UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
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DEC 2 1 2016

REPLY TO THE ATTENTION OF
WN-15J

Ann Foss
Metallic Mining Sector Director
Minnesota Pollution Control Agency
520 Lafayette Road
St. Paul, MN 55155-4194

Re: U.S. Environmental Protection Agency Review of the Draft NPDES/SDS Permit for U.S. Steel Corp. – Minntac Tailings Basin Area, Permit No. MN0057207

Dear Ms. Foss:

The U.S. Environmental Protection Agency has reviewed the Minnesota Pollution Control Agency's (MPCA) draft National Pollutant Discharge Elimination System/State Disposal System (NPDES/SDS) permit and related documents which was public noticed on November 15, 2016. EPA is providing the following comments on the draft permit.

We are concerned that this draft permit as written does not address, under MPCA's approved National Pollutant Discharge Elimination System (NPDES) program and in accordance with the Clean Water Act (CWA), all discharges to surface waters from this tailings basin. MPCA acknowledges in the fact sheet that discharges from this 8,700 acre tailings basin are causing exceedances of surface water quality standards. Based on this and facts supporting this conclusion, the CWA requires all such discharges to surface waters from the tailings basin be authorized by an NPDES permit. The original NPDES permit, which was issued in 1987, did not contemplate the full extent of the discharges to surface waters from this facility. In the years between expiration of that permit and today the nature and water quality impacts of the discharges to surface waters have continued and are better understood.

As a result, there is a need for an NPDES permit that includes extensive and specific actions, and definitive timeframes for these actions that will result in attaining water quality standards in the receiving waters. MPCA's proposed approach would establish compliance schedules that do not set a date by which compliance with surface water quality standards will be achieved nor do they fully describe the steps necessary to achieve compliance with these standards. In addition, we are concerned that some of the statements in MPCA's draft fact sheet regarding EPA's interpretation of the scope of the NPDES program are incorrect and should be corrected prior to MPCA finalizing this draft permit.

In this case the tailings basin is a point source which, according to MPCA's own documentation is discharging pollutants to nearby surface waters in the Sand and Dark River watersheds via direct, unmonitored surface seeps and subsurface pathways, as well as to the Dark River via the monitoring point identified as SD001. The permittee, by its own documentation acknowledges

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that approximately 3,000 gallons per minute, or 4.3 million gallons per day are discharged from the tailings basin via subsurface seepage to the Sand and Dark River watersheds[1]. MPCA appears willing only to regulate the portion of the discharge to the Dark River that passes through Monitoring Station SD001 as a discharge requiring NPDES permit coverage.

The tailings basin is a point source that discharges pollutants to surface waters in the Sand and Dark River watersheds, which, as explained above is consistent with EPA's past interpretation that the CWA applies to discharges of pollutants from a point source to waters of the United States, including those made via ground water that has a "direct hydrologic connection" to surface water.[2] EPA's longstanding position is that a discharge from a point source to jurisdictional surface waters that moves through groundwater with a direct hydrological connection comes under the purview of the CWA's permitting requirements. *E.g.,* Amendments to the Water Quality Standards Regulations that Pertain to Standards on Indian Reservations, 56 Fed. Reg. 64,876, 64,982 (Dec. 12, 1991) ("[T]he affected ground waters are not considered 'waters of the United States' but discharges to them are regulated because such discharges are effectively discharges to the directly connected surface waters.").

The CWA's language prohibiting "any addition of any pollutant to navigable waters from any point source" does not limit liability only to discharges of pollutants *directly* to navigable waters. *See Rapanos v. United States*, 547 U.S. 715 at 743 (2006) (plurality op.) (emphasis in original). Courts have interpreted the CWA as covering not only discharges of pollutants directly to navigable waters, but also discharges of pollutants that travel from a point source to navigable waters over the surface of the ground or through underground means. *E.g., Sierra Club v. Abston Constr. Co.*, 620 F.2d 41, 44-45 (5th Cir. 1980). As one court noted, "it would hardly make sense for the CWA to encompass a polluter who discharges pollutants via a pipe running from the factory directly to the riverbank, but not a polluter who dumps the same pollutants into a man-made settling basin some distance short of the river and then allows the pollutants to seep into the river via the groundwater." *N. Cal. River Watch v. Mercer Fraser Co.*, No. 04-4620, 2005 WL 2122052, at *2 (N.D. Cal. Sept. 1, 2005).

