

Fact Sheet/Public Notice of intent to deny the Application of U.S. Steel Minntac for a Variance to Water Quality Standards

Industrial Wastewater Permitting
NPDES/SDS Permit MN0057207

General information

Public comment period begins: December 7, 2017

Public comment period ends: 4:30 p.m. on January 24, 2018

Public Hearing: January 23, 2018 (4:00 pm- 6:00 pm) Details in Section VI

Current permit issued: September 30, 1987

Current permit expiration date: July 31, 1992

The Minnesota Pollution Control Agency (MPCA) Commissioner has made a preliminary determination to deny this application for a variance from select Water Quality Standards.

Name and address of Permittee:

U.S. Steel Corporation
600 Grant Street
Pittsburgh, Pennsylvania 15219

Facility name and location:

U.S. Steel Minntac Tailings Basin
County Road 102
Mt. Iron, Minnesota 55768

MPCA contact person:

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Description of Preliminary Variance Request Determination

The preliminary determination to not grant these variance requests is tentative.

The Minnesota Pollution Control Agency (MPCA) issues this document to notify the public of the Commissioner's preliminary decision regarding certain variances requested by United States Steel Corporation ("U.S. Steel") in relation to its Minntac ore processing facility in Mountain Iron, Minnesota. U.S. Steel has applied for variances from the following water quality standards as applied to waters impacted by pollutants from the Tailings Basin at its Minntac processing facility, which is governed by National Pollutant Discharge Elimination System/State Disposal System (NPDES/SDS) permit MN0057207:

- Sulfate and total dissolved solids (TDS) in groundwater for 20 years;
- Sulfate, specific conductance, TDS, hardness, and bicarbonate at SD001 until the Dark River seepage collection and return system (SCRS) is operational, and;
- Sulfate, specific conductance, TDS, hardness, and bicarbonate in surface waters for 20 years.

Upon review of the applications, the Commissioner has made the preliminary determination that U.S. Steel has not satisfied the conditions necessary to grant a variance and as a result the Commissioner has made the preliminary determination not to grant the variances requested.

I. BACKGROUND

The MPCA is authorized to grant variances. Minn. Stat. § 116.07, subd. 5. As the state agency delegated to implement the Clean Water Act, 33 U.S.C. 1251 et seq., MPCA has the authority to grant variances from water quality standards. Minn. Stat. § 115.03, subd. 5; Minn. Stat. § 115.03, subd. 1(e).

For variances to state water quality standards applicable to point source discharges, which have permit effluent limits based on surface water quality standards, a variance is "a temporary change in a state water quality standard for a specified pollutant that reflects the highest attainable conditions for a permittee during the term of the variance." Minn. R. 7050.0190, subp. 1. U.S. Environmental Protection Agency (U.S. EPA) approval is required. See 40 CFR § 131.14; Minn. R. 7050.0190, subp. 4. To be approved, the variance must fall into a category defined in state and federal law. Minn. R. 7050.0190, subp. 4; 40 CFR § 131.10(g). For variance requests affecting surface waters, an applicant must satisfy at least one of the following:

- (1) Naturally occurring pollutant concentrations prevent the attainment of the use; or

- (2) Natural, ephemeral, intermittent or low flow conditions or water levels prevent the attainment of the use, unless these conditions may be compensated for by the discharge of sufficient volume of effluent discharges without violating State water conservation requirements to enable uses to be met; or
- (3) Human caused conditions or sources of pollution prevent the attainment of the use and cannot be remedied or would cause more environmental damage to correct than to leave in place; or
- (4) Dams, diversions or other types of hydrologic modifications preclude the attainment of the use, and it is not feasible to restore the water body to its original condition or to operate such modification in a way that would result in the attainment of the use; or
- (5) Physical conditions related to the natural features of the water body, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality, preclude attainment of aquatic life protection uses; or
- (6) 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.

Minn. R. 7050.0190.

For a variance to standards **other** than surface water standards addressed by Minn. R. 7050.0190, "Variance" means:

an authorization from the board or commissioner that grants an exemption from the requirements of any rule or standard of the agency and which does not require compliance with the rule or standard for the duration of the authorization. "Variance" does not include permits, stipulation agreements, schedules of compliance, or any modifications thereto, or any order of the board or commissioner which allows interim operation during completion of a compliance program, nor does variance include a time extension of an existing variance.

