where the requestor's processes and discharge itself is the cause of the pollution preventing attainment of the use. U.S. Steel's application did not attempt to explain how the sulfate pollution is a human caused condition and not caused or contributed to by their own processes and discharge."

However, nothing in the regulations, MPCA's guidance¹, or the Environmental Protection Agency's (EPA) guidance² states that the human-caused source or human-caused condition must be different than NPDES permitted discharges. EPA guidance clearly states that point sources are considered human-caused sources of pollution and does not prohibit the identification of the point source/permittee seeking the variance as the human-caused source. It is unreasonable for the MPCA to assert that U. S. Steel's activities contribute sulfate pollution to Hay Lake and implement sulfate discharge limitations because of this contribution, but prohibit U. S. Steel from using this factor to seek a sulfate WQS variance. U. S. Steel believes that the MPCA should maintain continuity between pollutant source identification in the NPDES permits and its analysis of U. S. Steel's variance request by acknowledging the conditions in Hay Lake are, at least in part, "human-caused" by operations at the Keetac facility.

Even assuming MPCA is correct that the human-caused condition must be something indirect or outside the control of the permittee (which, again, U. S. Steel disagrees with), those conditions are present in this case as well. Sulfate itself is naturally occurring in the substrate of the area and is present in Keetac's discharges due to mining operations. Keetac does not anthropogenically introduce sulfate into its processes and ultimate discharges – these are constituents naturally in the earth that Keetac is mining. Thus, the sulfate in Keetac's discharges is from an indirect cause, outside the control of the permittee. In addition, the Nashwauk Wastewater Treatment Plant (WWTP) is an additional human-caused source of sulfate pollution in Hay Lake that is outside the control of Keetac. Discharges from the Nashwauk WWTP

¹ Minnesota Pollution Control Agency. Guidance for water quality standard variances. May 2020. wq-wwprm2-10a.

² United States Environmental Protection Agency. Draft Chapter: Water Quality Standards Variances. Water Quality Standards Handbook. December 12, 2024. EPA-823-D-24-001.

flow into Hay Lake. Monitoring data required per NPDES/SDS MN0053392 show that sulfate is present in the Nashwauk WWTP's discharge, making it a human-caused source of sulfate pollution in Hay Lake that is not under the control of U. S. Steel.

Factor 3 – Demonstration 2

U. S. Steel has also satisfied the second demonstration by outlining the greater environmental damage that would be caused by treating U. S. Steel's discharge to remove sulfate than by leaving the existing conditions in Hay Lake in place. Environmental damage in this case includes:

- greater air pollution from increased electric power demand and generation,
- increased truck traffic due to the need to dispose of sludges and solids generated during treatment;
- greater solid waste pollution from sludge and solids produced during treatment, increased waste from treatment chemical usage, and treatment unit waste (such as membranes, filter media, etc.) that will need to be disposed of in a landfill;
- increased public nuisance and noise pollution from the number of trucks needed to haul away waste materials;
- years of construction activities to install the treatment technology needed to treat sulfate that will result in land disturbance, stormwater pollution, air quality/dust pollution, noise pollution, and solid wastes;
- treated water may be "too clean" to support aquatic life. Reverse Osmosis (RO) technology is not selective and removes all components in the water, even those beneficial to aquatic life.

The MPCA states in the preliminary determination that the regulation requires U.S. Steel to "address the benefits of treatment" to satisfy the second demonstration. The MPCA is expanding the requirements beyond the plain reading of the regulation, which states "conditions or source would cause more environmental damage to correct than to leave in place." However, there is nothing in the rule about comparing the water quality conditions in Hay Lake after treatment.

In fact, the MPCA's Guidance for Water Quality Standard Variance³ provides the following example of how to satisfy the rule using information showing that sources of pollutants cannot be remedied and environmental costs and treatment outweigh the benefits:

*"Describe how an alternative approach would have adverse environmental consequences (i.e., would cause more environmental damage to correct than to leave in place), consider additional treatment alternatives which could result in **other environmental effects**, such as potential **disposal of waste generated** from various treatment technologies (e.g. brines, spent resin), alternative water source issues (e.g. high levels of arsenic in groundwater, sulfate or hardness in alternative raw water supplies), or **high***

³ Minnesota Pollution Control Agency. Guidance for water quality standard variances. May 2020. wq-wwprm2-10a.

energy use (NOTE: Often, sources of electricity change over time, vary by nature of the grid, and ***have different impacts when released to water or air***, so adjustments are necessary" [emphasis added].

U. S. Steel used the similar information as outlined in the example when discussing other widespread environmental impacts, including sludge and solid waste pollution, and air quality pollution. This approach is aligned with EPA's Water Quality Standards Variance guidance⁴ as well, which concludes that the demonstration of environmental damage should include:

"[a] comparison of the environmental impacts to the ecosystem and/or public health to the benefits of attaining the designated use and associated criteria, in the same geographic area of that waterbody."

