



STATE OF MINNESOTA  
**Minnesota Pollution Control Agency**

**Industrial Division**

**National Pollutant Discharge Elimination System (NPDES)/  
 State Disposal System (SDS) Permit MN0067687**

**PERMITTEE:** Mesabi Nugget Delaware LLC  
**FACILITY NAME:** Mesabi Nugget  
**RECEIVING WATER:** Second Creek (Class 2B,3C,4A,4B,5,6 water)

**CITY OR TOWNSHIP:** Hoyt Lakes                                      **COUNTY:** St. Louis  
**ISSUANCE DATE:**    **EXPIRATION DATE:**

The state of Minnesota, on behalf of its citizens through the Minnesota Pollution Control Agency (MPCA), authorizes the Permittee to operate a disposal system at the facility named above and to discharge from this facility to the receiving water named above, in accordance with the requirements of this permit.

The goal of this permit is to reduce pollutant levels in point source discharges and protect water quality in accordance with Minnesota and U.S. statutes and rules, including Minn. Stat. chs. 115 and 116, Minn. R. chs. 7001, 7050, 7052, 7053, 7060, 7090.3000 through 7090.3080, and the U.S. Clean Water Act.

This permit is effective on the issuance date identified above, and supersedes the previous permit that was issued for this facility on July 29, 2005, and most recently modified February 24, 2011. This permit expires at midnight on the expiration date identified above.

*Signature:* \_\_\_\_\_  
 Jeff Udd, P.E. for The Minnesota Pollution Control Agency  
 Supervisor, Water Quality Permits Unit  
 Land and Water Quality Permits Section  
 Industrial Division

**Submit DMRs to:**  
 Attention: Discharge Monitoring Reports  
 Minnesota Pollution Control Agency  
 520 Lafayette Rd N  
 St Paul, MN 55155-4194

**Questions on this permit?**

- For DMR and other permit reporting issues, contact: Tamara Dahl, 507-476-4252.
- For specific permit requirements or permit compliance status, contact: John Thomas, 218-302-6616.

**Submit Other WQ Reports to:**  
 Attention: WQ Submittals Center  
 Minnesota Pollution Control Agency  
 520 Lafayette Rd N  
 St Paul, MN 55155-4194

- General permit or NPDES program questions, contact: MPCA, 651-282-6143 or 1-800-657-3938.

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## Facility Description

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The Mesabi Nugget Delaware, LLC facility (facility) is located in Section 24, Township 59 North, Range 15 West, Aurora, St. Louis County, Minnesota. The principal activity at this facility is the production of iron nuggets from iron ore concentrate at a rate of 600,000 metric tons per year (661,400 short tons per year). The nuggets are approximately 96-98% iron, and can be fed directly into electric arc furnaces (mini-mills) as well as to foundries and blast furnaces at conventional integrated iron and steel manufacturing facilities. The facility consists of all manufacturing, conveyance and storage facilities, the Area 1 Pit, and non-sewage wastewater treatment systems within the area designated on the map included in this permit for water treatment.

Raw materials for nugget manufacturing consists of iron ore concentrate, various coals, fluxes, and binders. All raw materials are delivered by rail, truck, pneumatic truck, or in bulk supersacks with the iron ore concentrate stored in storage piles and the other raw materials stored in bins and/or storage piles in an adjacent storage yard.

Coals, fluxes, binders, and iron ore concentrate are mixed and formed into green balls (similar to taconite operations). The balls are dried and fed to a rotary hearth furnace where they undergo reduction and are converted to metallic iron and slag material. The iron and slag are cooled and separated, and then loaded directly into rail cars or stored in onsite piles for shipment at a later date.

Mesabi Nugget appropriates water from the Area 1 Pit at an approximate average and maximum rate of 2.9 million gallons per day – MGD (2000 gallons per minute – gpm) and 7.2 MGD (5000 gpm), respectively. This water is supplied for process temperature control (contact and non-contact cooling) and for process water, including for the wet scrubber system. If additional water is needed, water can be supplied from the Area 2WX or Area 9 Pits. For water conservation purposes, a majority of the makeup water is sequentially cycled and cascaded from the clean (non-contact) cooling system to the process (contact) cooling system to a wet scrubber air pollution control system. Rotary hearth off-gases are passed through the wet scrubber system for control of particulates, sulfur dioxide, acid gases and metals, including mercury. Blowdown from the scrubber system, at an approximate average and maximum rate of 1100 gpm and 2000 gpm is routed to a multi-stage wastewater treatment system for treatment prior to discharge. A portion of the makeup water that is used for once-through, non-contact cooling and seal water (approximate average 400 gpm and maximum 800 gpm) is routed directly back to the Area 1 Pit.