Minn. R. 7000.7000.

U.S. EPA approval of such variances is not required. To grant a variance from a non-surface water standard, the MPCA must find that the variance is necessary to avoid undue hardship and to promote the effective and reasonable application and enforcement of laws, rules, and standards for prevention, abatement and control of water, air, noise, and land pollution. *Minn. Stat. § 116.07, subd. 5.*

For variances from standards adopted to protect underground waters, the MPCA may grant a variance if it finds:

. . . that by reason of exceptional circumstances the strict enforcement of any provision of these standards would cause undue hardship, that disposal of the sewage, industrial waste, or other waste is necessary for the public health, safety, or welfare, or that strict conformity with the standards would be unreasonable, impractical, or not feasible under the circumstances, the agency in its discretion may permit a variance therefrom upon such conditions as it may prescribe for prevention, control, or abatement of pollution in harmony with the general purpose of these standards and the intent of the applicable state and federal laws.

Minn. R. 7060.0900.

II. HISTORY

In July 2011, the MPCA and U.S. Steel entered into a schedule of compliance agreement (2011 SOC) in which U.S. Steel committed to certain actions to reduce pollutants originating from its Tailings Basin.

On November 15, 2016, the MPCA published a proposed reissued permit for the Tailings Basin ("Draft 2016 Permit") for public comment. During the public comment period, U.S. Steel and other parties submitted numerous comments. In addition to its comments, U.S. Steel also submitted the variance requests that are the subject of this Notice.

Based on the public comments received, including comments from U.S. Steel, the MPCA has made the preliminary determination to make certain changes to the Draft 2016 Permit, including changes that affect the decision on the variance requests submitted by U.S. Steel.

III. DRAFT PERMIT and REVISIONS

The Draft 2016 Permit required U.S. Steel to reduce the level of pollutants in its Tailings Basin wastewater because that is the major source of the pollutants entering the groundwater and surface water.

The Draft 2016 Permit required U.S. Steel to reduce sulfate concentrations in Tailings Basin pool water to 800 mg/L in 5 years and 357 mg/L in 10 years.

The MPCA based the Tailings Basin pool water sulfate concentrations and compliance dates on reports and proposals that U.S. Steel had submitted previously to the MPCA, including a June 2013 report prepared for U.S. Steel by Conestoga-Rovers & Associates which predicted that a basin sulfate concentration of 357 mg/L would ensure that the 250 mg/L sulfate standard in groundwater would be met at the facility property boundary. Although the Draft 2016 Permit required U.S. Steel to reduce sulfate concentrations in Tailings Basin pool water to the specified levels, the Draft 2016 Permit also required U.S. Steel to conduct research on the Tailings Basin, and allowed U.S. Steel to propose an alternative sulfate concentration if supported by adequate scientific evidence.

The MPCA expects to retain these requirements in a reissued permit. The MPCA will make explicit that the permit will need to be amended if U.S. Steel submits adequate support for a different sulfate concentration or timeline.

In addition to the requirement to reduce sulfate concentrations in the Tailings Basin pool water, the Draft 2016 Permit required U.S. Steel to monitor the surface waters near the basin and investigate pollutant sources and flowpaths, but did not establish any deadline for compliance with applicable water quality standards for pollutants reaching the surface waters through groundwater. Instead, the Draft 2016 Permit required U.S. Steel to inform the MPCA of when it would be capable of meeting the water quality standards in surface water based on the findings of its studies and proposed mitigation strategy.

The Draft 2016 Permit included the outstanding requirement from the 2011 SOC that U.S. Steel install a system to recapture shallow basin seepage on the west side of the basin. After installing this system, U.S. Steel would no longer have any outfalls that are authorized to discharge basin water to the surface waters. The 2011 SOC originally anticipated this system would be operational in 2013, but due to delays in wetland permitting efforts this has not occurred. Therefore, the Draft 2016 Permit included a deadline to have the SCRS operational by December 31, 2017. MPCA intends to retain the permit requirement to construct the SCRS but intends to modify the final date to have the system in place. The modified date will be to have the system operating within one year of NPDES/SDS permit issuance. MPCA will specifically note in the permit that extensions will not be granted unless U.S. Steel has provided timely and complete applications necessary to secure the required approvals of other agencies and has provided timely and complete responses to any requests for information needed to process the applications. The MPCA intends to remove water quality-based limits that were applicable before the SCRS is in place because the MPCA has determined that treatment during this time period is not feasible. The schedule of compliance in the permit will require cessation of the discharge by a time certain.