The CWA defines point sources as follows:

> The term 'point source' means any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged. This term does not include agricultural stormwater discharges and return flows from irrigated agriculture. *33 U.S.C 1362(14)*

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[1] Liesch Associates, Inc. Memorandum to U.S. Steel. RE: January 2010 Minntac Tailings Basin Seep Estimate. January 26, 2010. (enclosed)

[2] See, Proposed National Pollutant Discharge Elimination System Regulations for Concentrated Animal Feeding Operations, 66 *Fed. Reg.* 2960, 3015 (Jan. 12, 2001); NPDES General Permits for Storm Water Discharges from Construction Activities, 63 *Fed. Reg.* 7,858, 7,881 (Feb. 17. 1998).

The need for an NPDES permit is highly dependent on the facts surrounding each situation. 66 *Fed. Reg.* at 3015; 63 *Fed. Reg.* at 7881. As EPA has explained:

> The determination of whether a particular discharge to surface waters via ground water which has a direct hydrologic connection is a discharge which is prohibited without an NPDES permit is a factual inquiry, like all point source determinations. The time and distance by which a point source discharge is connected to surface waters via hydrologically connected [ground] waters will be affected by many site specific factors, such as geology, flow, and slope. . . 66 *Fed. Reg.* at 3017.

The facts in this situation include the following and support a finding that the tailings basin point source is discharging pollutants to the nearby surface waters:

- The tailings basin is a container that holds tailings and wastewater
- The tailings basin is discharging pollutants to the surrounding surface waters through direct surface discharges and seeps and via subsurface flow which has a direct hydrologic connection as evidenced by:
  - Elevated pollutant concentrations in the receiving waters which are also present in the tailings basin waters
  - No other sources, or minimal other sources, contributing those pollutants to the same receiving waters,
  - Pre basin construction surface water quality data that demonstrate that the pollutants were not elevated in the receiving waters prior to basin construction, and
  - U.S. Steel's estimate that approximately 3,000 gallons of wastewater per minute are being discharged from the tailings basin to surface waters.

Receiving Waters – MPCA, by its own documentation acknowledges that pollutants are being discharged from the basin into the Sand River watershed. MPCA has even drafted compliance limits that apply in the Sand River watershed (although these limits do not have any effective date). However, the Sand River is not listed among the surface waters authorized to receive discharges under the draft NPDES permit. Failing to include the Sand River as a receiving water to which U.S. Steel is authorized to discharge under the NPDES permit would constitute a discharge of pollutants to surface waters in the absence of NPDES permit coverage, a violation of the Clean Water Act.

Timber Creek runs along the western side of the tailings basin and flows into the Dark River. There is evidence of ponding along the west side of the Basin, viewable from aerial imagery, indicating that pollutants are seeping from the basin directly into adjacent surface waters on the west side of the basin. It is likely that these pollutants are flowing into Timber Creek and reach the Dark River. Timber Creek is also not listed among the receiving waters to which U.S. Steel would be authorized to discharge to under this NPDES permit.

There is evidence, based on aerial imagery that the tailings basin is creating ponding in wetlands immediately adjacent to the basin on both the east and west sides. However, the permit would not authorize these discharges, as wetlands are not among the surface waters to which the permittee would be authorized to discharge and, if confirmed, would constitute a discharge of pollutants to surface waters in the absence of NPDES permit coverage, a violation of the Clean Water Act.