The wastewater treatment system employs chemical coagulation and precipitation to remove sulfate, fluoride, solids and metals, followed by filtration through a Mesabi Nugget developed filtration system (MNC Mercury Filter – patented) for enhanced mercury removal (if needed to meet permit limits). Chemical precipitation is accomplished using a one stage metals removal and softening system employing lime, ferric chloride, cationic and anionic polymers and caustic soda to precipitate metal hydroxides and metal sulfides. The precipitate generated is passed through a filter press or other filtration device with the solids disposed off site in an approved landfill, or used for beneficial reuse upon approval. The effluent from the chemical precipitation system is then routed through the first of two MNC Mercury Filter units, (if needed to meet permit limits), for mercury removal, and from there into a multimedia filter, and then the west end of the Area 1 Pit. The MNC Mercury Filter units are proprietary filtration systems utilizing taconite tailings as the filtration media. Water from the east end of the Area 1 Pit can then be routed into a second MNC Mercury Filter Unit for final mercury removal prior to discharge, if needed to meet permit limitations. The final treated effluent is piped through Outfall SD001 for direct discharge to Second Creek at an average and maximum rate of 1.5 MGD (1065 gpm) and 5.8 MGD (4000 gpm) respectively. Second Creek is a Class 2B, 3C, 4A, 4B, 5 and 6 water under Minn. R. Ch. 7050.0430 and an Outstanding International Resource Water (OIRW) according to Minn. R. Ch.

7052. Outfall SD001 is the same outfall as was previously permitted as Outfall SD003 in the NPDES/SDS permit for the Cliffs Erie (formerly LTV Steel Mining Company) Mining Area (MN0042536).

A variance from the Class 3C water quality standard for hardness and the Class 4A water quality standards for specific conductance, total dissolved salts (solids) and bicarbonates is included in this permit. As a result of the variance, the permit includes interim effluent limitations for the variance parameters during the life of this permit reissuance with final effluent limitations becoming effective as defined by the variance schedule in the permit language. Stream monitoring upstream and downstream of the discharge point for the variance parameters is required.

Tailings to be used as the filtration media in the MNC Mercury Filter Units will be obtained from ArcelorMittal near Virginia, Minnesota or other locations upon approval. Spent filtration media removed from the MNC Mercury Filter Units will be disposed of at an approved location or solid waste disposal facility. Slag generated during the nugget manufacturing process, at an approximate rate of 100,000 metric tons per year, will be stored on site for future sale or beneficial reuse or disposed of at an approved facility or location.

Chemical additives proposed for use at the water treatment system include various softening agents and water treatment chemicals in the makeup water softening system, various anti-scalants, corrosion inhibitors and biocides in the cooling water systems, and various softening agents, flocculants, pH adjusters and polymers in the wastewater treatment systems. Chemical additives and their usage rates are listed in Chapter 7. Industrial Process Wastewater. Dust suppression at the storage area will be accomplished primarily with water application, with the supplemental use of approved chemical dust suppressants.

Stormwater from the plant area and the raw material/product storage areas will be collected and routed to two on-site sedimentation basins for solids settling. The east sedimentation basin has a manual valve which is connected to Area 1 Pit as well as a sump pump and piping which connects to the on-site water treatment system. The west sedimentation basin does not have a physical outlet structure. Excess stormwater from the west sedimentation basin is manually pumped to the on-site water treatment system. Water treated by the onsite treatment system is directed to the Area 1 Pit, and subsequent discharge through Outfall SD001. Sewage generated at the facility is stored in a holding tank and hauled to local municipal wastewater treatment plants.

The Permittee is authorized to transfer water from the Area 1 Pit to the Area 2WX Pit for the purposes of managing facility water inventory and minimizing the impact of the SD001 discharge on the receiving water, as authorized by the previous permit.

The location of the facility is shown on the "Topographical Map of Permitted Facility" page. The location of designated monitoring stations is specified on the "Summary of Stations and Station Locations" page.