IV. VARIANCES REQUESTED

On December 23, 2016, U.S. Steel submitted comments on the Draft 2016 Permit to the MPCA and requested a contested case hearing. U.S. Steel also submitted variance requests.

U.S. Steel applied for variances from the sulfate and TDS water quality standards in Minn. R. 7050.0221 designed to protect the Class 1 (drinking water) beneficial use in groundwater, and also for sulfate, specific conductance, TDS, hardness, and bicarbonate water quality standards in Minn. R. 7050.0222 and 7050.0224 designed to protect the Class 1B (drinking water), 3 (industrial) and 4 (agriculture and wildlife) beneficial uses in surface waters. For the surface water variances, U.S. Steel claims that it meets the criteria in 40 CFR § 131.10(g) subsections 2, 3, and 6. The criteria are flow conditions preventing the attainment of the use (item 2), human-caused conditions (item 3), and economic feasibility (item 6).

Pursuant to Minn. R. 7000.7000, subp. 4, the Commissioner has prepared a public notice of the Commissioner's preliminary intent to issue or deny a variance.

V. REASONS WHY THE VARIANCES ARE NOT JUSTIFIED

Upon preliminary review of the variance applications and supporting materials, and in consideration of proposed changes to the Draft 2016 Permit based on public comments, the Commissioner has determined that U.S. Steel has not satisfied the conditions necessary to grant the requested variances and the Commissioner has therefore made the preliminary determination to deny the applications.

Groundwater Variance

As the basis for its groundwater variance request, U.S. Steel asserts that it would not be economical, and that it would be unreasonable, impractical or not feasible under the circumstances to comply with the standards, and that compliance with permit limits is not necessary to meet the intent of the law.

In support of the groundwater variance, U.S. Steel argues:

- It is unreasonable to require U.S. Steel to spend millions of dollars to control sulfate and TDS (which is a measure of dissolved ions in water) when these standards being enforced are the same as the U.S. EPA's "secondary" drinking water standards, i.e., standards that are aesthetic and not health considerations.
- Natural conditions present in waters near its basin, i.e., iron and manganese, exceed standards, making the use of the groundwater for potable water unlikely even if U.S. Steel was to control its sulfate and TDS.
- The requirement for groundwater at GW012 and GW013 to meet final limits in 5 years is impractical because of groundwater flow. U.S. Steel asserts that the travel time between the tailings basin pond and the property boundary near GW012 is approximately 10 to 25 years. As a result, even if U.S. Steel was to reduce tailings basin water pollution in 5 years, it would not result in compliance at the property boundary within the term of the permit.

U.S. Steel proposes, while the variance is in effect, to continue to study a proposed system for localized, in-situ treatment of groundwater called the permeable reactive barrier (PRB) system, which U.S. Steel chose to implement to help control groundwater pollution under the 2011 SOC.

Preliminary determination:

The Commissioner has made the preliminary determination to reject U.S. Steel's request for the following reasons.

The Commissioner rejects U.S. Steel's argument that the groundwater standards derived from "secondary" drinking water quality standards do not need to be enforced. The drinking water quality standards in question have been adopted as water quality standards by Minnesota in Minn. R. 7050.0221, subp. 1(B). As a result, the standards receive the same treatment as all other water quality standards and are enforceable under state law. The standard provided a basis for the 2013 amendment to a 2011 Schedule of Compliance ("2011 SOC") signed by U.S. Steel.

The Commissioner acknowledges U.S. Steel's rationale for a variance on the basis that hydrogeologic conditions prevent immediate compliance. However, the Draft 2016 Permit did not require immediate compliance with the applicable standards, and the Commissioner is willing to set the compliance date based on valid information on travel times. U.S. Steel has asserted in documents submitted to satisfy requirements of the 2011 SOC that compliance with sulfate and TDS groundwater standards at the property boundary near wells GW012 and GW013 will be achieved by 2025 using PRBs that are currently being pilot tested. Based on this representation, the Commissioner proposes to extend the final compliance date in the Draft 2016 Permit to December 30, 2025, to align with the 2011 SOC, which is still in effect. If additional site investigations of groundwater movement conducted under the permit compliance schedule demonstrate that the final limit cannot be met by this date, the schedule can be modified to account for the new information. Because of this proposed change to the schedule in the Draft 2016 Permit, no variance is necessary at this time.