Compliance Schedule – MPCA has included some compliance limits in the draft permit that apply at certain surface water monitoring stations. However, these limits are not effective until the "Final Period". There is no definition of the "Final Period" in the draft permit. However, since MPCA has determined that the limits effective in the "Final Period" are necessary and there is no date at which they would be effective, the permit does not contain limits as stringent as necessary to ensure compliance with the applicable water quality requirements, as required by 40 C.F.R. § 122.4(d).

While the draft permit contains "compliance schedules" in three different Sections of Chapter 1, none of the schedules comport with 40 C.F.R. § 122.47, as they do not contain dates by which the permittee must attain compliance with final effluent limits, and do not contain enforceable milestones that ensure that the permittee is attaining compliance as soon as possible. An enforceable compliance schedule (or schedules) that contains a final compliance date is particularly important in light of the possibility that this NPDES permit is once again administratively continued for a long period of time. MPCA would be able to modify the schedule upon permit reissuance if new information becomes available that justifies a modification to the schedule.

Further, the draft permit includes schedules that require submittals of plans and schedules that then would become part of the permit. It appears that these submittals would constitute permit modifications that do not follow the procedures for modifying permits, including issuing public notice, in 40 C.F.R. § 124.

Limits and Monitoring Requirements –

Sandy and Little Sandy Lakes (a.k.a. the "Twin Lakes"), on the east side and downstream of the tailings basin, have been known to produce wild rice historically, as documented by the Minnesota Department of Natural Resources (MNDNR)[3] and in more recent years in a diminished capacity as documented by the 1854 Treaty Authority in their 2016 report.[4] The Sand River and Twin Lakes are downstream waters receiving discharges from the tailings basin and it appears that wild rice production is an existing use in these water bodies as defined by 40 C.F.R. § 131.3(e). Therefore, MPCA needs to include the Sand River in the draft NDPES permit including water quality based limits that will meet all applicable water quality standards [including the state's wild rice standard based on the documented wild rice stands in the Sand River and Twin Lakes, or explain why this standard does not apply].

Dark River at (SD001) - MPCA calculated WQBELs, shown in the fact sheet, for sulfate at 1221 mg/L daily maximum and monthly average of 1080 mg/L. The Draft Permit incorrectly expresses the monthly average limit as 1221 mg/L and does not contain the necessary daily maximum limit. Similarly, for specific conductance the fact sheet says that the daily maximum limit should be 1197 mg/L and the average monthly limit should be 1072 mg/L, but MPCA has only included an incorrect monthly average limit at 2430 mg/L. In addition, the fact sheet indicates that MPCA's calculation of the average monthly limit is based on 2x per month

[3] Minnesota DNR. Memo from Gerald McHugh, Wild Rice Coordinator, December 7, 1987 (enclosed)
[4] 1854 Treaty Authority. Sandy Lake and Little Sandy Lake Monitoring (2010-2016). Vegetation Surveys starting on Page 16. (enclosed)

monitoring, but the permit only requires 1x per month monitoring. No justification for the discrepancy is included in the Fact Sheet.

Class 1B Reach of the Dark River (AUID 09030005-525) – the fact sheet states that discharges from the tailings basin are contributing to an exceedance of water quality standards (sulfate) that applies in the section of the Dark River downstream of the tailings basin that is designated as a Class 1B water. MPCA is proposing to implement a limit based on the criteria that apply in the Class 1B reach at a compliance monitoring station upstream, rather than at a compliance point in the Class 1B segment. MPCA appears to be applying a rationale that the concentration of sulfate at the upstream location ("SW003") can be approximately double the criteria that must be met in the downstream Class 1B segment of the River, based in part on available dilution. It is unclear how MPCA can authorize a discharge, to a surface water that is not meeting criteria, and limit sulfate to more than double the concentration necessary to protect the criteria.