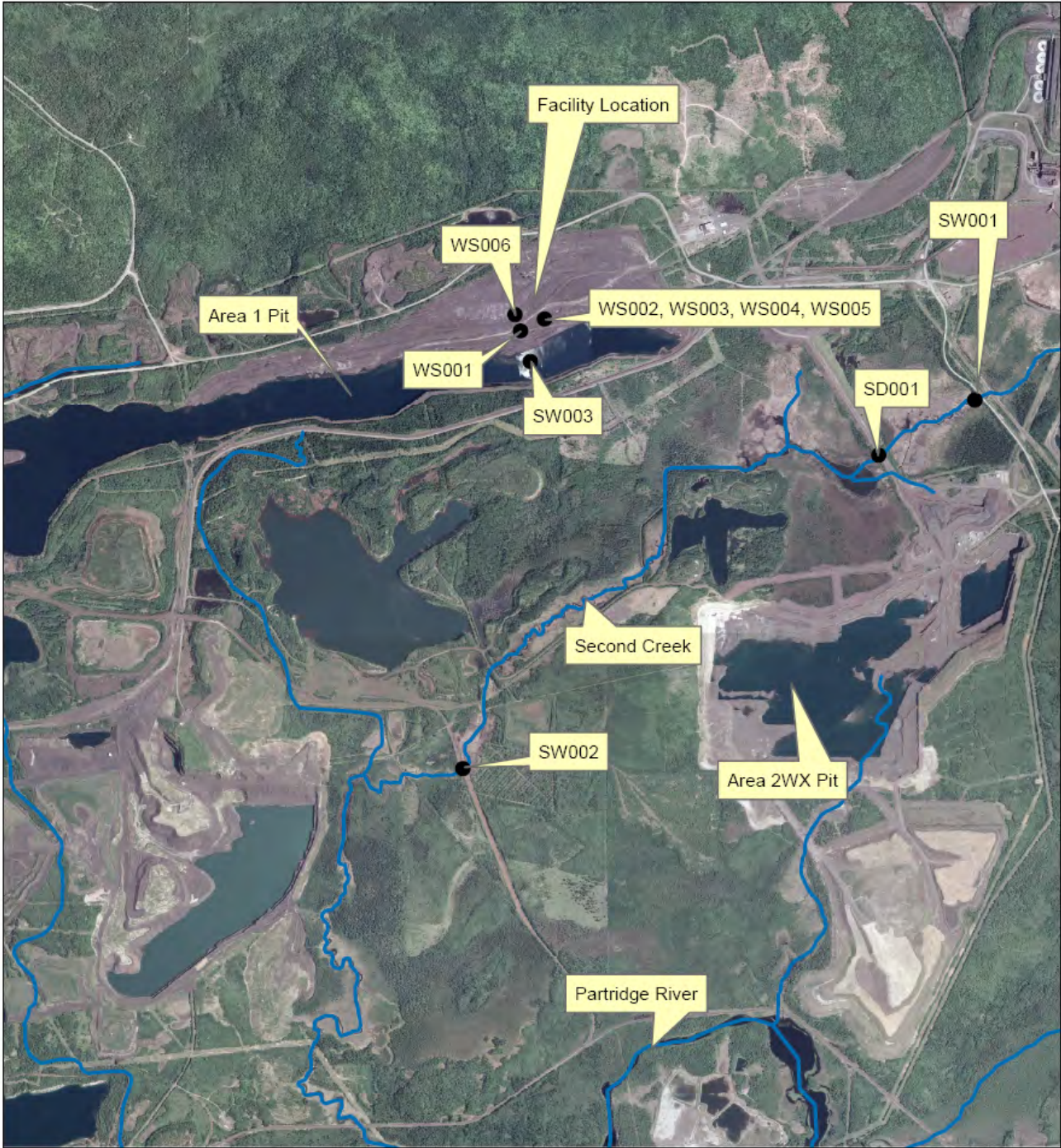
In accordance with MPCA rules regarding nondegradation for all waters that are not Outstanding Resource Value Waters, nondegradation review is required for any new or expanded significant discharge (Minn. R. 7050.0185). A significant discharge is: (1) a new discharge (not in existence before January 1, 1988) that is greater than 200,000 gallons per day to any water other than a Class 7 water or (2) an expanded discharge that expands by greater than 200,000 gallons per day that discharges to any water other than a Class 7 water or (3) a new or expanded discharge containing any toxic pollutant at a mass loading rate likely to increase the concentration of the toxicant in the receiving water by greater than one percent over the baseline quality. The flow rate used to determine significance is the design **maximum daily** flow. The January 1, 1988, design **maximum daily** flow for this facility is 14.4 mgd.

This Permit also complies with Minn. R. 7053.0275 regarding anti-backsliding.