The focus includes widespread ecosystem and public health impacts, not just impacts to Hay Lake. Below is a summary of the damages identified from no treatment versus treatment. The items listed under treatment are paraphrased from Section 2.7.3 of the variance request narrative.

- No treatment – environmental impacts from leaving sulfate concentrations/current water quality conditions in place:
 - Water conditions will continue to be as they were since 1967 when the Keetac facility started operations.
 - Wild rice has been observed and surveyed under current sulfate levels and shows that it is prospering.
 - Wild rice will continue to thrive when water levels do not significantly fluctuate due to weather conditions
 - Water level fluctuation from storm events, beaver dams, competing aquatic vegetation and predation, and other factors, influence wild rice growth more so than the current sulfate levels in Hay Lake.
- Treatment – environmental impacts from adding treatment to reduce the sulfate concentrations:
 - Increased electrical power demand will result in increased electrical power production from the power plant currently supplying electricity to the U. S. Steel Keetac facility. The power plant servicing U. S. Steel is approximately 35 road miles from the U. S. Steel Keetac facility and approximately 25 miles west of Hay Lake.
 - Increased electricity production will increase Greenhouse Gases (GHG) by 77,837 tons per year (tpy) from coal fired power plants or 28,033 tpy from natural gas combining cycle (NGCC) power plants (in terms of Carbon Dioxide (CO₂) equivalent, CO₂e). This will impact air quality in the area and potentially across the State of Minnesota.
 - Increased electricity production from coal-fired power plants will increase mercury emissions (Hg) by up to 0.90 pounds per year. This will impact air quality in the area and mercury deposition into waters of the state, and is approximately 0.08% of Minnesota's total 2024 Hg emissions.

⁴ United States Environmental Protection Agency. Draft Chapter: Water Quality Standards Variances. Water Quality Standards Handbook. December 12, 2024. EPA-823-D-24-001.

- Necessary treatment includes processes that will generate sludge and solid waste at a rate of approximately 58,700 tpy. This material will need to be disposed of, likely in an off-site landfill, adding to the solid waste handling, treatment, and disposal burden placed on the landfill.
- Sludge and solid waste hauling will require continuous truck traffic that will generate its own air quality impact, approximately 300 tpy CO₂e. Increased truck traffic may also generate a public nuisance to the surrounding communities.
- Installation of treatment will require significant construction activities. This includes land disturbance activities, such as clearing and grading, equipment hauling, handling, and storage, and building and testing the new system. These construction activities will generate stormwater pollution, air quality/dust pollution, noise pollution, and solid waste, at a minimum. All of these activities have the potential to impact the environment and the surrounding communities.
- Potential impacts of treated effluent on aquatic organisms due to increased osmotic pressure.

Note that the list of potential environmental damages related to installing treatment is greater than the list of environmental damages for leaving the water quality (sulfate) conditions the same. The MPCA dismissed these larger environmental damages by focusing on the potential benefit to wild rice from reduced sulfate concentrations. However, the positive impact of sulfate treatment on water quality with respect to wild rice growth is unknown and likely minimal in comparison to the environmental damages related to the treatment option. MPCA, in its preliminary determination, provides no evidence to support its position that wild rice yields will increase at Hay Lake following the initiation of operation of a sulfate treatment system. As discussed in U. S. Steel's Site Specific Standard application that was submitted in 2022, the current sulfate levels in Hay Lake have been shown to be suitable for wild rice growth. Other factors, such as water depth, water level fluctuations, competing aquatic vegetation, wildlife predation, temperature, and climate change, have a greater impact on wild rice yields. In its preliminary determination, MPCA failed to show how reduced concentrations of sulfate would have a significant positive impact on wild rice if other factors in Hay Lake continue to negatively impact its growth.

U. S. Steel conservatively estimates the maximum retail value of wild rice grown on Hay Lake during a "boom year" is approximately \$15,000. This assumes wild rice growing on approximately 10 acres of Hay Lake at a yield of 200 pounds per acre (green rice)⁵, a 40 percent yield of dry finished rice following processing⁵, and a high retail value of \$18 per pound of finished rice⁶. This estimate also assumes that there are people who harvest wild rice from Hay Lake, which is unknown to U. S. Steel at the time of this submission. While a monetary value cannot be assigned to the cultural value of wild rice, U. S. Steel

⁵ **Agricultural Utilization Research Institute.** Native grain's yields improve with new varieties. *Ag Innovation News*. [Online] October 1, 2003. [Cited: August 13, 2025.] <https://auri.org/ag-innovation-news/oct-dec-2003/native-grains-yields-improve-with-new-varieties/>.