Reasonable Potential Analysis - MPCA has decided not to conduct a reasonable potential analysis for several parameters for which it has limited data pertaining to discharge characterization (despite the facility operating under an NPDES permit since 1987). MPCA should conduct the reasonable potential analysis with the information that it has, and in addition should add monitoring requirements to the draft permit, for all of the surface water and discharge monitoring stations, monthly monitoring for at least the following parameters that have been detected in the discharge: Selenium, Arsenic, Cobalt, Copper, Manganese, and Thallium.

Permit Modification – In a few paragraphs in the permit, MPCA requests that the company apply for permit modifications. As you are aware, the permit may be modified during its term for cause under 40 C.F.R. § 122.62. MPCA need not wait for the permittee to submit an application for permit modification, if, for example, MPCA promulgates and EPA approves new water quality standards that need to be applied in the permit, as this would be a cause for permit modification under 40 C.F.R. § 122.62(a)(2).

Federal Effluent Limitations Guidelines at 40 C.F.R § 440.10 - It is unclear how MPCA is implementing the zero discharge requirements at 40 C.F.R. § 440.12(c) which requires that the facility not discharge wastewater from mills… with the exception of "a volume of water equivalent to the difference between annual precipitation falling on the treatment facility and … the annual evaporation…". In this case the processing facility is located at the adjacent mining area which is covered under NPDES Permit No. MN0052493. In order to evaluate compliance with 40 C.F.R. § 440.12(c), discharges from the mining area permit and the tailings basin area permit would have to be considered. The permit would have to require monitoring and reporting of all of the discharges from the tailings basin rather than limiting the monitoring, reporting, and therefore the estimation of the volume of discharge, to just that which passes through the monitoring station at SD001.

Construction of Dark River Seep Collection and Return System - It is unclear why MPCA is requiring the permittee to build a Seep Collection and Return System on the west side of the basin. There is no basis for this requirement provided in the fact sheet, and to our knowledge there is limited information as to how the system is predicted to resolve outstanding water quality standards exceedances in the Dark River. In a letter from EPA to the St. Paul District Army Corps of Engineers dated September 16, 2015 regarding the pending CWA Section 404 application for the construction of the Dark River Seepage Collection and Return System (SCRS), we articulated concerns regarding the substantial changes in hydrology and loss of

function to wetlands within the project boundary as well as adjacent wetlands; specifically the effect the proposed discharges will have on water circulation, fluctuation, water chemistry[5] as well as secondary effects on aquatic ecosystems[6]. The wetlands and open water complexes within the project footprint, as both conduits and storage basins for mine tailings seep water, will be subjected to increased concentrations of mine tailings constituents (e.g. hardness, total dissolved solids, specific conductance, alkalinity and sulfate), thus resulting in lower quality wetlands with diminished functional capabilities. In the letter, EPA objected to the construction of the Dark River SCRS because of a lack of compliance with the 404(b)(1) Guidelines. As such, EPA recommended a comprehensive monitoring plan and additional compensatory mitigation be required to address our concerns regarding the determination of wetland impacts and compensatory mitigation requirements.

The comments provided in this letter transmit EPA's initial concerns with the draft permit. Please see the enclosure for additional comments that you should consider to improve the enforceability or clarity of the draft permit language. We look forward to working with you as we conduct a formal review of the permit consistent with Section II. of our Memorandum of Agreement. When the Proposed Permit is prepared, please forward a copy and any significant comments received during any public notice period to r5npdes@epa.gov. Please include the permit number, the facility name, and the words "Proposed Permit" in the message title. If you have any technical questions related to EPA's review, please contact Krista McKim at (312) 353-8270 or at mckim.krista@epa.gov.

Sincerely,

Kevin M. Pierard, Chief
NPDES Programs Branch

cc: Erik Smith, MPCA

Enclosures:

Enclosure A: Additional comments

Liesch Associates, Inc. Memorandum to U.S. Steel. RE: January 2010 Minntac Tailings Basin Seep Estimate. January 26, 2010.