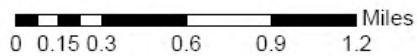
Any point source discharger of sewage, industrial, or other wastes for which a NPDES permit has been issued by the MPCA that contains effluent limits more stringent than those that would be established by Minn. R. 7053.0215 to 7053.0265 shall continue to meet the effluent limits established by the permit, unless the permittee establishes that less stringent effluent limits are allowable pursuant to federal law, under section 402(o) of the Clean Water Act, United States Code, title 33, section 1342.

Aerial Map of Permitted Facility

MN0067687, Mesabi Nugget Delaware, LLC  
T59N, R15W, Section 24  
Aurora, St. Louis County, Minnesota



Map produced by MPCA Staff 9/13/2011  
Source: USGS Aurora Quad  
Scale: 1:36,000



***DRAFT DRAFT DRAFT DRAFT DRAFT DRAFT DRAFT DRAFT DRAFT DRAFT*****Surface Discharge Stations**

| <u>Station</u> | <u>Type of Station</u>    | <u>Local Name</u>          | <u>PLS Location</u>  |
|----------------|---------------------------|----------------------------|--|
| SD001          | Effluent To Surface Water | Area 1 Pit to Second Creek | SE Quarter of the NW Quarter of the SW Quarter of Section 20, Township 59 North, Range 14 West |

**Surface Water Stations**

| <u>Station</u> | <u>Type of Station</u>         | <u>Local Name</u>       | <u>PLS Location</u>  |
|----------------|--------------------------------|-------------------------|--|
| SW001          | Stream/River/Ditch, Upstream   | Second Cr. - Upstream   | NE Quarter of Section 20, Township 59 North, Range 14 West |
| SW002          | Stream/River/Ditch, Downstream | Second Cr. - Downstream | SW Quarter of Section 25, Township 59 North, Range 15 West |
| SW003          | Lake/Reservoir                 | Area 1 Pit              | NW Quarter of Section 24, Township 59 North, Range 14 West |

**Waste Stream Stations**

| <u>Station</u> | <u>Type of Station</u>                  | <u>Local Name</u>                       | <u>PLS Location</u>  |
|----------------|---|---|--|
| WS001          | Influent Waste                          | Influent to Wastewater Treatment System | NE Quarter of the NW Quarter of Section 24, Township 59 North, Range 15 West                   |
| WS002          | Internal Waste Stream                   | Influent to Tailings Filter #1          | NE Quarter of the NW Quarter of Section 24, Township 59 North, Range 15 West                   |
| WS003          | Internal Waste Stream                   | Dschrg fr Tailings Filter #1 to Pit 1   | SE Quarter of Section 21, Township 59 North, Range 15 West                                     |
| WS004          | Internal Waste Stream                   | Influent fr Pit 1 to Tailings Filter #2 | SW Quarter of the NE Quarter of the NW Quarter of Section 19, Township 59 North, Range 14 West |
| WS005          | Solids to Land Disposal/Non-application | Spent Tailings Disposal                 | NW Quarter of Section 24, Township 59 North, Range 15 West                                     |
| WS006          | Solids to Land Disposal/Non-application | Slag Disposal                           | NW Quarter of Section 24, Township 59 North, Range 15 West                                     |



**Mesabi Nugget Delaware, LLC**  
**Limits and Monitoring Requirements**

**DRAFT DRAFT DRAFT DRAFT DRAFT DRAFT DRAFT DRAFT DRAFT DRAFT DRAFT**

The Permittee shall comply with the limits and monitoring requirements as specified below.