The Commissioner disagrees with U.S. Steel's argument that natural background conditions, including elevated iron and manganese, justify granting a variance from TDS and sulfate standards. As provided in Minn. R. 7060.0400, being "suitable" for use as a drinking water source means that "the waters in their natural state can be used for such purposes after such purification or treatment processes as may be prescribed by the Minnesota Department of Health." The MPCA finds that naturally occurring iron and manganese are more easily treatable with an inexpensive, in-situ device (e.g., water softeners or sand filters) than sulfate and TDS. As a result, the waters in their natural conditions (elevated iron and manganese) could still be used for drinking water.

The Commissioner further disagrees with U.S. Steel's position that it is unreasonable to apply the water quality standards because of the lack of access to use groundwater for drinking water due to U.S. Steel's ownership of the property. As U.S. Steel admitted in its variance application, groundwater migrates over time. In addition, property ownership boundaries are easily changed, which could result in access to affected groundwater in the future. Minn. R. 7060.0400 expressly states that groundwater should be classified "now or in the future" to protect drinking water, among other purposes.

Because U.S. Steel agreed to meet the groundwater standards pursuant to the 2011 SOC and adequate time will be provided under the terms of the proposed permit to allow U.S. Steel to comply, no variance can be justified at this time on the ground of undue hardship.

SD001 Variance

U.S. Steel seeks a variance from interim water quality standards for surface discharge station SD001 from select constituents from Class 1B, Class 3, and Class 4 water quality standards ("SD001 variance"). Under the 2106 Draft Permit, these limits apply until U.S. Steel eliminates SD001 by building the SCRS system required by the permit.

U.S. Steel proposes alternative limits to be applied under the variance. U.S. Steel requests the variance until the Dark River SCRS is operating as intended, tying the interim permit limits to the date when the SCRS is operating as intended with no future NPDES discharge at SD001. U.S. Steel anticipates that this time period is anticipated to be less than the five year permit term.

Preliminary determination:

The Commissioner has made the preliminary determination to reject U.S. Steel's request for the following reasons.

The Draft 2016 Permit contained technology based effluent limits (TBELs) prescribed in 40 CFR pt. 440, subp. A—Iron Ore Subcategory, as well as water quality based effluent limits (WQBELs) to protect drinking water (applicable in downstream waters), industrial consumption, agricultural irrigation, and wildlife at SD001. The Draft 2016 Permit also proposed WQBELs for sulfate and specific conductance on an interim basis until installation and operation of the Dark River Seepage Collection & Return System. Limits were to remain in force after installation of the SCRS.

Under the terms of the 2011 SOC, no NPDES discharge would be allowed after the Seepage Collection & Return System begins operation. As U.S. Steel argued in its variance application and in public comments on the Draft 2016 permit, there are no treatment systems in place to control the discharge in the interim. After considering these requests, MPCA has concluded that it would be reasonable not to impose the interim limits in the permit. Consistent with the 2011 SOC, MPCA will include a permit condition that prohibits any surface discharge from seeps near the Dark River Seepage Collection & Return System after it is operational, in lieu of imposing final limits. Because the discharge must be eliminated, the final water quality-based effluent limits in the Draft 2016 Permit would have no effect and can also be eliminated.

A variance from water quality standards applies when an individual point source discharger requests modification "for any water quality-based effluent limit based on a water quality standard." Minn. R. 7050.0190, subp. 1. Because the MPCA will not include limits on SD001 in the permit, there is no water quality-based effluent limit to which a variance can apply. Any discharge from SD001 after the SCRS begins operating would constitute an unauthorized discharge in violation of the terms of the permit.

Surface Water Variance

U.S. Steel seeks a variance from water quality standards for select surface waters and surface water monitoring locations for upper Dark River, Timber Creek, Sand River, Admiral Lake, Little Sandy Lake, and Sandy Lake from Select Constituents for Class 1B, Class 3, and Class 4 Water quality standards (“surface water variance”).