Minnesota DNR. Memo from Gerald McHugh, Wild Rice Coordinator, December 7, 1987

1854 Treaty Authority. Sandy Lake and Little Sandy Lake Monitoring (2010-2016). (enclosed)

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[5] 40 CFR § 230.11(b)
[6] 40 CFR § 230.11(h)

Monitoring Station Location information
We recommend that you provide latitude-longitude coordinates in the monitoring station identification descriptions to improve the precision of this information in the permit and fact sheet

Throughout the draft permit MPCA interchanges different names for monitoring stations. For example, "CR668" is sometimes used to refer to SW003 or D-1. To improve the clarity of the permit, we suggest MPCA revise the permit to refer to monitoring stations by the same name throughout the permit.

Internal outfall monitoring stations WS002, WS003, WS004, WS005, WS006 and WS007 were all removed from this permit when compared to the previous draft. Please provide an explanation as to why monitoring at these locations is no longer needed or desired.

Please provide an explanation as to why the limit for oil and grease and monitoring for dissolved oxygen at SD001 have been removed from this draft permit when compared to the previously issued permit.

Please provide an explanation as to why dissolved oxygen monitoring requirements were removed from the surface water monitoring stations in the draft permit

Please explain why the monitoring station SW004, which was proposed in the pre-public notice draft of the permit that EPA reviewed in 2014 to be located in the Class 1B reach of the Dark River has been removed completely from this draft of the permit.

Please explain why monitoring for sulfate was removed for monitoring station SW005 during the final period.

Compliance Schedule at Chapter 1.1.1:
MPCA has included a schedule in the draft permit to require the permittee to reduce the concentration of sulfate in the basin pool water ultimately to 357 mg/L "within ten years of permit issuance, or the shortest reasonable period of time…". If MPCA intends for this schedule to end after ten years, the language should be revised to be clear that ten years is the maximum amount of time allotted to the permittee in this schedule. Also, neither this schedule nor any other included in the draft permit comports with 40 C.F.R. § 122.47.

Compliance Schedule starting at Chapter 1.1.6:
Aside from this schedule also failing to meet the requirements of 40 C.F.R § 122.47 because it lacks enforceable milestones, and a final compliance date, the schedule also appears to remove from MPCA the ability to approve any of the plans and schedules that the permittee would submit under the schedule. We recommend that the language be changed to provide the

permittee with explicit plan requirements, specifications, quality assurance and milestones for any plan to allow the permittee to move forward in implementation of the plan once it is developed in accordance to those requirements. Such plans should be provided to MPCA 30 days prior to implementation. The permit should contain explicit, enforceable milestones that require the permittee to make progress toward and ultimately achieve compliance with water quality standards.

Compliance Schedule starting at Chapter 1.1.22

While this schedule does require the permittee to construct and operate the Seep Collection and Return system by a date certain, and the text refers to monitoring requirements at SW003, there is no link to any "Final Period" or date at which the sulfate limit that is effective in the final period would come into effect. Therefore, this schedule also fails to comport to 40 C.F.R. § 122.47. Further, the schedule indicates that the permittee or MPCA would be evaluating the "mathematical relationship" of results from samples taken at "CR668" and "CR65" for 12 months. The text does not explain what the mathematical relationship should be compared to or evaluated against. There are no monitoring requirements in the permit at "CR65" (a.k.a. SW004), so it is unclear how the permittee is supposed to compare new data taken from the crossing of CR65 at the Dark River to data taken at SW003 (a.k.a. "CR668"). It is also not clear what MPCA is requiring the permittee to request in terms of a permit modification in this paragraph. As stated earlier, MPCA can modify the permit for cause under 40 C.F.R § 122.62, and would not necessarily need the permittee to apply for a permit modification if one of the causes listed in 40 C.F.R. § 122.62(a) are present.

Whole Effluent Toxicity Testing

Whole Effluent Toxicity (WET) testing is required by the draft permit in the Sand River watershed at SW005, which is over a mile from the basin. WET testing should be conducted on the effluent, and therefore on a sample taken from a monitoring station closer to the basin so that the sample can be as representative of the effluent as possible.