*Period: Limits Applicable in the Interim Period*

**SD 001**

| Parameter  | Limit        | Units  | Limit Type             | Effective Period | Sample Type                | Frequency | Notes |
|--|--------------|--------|------------------------|------------------|----------------------------|-----------|-------|
| Aluminum, Total (as Al)                              | Monitor Only | ug/L   | Calendar Month Maximum | Oct              | Grab                       | 1 x Month |       |
| Arsenic, Total (as As)                               | Monitor Only | ug/L   | Calendar Month Maximum | Oct              | Grab                       | 1 x Month | 2     |
| Bicarbonates   | 362          | mg/L   | Calendar Month Average | Jan-Dec          | Grab                       | 2 x Month | 5     |
| Bicarbonates   | 378          | mg/L   | Calendar Month Maximum | Jan-Dec          | Grab                       | 2 x Month | 5     |
| Boron, Total (as B)                                  | Monitor Only | ug/L   | Calendar Month Maximum | Oct              | Grab                       | 1 x Month |       |
| Cadmium, Total (as Cd)                               | Monitor Only | ug/L   | Calendar Month Maximum | Oct              | Grab                       | 1 x Month | 2     |
| Chloride, Total                                      | Monitor Only | mg/L   | Calendar Month Maximum | Jan-Dec          | Grab                       | 1 x Month |       |
| Chromium, Total (as Cr)                              | Monitor Only | ug/L   | Calendar Month Maximum | Oct              | Grab                       | 1 x Month | 2     |
| Cobalt, Total (as Co)                                | Monitor Only | ug/L   | Calendar Month Maximum | Oct              | Grab                       | 1 x Month | 2     |
| Copper, Total (as Cu)                                | Monitor Only | ug/L   | Calendar Month Maximum | Oct              | Grab                       | 1 x Month | 2     |
| Flow   | Monitor Only | MG     | Calendar Month Total   | Jan-Dec          | Measurement                | 2 x Month | 1     |
| Flow   | Monitor Only | mgd    | Daily Average          | Jan-Dec          | Measurement                | 2 x Month | 1     |
| Flow   | Monitor Only | mgd    | Daily Maximum          | Jan-Dec          | Measurement                | 2 x Month | 1     |
| Fluoride, Total (as F)                               | Monitor Only | mg/L   | Calendar Month Maximum | Oct              | Grab                       | 1 x Month |       |
| Hardness, Calcium & Magnesium, Calculated (as CaCO3) | 831          | mg/L   | Calendar Month Average | Jan-Dec          | Grab                       | 2 x Month |       |
| Hardness, Calcium & Magnesium, Calculated (as CaCO3) | 863          | mg/L   | Calendar Month Maximum | Jan-Dec          | Grab                       | 2 x Month |       |
| Lead, Total (as Pb)                                  | Monitor Only | ug/L   | Calendar Month Maximum | Oct              | Grab                       | 1 x Month | 2     |
| Manganese, Total (as Mn)                             | Monitor Only | mg/L   | Calendar Month Maximum | Oct              | Grab                       | 1 x Month |       |
| Mercury, Total (as Hg)                               | 1.8          | ng/L   | Calendar Month Average | Jan-Dec          | Grab                       | 2 x Month | 3     |
| Mercury, Total (as Hg)                               | 0.000070     | kg/day | Calendar Month Maximum | Jan-Dec          | Grab                       | 2 x Month | 3     |
| Mercury, Total (as Hg)                               | 3.2          | ng/L   | Calendar Month Maximum | Jan-Dec          | Grab                       | 2 x Month | 3     |
| Nickel, Total (as Ni)                                | Monitor Only | ug/L   | Calendar Month Maximum | Oct              | Grab                       | 1 x Month | 2     |
| pH   | 8.5          | SU     | Calendar Month Maximum | Jan-Dec          | Measurement, Instantaneous | 2 x Month |       |
| pH   | 6.5          | SU     | Calendar Month Minimum | Jan-Dec          | Measurement, Instantaneous | 2 x Month |       |
| Selenium, Total (as Se)                              | Monitor Only | ug/L   | Calendar Month Maximum | Oct              | Grab                       | 1 x Month | 2     |
| Sodium, Total (as Na)                                | Monitor Only | mg/L   | Calendar Month Maximum | Jan-Dec          | Grab                       | 1 x Month |       |
| Solids, Total Dissolved (TDS)                        | 1160         | mg/L   | Calendar Month Average | Jan-Dec          | Grab                       | 2 x Month |       |
| Solids, Total Dissolved (TDS)                        | 1228         | mg/L   | Calendar Month Maximum | Jan-Dec          | Grab                       | 2 x Month |       |

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The Permittee shall comply with the limits and monitoring requirements as specified below.

*Period: Limits Applicable in the Interim Period*

**SD 001**

| Parameter                     | Limit        | Units  | Limit Type             | Effective Period | Sample Type                | Frequency | Notes |
|-------------------------------|--------------|--------|------------------------|------------------|----------------------------|-----------|-------|
| Solids, Total Suspended (TSS) | 1.4          | mg/L   | Calendar Month Average | Jan-Dec          | Grab                       | 2 x Month |       |
| Solids, Total Suspended (TSS) | 2.9          | mg/L   | Calendar Month Maximum | Jan-Dec          | Grab                       | 2 x Month |       |
| Specific Conductance          | 1889         | umh/cm | Calendar Month Average | Jan-Dec          | Measurement, Instantaneous | 2 x Month |       |
| Specific Conductance          | 1965         | umh/cm | Calendar Month Maximum | Jan-Dec          | Measurement, Instantaneous | 2 x Month |       |
| Sulfate, Total (as SO4)       | Monitor Only | mg/L   | Calendar Month Maximum | Jan-Dec          | Grab                       | 2 x Month |       |
| Thallium, Total (as Tl)       | Monitor Only | ug/L   | Calendar Month Maximum | Oct              | Grab                       | 1 x Month | 2     |
| Zinc, Total (as Zn)           | Monitor Only | ug/L   | Calendar Month Maximum | Oct              | Grab                       | 1 x Month | 2     |