⁶ **White Earth Nation.** White Earth Nation – Urban Wild Rice Sale. [Online] November 6, 2024. [Cited: August 13, 2025.] <https://www.facebook.com/groups/395317591339688/posts/1602328433971925/>

includes this analysis in response to MPCA's comment that the variance application does ".....not address the benefits of treatment and therefore do not satisfy the second clause of Factor 3."

Factor 6

U. S. Steel has demonstrated that Factor 6 is applicable to the Keetac variance request. As the MPCA noted, U. S. Steel must demonstrate that controls more stringent than those required by sections 301(b) and 306 of the Act would result in substantial and widespread economic and social impact.

There is no definition of "substantial and widespread" economic impacts or "economic burden" in either federal rules at 40 CFR § 131.10(g)(6) or state rules at Minn. R. 7050.0190, subp. 4(A)(6) and Minn. R. 7000.7000 subp. 2E, respectively. Since there is no official definition, U. S. Steel and the MPCA rely on EPA's Interim Economic Guidance (1995)⁷ for the assessment of substantial and widespread impacts. Section 3.0 of this economic assessment guidance provides a process for a private entity to assess whether both substantial impacts on the permittee as well as widespread impacts on the surrounding community would likely result from compliance with the standards and their associated limits.

The EPA's Interim Economic Guidance identifies one primary metric and three secondary metrics to assess an applicant's financial situation and their ability to pay pollution control costs to comply with water quality standards. The primary metric is the profit rate before and after pollution controls, and the secondary metrics are current ratio, Beaver's ratio, and debt to equity ratio. Minn. R. 7000.7000, Subp. 2E requires examining financial metrics for the most recent three years to determine financial position and affordability for compliance costs.

The MPCA concluded that the primary metric (profit rate) demonstrates that U. S. Steel has sufficient profits to pay for pollution control costs, and therefore, substantial impacts on U. S. Steel would not result from compliance with water quality standards. While the MPCA noted that U. S. Steel's current ratio (a secondary metric and indication of a company's liquidity, or ability to pay short-term obligations) is lower than the EPA's general recommendation, the MPCA stated that a lower current ratio in and of itself is inadequate to prove weak overall finances, and therefore, variance eligibility. The MPCA concluded that U. S. Steel's Beaver's ratio (an indication of a company's long-term solvency and their likelihood of staying in business) was higher than the EPA's recommendation, indicating solvency, and that U. S. Steel's debt to equity ratio (which measures leverage, or the capacity to take on additional debt) indicates excellent debt capacity or higher than average ability to take on additional debt.

The MPCA compared the cost of treatment to the entire corporation's economic position. The EPA's Interim Economic Guidance, however, favors consideration at the facility level, with consideration at the firm level appropriate only if the former is not possible:

⁷ Environmental Protection Agency. *Interim Economic Guidance for Water Quality Standards: Workbook*. March 1995.

"[i]f the information is not available at the discharger level, it can be estimated from the balance sheets or income statements of the firm that owns or controls the discharger."

The EPA's Interim Economic Guidance gives an example of how to do this estimate:

One commonly used approach is to compare the discharger's sales or revenues to the firm's sales or revenues and apply this ratio to other financial factors. For example, if the discharge is responsible for 20 percent of its firm's revenues, then [sic] it is assigned 20 percent of the firm's current assets and current liabilities.

Following this approach, and as detailed further below, Keetac's profitability is substantially reduced – if not eliminated – by the pollution control costs. Keetac's 2024 revenues were approximately \$598 million (estimating average Keetac production at 5.2 million tons over two years^{8, 9} and average price of \$115 per ton¹⁰). Comparing this to U. S. Steel's 2024 revenue of \$15,640 million generates an estimation factor of 0.04. In other words, Keetac is estimated to account for approximately 4% of U. S. Steel's revenue, and this number should be used to adjust the MPCA's analysis.

U. S. Steel's variance application reported a profit rate of 0.07 with and without pollution control costs based on 2024 finances, although the percent change in profit rate due to pollution controls was calculated to be -9.2%. This decrease in profits for the U. S. Steel is approximately \$1,438.88 million, which means Keetac would experience a \$57.56 million loss. The profit rate appears to be identical before and after pollution controls due to rounding in the calculations, but U. S. Steel's profit would be significantly negatively impacted by the pollution control costs. However, this profit rate, which is the primary measure of financial impacts per the EPA's Interim Economic Guidance, was calculated for U. S. Steel at the corporate level, not at the facility level. Applying the 4% ratio to other financial factors in the original variance application, Keetac's resulting profit rate with pollution controls is estimated to be -0.10. Therefore, the Keetac facility would not be profitable when including pollution control costs. Section 3.2.a of the EPA's economic assessment guidance states: "[i]f the discharger is making a profit now but would lose money with the pollution control, then the possibility of a total shutdown or the closing of a production line must be considered." Table 1 compares Keetac's financial metrics to those of other firms in a similar line of business.