U.S. Steel seeks a variance from the final numeric limits for select parameters applicable in the “shortest reasonable period of time” under the Draft 2016 Permit. Instead, U.S. Steel requests a variance for the surface water monitoring stations remain in place for 20 years because “water quality standards are unlikely to be achieved until groundwater that is un-impacted by the tailings basin migrates beyond the permitted surface water stations. Groundwater modeling results support that 20 years is a minimum time period to achieve adequate transport and attenuation of groundwater beyond the permitted surface water stations.” (U.S. Steel Variance Application at 11)

Preliminary determination:

The Commissioner has made the preliminary determination to reject U.S. Steel’s request for the following reasons.

The Commissioner finds that the relief requested in the form of a variance from select surface water standards is unnecessary because similar relief is already provided by the schedule of compliance within the Draft 2016 Permit. The Draft 2016 Permit, while listing the applicable water quality standards at surface water monitoring stations, does not define the date when these limits would be enforced. Instead, it requires U.S. Steel to determine when compliance could be achieved based on pollutant travel times and U.S. Steel’s proposed mitigation. Thus, the Draft 2016 Permit provides U.S. Steel sufficient time to meet limits by the method of its choosing and there is no need for a variance. The only limitation imposed by the schedule of compliance is that compliance be achieved in the shortest reasonable period of time as required by Minn. R. 7001.0150 subp. 2(A). U.S. Steel has proposed a 20 year variance period as the minimum time needed. If that duration is confirmed by research conducted under the Draft 2016 Permit schedule of compliance requirements, then future permits would adopt that timetable.

VI. PUBLIC COMMENTS AND PUBLIC MEETING

Written Comments

You may submit written comments on the Commissioner’s preliminary determination until 4:30 pm on January 24, 2018.

Written comments must include the following:

- 1) A statement of your interest:
- 2) A statement of the action you wish the MPCA to take: and
- 3) The reasons supporting your position, stated with sufficient specificity as to allow the Commissioner to investigate the merits of your position.

Public Hearing

As required by Minn. R. 7050.0190, subp. 6, the Commissioner has scheduled a public hearing at the following time and location: Tuesday, January 23, 2018 (4:00 pm to 6:00 pm), Mountain Iron Community Center - Iroquois Room, 8586 Enterprise Dr S, Mountain Iron, MN 55768

The hearing will entail a brief summary presentation, an opportunity to ask clarifying questions, and a period to make verbal comments regarding the preliminary variance decision. Forms to submit written comments will also be available.

Petition for Contested Case Hearing

You also may submit a petition for a contested case hearing within the period established for acceptance of public comments. A contested case hearing is a formal evidentiary hearing before an administrative law judge. In accordance with Minn. R. 7000.1900, the MPCA will grant a petition to hold a contested case hearing if it finds that: (1) there is a material issue of fact in dispute concerning the notice of intent to deny the application for a variance and deny permit issuance; (2) the MPCA has the jurisdiction to make a determination on the disputed material issue of fact; and (3) there is a reasonable basis underlying the disputed material issue of fact or facts such that the holding of the contested case hearing would allow the introduction of information that would aid the MPCA in resolving the disputed facts in making a final decision on the denial of the variance application and permit issuance. A material issue of fact means a fact question, as distinguished from a policy question, whose resolution could have a direct bearing on a final MPCA decision.

A petition for a contested case hearing must include the following information:

- 1) A statement of reasons or proposed findings supporting the MPCA decision to hold a contested case hearing according to the criteria in Minn. R. 7000.1900, as discussed above.
- 2) A statement of the issues proposed to be addressed by a contested case hearing and the specific relief requested or resolution of the matter.

In addition and to the extent known, a petition for a contested case hearing should also include the following information:

- 1) A proposed list of prospective witnesses to be called, including experts, with a brief description of proposed testimony or summary of evidence to be presented at a contested case hearing.
- 2) A proposed list of publications, references, or studies to be introduced and relied upon at a contested case hearing.
- 3) An estimate of time required for you to present the matter at a contested case hearing.

MPCA decision

After receiving comment, the MPCA Commissioner will make a final decision on whether to deny the application for variances from state water quality standards.

Comments, petitions, and/or requests must be submitted in writing on or before the end date of the public comment period identified on page 1 of this notice to:

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Saint Paul, MN 55155
651-757-2719 or erik.smith@state.mn.us