**SW 001, SW 002**

| Parameter  | Limit        | Units  | Limit Type             | Effective Period   | Sample Type                | Frequency | Notes |
|--|--------------|--------|------------------------|--------------------|----------------------------|-----------|-------|
| Bicarbonates   | Monitor Only | mg/L   | Calendar Month Maximum | Feb, May, Aug, Nov | Grab                       | 1 x Month |       |
| Flow, Stream, Instantaneous                          | Monitor Only | cfs    | Calendar Month Maximum | Jan-Dec            | Measurement, Instantaneous | 1 x Month |       |
| Hardness, Calcium & Magnesium, Calculated (as CaCO3) | Monitor Only | mg/L   | Calendar Month Maximum | Feb, May, Aug, Nov | Grab                       | 1 x Month |       |
| Solids, Total Dissolved (TDS)                        | Monitor Only | mg/L   | Calendar Month Maximum | Feb, May, Aug, Nov | Grab                       | 1 x Month |       |
| Specific Conductance                                 | Monitor Only | umh/cm | Calendar Month Maximum | Feb, May, Aug, Nov | Grab                       | 1 x Month |       |
| Sulfate, Total (as SO4)                              | Monitor Only | mg/L   | Calendar Month Maximum | Feb, May, Aug, Nov | Grab                       | 1 x Month |       |

**SW 003**

| Parameter  | Limit        | Units  | Limit Type             | Effective Period   | Sample Type | Frequency | Notes |
|--|--------------|--------|------------------------|--------------------|-------------|-----------|-------|
| Bicarbonates   | Monitor Only | mg/L   | Calendar Month Maximum | Feb, May, Aug, Nov | Grab        | 1 x Month |       |
| Hardness, Calcium & Magnesium, Calculated (as CaCO3) | Monitor Only | mg/L   | Calendar Month Maximum | Feb, May, Aug, Nov | Grab        | 1 x Month |       |
| Mercury, Total (as Hg)                               | Monitor Only | ng/L   | Calendar Month Maximum | Feb, May, Aug, Nov | Grab        | 1 x Month |       |
| pH   | Monitor Only | SU     | Calendar Month Maximum | Feb, May, Aug, Nov | Grab        | 1 x Month |       |
| Solids, Total Dissolved (TDS)                        | Monitor Only | mg/L   | Calendar Month Maximum | Feb, May, Aug, Nov | Grab        | 1 x Month |       |
| Specific Conductance                                 | Monitor Only | umh/cm | Calendar Month Maximum | Feb, May, Aug, Nov | Grab        | 1 x Month | 4     |
| Sulfate, Total (as SO4)                              | Monitor Only | mg/L   | Calendar Month Maximum | Feb, May, Aug, Nov | Grab        | 1 x Month |       |

**Mesabi Nugget Delaware, LLC**  
**Limits and Monitoring Requirements**

**DRAFT DRAFT DRAFT DRAFT DRAFT DRAFT DRAFT DRAFT DRAFT DRAFT DRAFT**

The Permittee shall comply with the limits and monitoring requirements as specified below.

*Period: Limits Applicable in the Interim Period*

**WS 001, WS 002, WS 004**

| Parameter              | Limit        | Units | Limit Type             | Effective Period | Sample Type | Frequency | Notes |
|------------------------|--------------|-------|------------------------|------------------|-------------|-----------|-------|
| Flow                   | Monitor Only | mgd   | Daily Average          | Jan-Dec          | Measurement | 1 x Month |       |
| Mercury, Total (as Hg) | Monitor Only | ng/L  | Calendar Month Maximum | Jan-Dec          | Grab        | 1 x Month | 3     |