Table 1 Financial Metric Comparisons

Metric	Keetac Value	Typical Value for Firms in Similar Lines of Business ⁽²⁾
--------	--------------	---

⁸ **United States Geological Survey.** *Table 3: Iron Operations in the United States in 2022.* s.l. : National Minerals Information Center, 2024. Minerals Yearbook 2022, Vol. I. Metals and Minerals.

⁹ **United States Geological Survey.** *Table 3: Iron Operations in the United States in 2023.* s.l. : National Minerals Information Center, 2025. Minerals Yearbook 2023, Vol. I. Metals and Minerals.

¹⁰ **United States Geological Survey.** Mineral Commodity Summaries 2025. [Online] 2025. [Cited: July 30, 2025.] <https://pubs.usgs.gov/periodicals/mcs2025/mcs2025.pdf>.

Profitability (Profit Rate)	- 0.10 ⁽¹⁾	0.10
Liquidity (Current Ratio)	1.55	2.51
Solvency (Beaver's Ratio)	0.31	0.58
Leverage (Debt-to-Equity Ratio)	0.47	0.35

Notes:

- (1) Keetac's profit rate considering pollution control costs.
- (2) Based on 2024 Nucor public financials: https://s202.q4cdn.com/531038915/files/doc_financials/2025/ar/2024-Nucor-Annual-Report.pdf

With this facility-specific information, MPCA must reconsider its Preliminary Determination using factors consistent with EPA guidance. As discussed above, revenue from sales can be estimated at approximately \$598 million. This means that the annualized capital costs of the pollution control project (\$92 million) would constitute approximately 15% of sales, and annual operation and maintenance costs associated with the pollution control project (\$13 million) would be an additional 2-3% of sales.

The MPCA also must reconsider its Preliminary Determination because it contains no discussion of the capital expenditures for the pollution control project compared to annual capital expenditures for Keetac. Consistent with the EPA's Interim Economic Guidance, this can be estimated from the annual capital expenditures of Keetac's parent company, U. S. Steel. Capital expenditures for U. S. Steel were \$2,287 million in 2024¹¹. Using the EPA's Interim Economic Guidance, the EPA estimates Keetac expenditures as 4% of average parent company expenditures, resulting in an estimate of approximately \$91.48 million for Keetac capital expenditures. Using this metric, the annualized capital cost of the pollution control project exceeds Keetac's existing annual capital expenditures.

The pollution control costs associated with the sulfate treatment to levels in Keetac's NPDES permits, as they are currently proposed, are predicted to be \$105,166,000 annually. That equates to a selling cost increase of \$17.53 per ton of pellets. The Keetac facility would not be competitive in the iron ore markets with this additional cost. Consumers would find other sources of ore at much better pricing.

The MPCA also commented that the financial information provided in the variance request did not address the recent acquisition by Nippon Steel. As the EPA's Interim Economic Guidance requires examining financial metrics for the most recent three years, no post-acquisition financial data currently exists to use in this evaluation. Regardless, the sulfate standard as it is applied to the Keetac facility now without a variance and the associated water treatment costs will greatly impact the Keetac facility's profitability. The possibility of a total shutdown of the Keetac facility is a very real possibility if these levels of pollution controls are required in a timeframe that is infeasible both economically and technologically. If anything, the recent acquisition makes global iron ore more available as an option to the company as a whole, which makes the Keetac facility's profitability more critical for its future.

¹¹ U. S. Steel. 2024 Annual Report. [Online] [Cited: July 30, 2025.]
https://www.ussteel.com/documents/40705/23296043/FINAL%2BUSS_2024%2BAnnual%2BReport_with10K_%28no%2Bexhibits%29.pdf/6097f0d9-ebba-55a4-9baa-1b29892bb99d?t=1749712793425.

Closing

U. S. Steel appreciates the MPCA's comments during several recent public forums asking for additional financial information. The MPCA efforts to account for accurate and appropriate information in considering the variance request is critical and based on the information provided. We respectfully request reconsideration of the MPCA Preliminary Determination in light of the information included herein. We look forward to continuing the dialogue to improve the understanding of the environmental and economic impacts resulting from the decision to implement sulfate discharge limitations based on sulfate WQS for WUFPOWR¹².

Please let me know if you have any questions or would like to meet to discuss the variance request in more detail. You can reach me by phone at (218) 749-7364 or by email at clbartovich@uss.com.

Sincerely,



Chrissy Bartovich
Sr. Director – Environmental

¹² U. S. Steel maintains that the sulfate WQS for WUFPOWR are not appropriate to apply to Hay Lake for reasons also discussed herein and in other submissions