**WS 003**

| Parameter   | Limit        | Units  | Limit Type             | Effective Period | Sample Type | Frequency | Notes |
|---|--------------|--------|------------------------|------------------|-------------|-----------|-------|
| Bicarbonates  | Monitor Only | mg/L   | Calendar Month Maximum | Jan-Dec          | Grab        | 1 x Month | 5     |
| Chloride, Total   | Monitor Only | mg/L   | Calendar Month Maximum | Jan-Dec          | Grab        | 1 x Month |       |
| Flow  | Monitor Only | mgd    | Daily Average          | Jan-Dec          | Measurement | 1 x Month |       |
| Hardness, Calcium & Magnesium, Calculated (as CaCO <sub>3</sub> ) | Monitor Only | mg/L   | Calendar Month Maximum | Jan-Dec          | Grab        | 1 x Month |       |
| Mercury, Total (as Hg)  | Monitor Only | ng/L   | Calendar Month Maximum | Jan-Dec          | Grab        | 1 x Month | 3     |
| Sodium, Total (as Na)   | Monitor Only | mg/L   | Calendar Month Maximum | Jan-Dec          | Grab        | 1 x Month |       |
| Solids, Total Dissolved (TDS)                                     | Monitor Only | mg/L   | Calendar Month Maximum | Jan-Dec          | Grab        | 1 x Month |       |
| Specific Conductance  | Monitor Only | umh/cm | Calendar Month Maximum | Jan-Dec          | Grab        | 1 x Month |       |
| Sulfate, Total (as SO <sub>4</sub> )                              | Monitor Only | mg/L   | Calendar Month Maximum | Jan-Dec          | Grab        | 1 x Month |       |

**WS 005, WS 006**

| Parameter                      | Limit        | Units  | Limit Type           | Effective Period | Sample Type | Frequency | Notes |
|--------------------------------|--------------|--------|----------------------|------------------|-------------|-----------|-------|
| Mass Transported From Facility | Monitor Only | ton/mo | Calendar Month Total | Jan-Dec          | Measurement | 1 x Month |       |

*Period: Limits Applicable in the Final Period*

**SD 001**

| Parameter               | Limit        | Units | Limit Type             | Effective Period | Sample Type | Frequency | Notes |
|-------------------------|--------------|-------|------------------------|------------------|-------------|-----------|-------|
| Aluminum, Total (as Al) | Monitor Only | ug/L  | Calendar Month Maximum | Oct              | Grab        | 1 x Month |       |
| Arsenic, Total (as As)  | Monitor Only | ug/L  | Calendar Month Maximum | Oct              | Grab        | 1 x Month | 2     |
| Bicarbonates            | 257          | mg/L  | Calendar Month Average | Jan-Dec          | Grab        | 2 x Month | 5     |
| Bicarbonates            | 267          | mg/L  | Calendar Month Maximum | Jan-Dec          | Grab        | 2 x Month | 5     |
| Boron, Total (as B)     | Monitor Only | ug/L  | Calendar Month Maximum | Oct              | Grab        | 1 x Month |       |
| Cadmium, Total (as Cd)  | Monitor Only | ug/L  | Calendar Month Maximum | Oct              | Grab        | 1 x Month | 2     |
| Chloride, Total         | Monitor Only | mg/L  | Calendar Month Maximum | Jan-Dec          | Grab        | 1 x Month |       |

**Mesabi Nugget Delaware, LLC**  
**Limits and Monitoring Requirements**

**DRAFT DRAFT DRAFT DRAFT DRAFT DRAFT DRAFT DRAFT DRAFT DRAFT DRAFT**

The Permittee shall comply with the limits and monitoring requirements as specified below.

*Period: Limits Applicable in the Final Period*

**SD 001**

| Parameter  | Limit        | Units  | Limit Type             | Effective Period | Sample Type                | Frequency | Notes |
|--|--------------|--------|------------------------|------------------|----------------------------|-----------|-------|
| Chromium, Total (as Cr)                              | Monitor Only | ug/L   | Calendar Month Maximum | Oct              | Grab                       | 1 x Month | 2     |
| Cobalt, Total (as Co)                                | Monitor Only | ug/L   | Calendar Month Maximum | Oct              | Grab                       | 1 x Month | 2     |
| Copper, Total (as Cu)                                | Monitor Only | ug/L   | Calendar Month Maximum | Oct              | Grab                       | 1 x Month | 2     |
| Flow   | Monitor Only | MG     | Calendar Month Total   | Jan-Dec          | Measurement                | 2 x Month | 1     |
| Flow   | Monitor Only | mgd    | Daily Average          | Jan-Dec          | Measurement                | 2 x Month | 1     |
| Flow   | Monitor Only | mgd    | Daily Maximum          | Jan-Dec          | Measurement                | 2 x Month | 1     |
| Fluoride, Total (as F)                               | Monitor Only | mg/L   | Calendar Month Maximum | Oct              | Grab                       | 1 x Month |       |
| Hardness, Calcium & Magnesium, Calculated (as CaCO3) | 512          | mg/L   | Calendar Month Average | Jan-Dec          | Grab                       | 2 x Month |       |
| Hardness, Calcium & Magnesium, Calculated (as CaCO3) | 532          | mg/L   | Calendar Month Maximum | Jan-Dec          | Grab                       | 2 x Month |       |
| Lead, Total (as Pb)                                  | Monitor Only | ug/L   | Calendar Month Maximum | Oct              | Grab                       | 1 x Month | 2     |
| Manganese, Total (as Mn)                             | Monitor Only | mg/L   | Calendar Month Maximum | Oct              | Grab                       | 1 x Month |       |
| Mercury, Total (as Hg)                               | 1.8          | ng/L   | Calendar Month Average | Jan-Dec          | Grab                       | 2 x Month | 3     |
| Mercury, Total (as Hg)                               | 0.000070     | kg/day | Calendar Month Maximum | Jan-Dec          | Grab                       | 2 x Month | 3     |
| Mercury, Total (as Hg)                               | 3.2          | ng/L   | Calendar Month Maximum | Jan-Dec          | Grab                       | 2 x Month | 3     |
| Nickel, Total (as Ni)                                | Monitor Only | ug/L   | Calendar Month Maximum | Oct              | Grab                       | 1 x Month | 2     |
| pH   | 8.5          | SU     | Calendar Month Maximum | Jan-Dec          | Measurement, Instantaneous | 2 x Month |       |
| pH   | 6.5          | SU     | Calendar Month Minimum | Jan-Dec          | Measurement, Instantaneous | 2 x Month |       |
| Selenium, Total (as Se)                              | Monitor Only | ug/L   | Calendar Month Maximum | Oct              | Grab                       | 1 x Month | 2     |
| Sodium, Total (as Na)                                | Monitor Only | mg/L   | Calendar Month Maximum | Jan-Dec          | Grab                       | 1 x Month |       |
| Solids, Total Dissolved (TDS)                        | 726          | mg/L   | Calendar Month Average | Jan-Dec          | Grab                       | 2 x Month |       |
| Solids, Total Dissolved (TDS)                        | 768          | mg/L   | Calendar Month Maximum | Jan-Dec          | Grab                       | 2 x Month |       |
| Solids, Total Suspended (TSS)                        | 1.4          | mg/L   | Calendar Month Average | Jan-Dec          | Grab                       | 2 x Month |       |
| Solids, Total Suspended (TSS)                        | 2.9          | mg/L   | Calendar Month Maximum | Jan-Dec          | Grab                       | 2 x Month |       |
| Specific Conductance                                 | 1025         | umh/cm | Calendar Month Average | Jan-Dec          | Measurement, Instantaneous | 2 x Month |       |
| Specific Conductance                                 | 1066         | umh/cm | Calendar Month Maximum | Jan-Dec          | Measurement, Instantaneous | 2 x Month |       |
| Sulfate, Total (as SO4)                              | Monitor Only | mg/L   | Calendar Month Maximum | Jan-Dec          | Grab                       | 2 x Month |       |
| Thallium, Total (as Tl)                              | Monitor Only | ug/L   | Calendar Month Maximum | Oct              | Grab                       | 1 x Month | 2     |
| Zinc, Total (as Zn)                                  | Monitor Only | ug/L   | Calendar Month Maximum | Oct              | Grab                       | 1 x Month | 2     |

**Mesabi Nugget Delaware, LLC**  
**Limits and Monitoring Requirements**

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The Permittee shall comply with the limits and monitoring requirements as specified below.

*Period: Limits Applicable in the Final Period*

**SW 001, SW 002**

| Parameter  | Limit        | Units  | Limit Type             | Effective Period   | Sample Type                | Frequency | Notes |
|--|--------------|--------|------------------------|--------------------|----------------------------|-----------|-------|
| Bicarbonates   | Monitor Only | mg/L   | Calendar Month Maximum | Feb, May, Aug, Nov | Grab                       | 1 x Month |       |
| Flow, Stream, Instantaneous                          | Monitor Only | cfs    | Calendar Month Maximum | Jan-Dec            | Measurement, Instantaneous | 1 x Month |       |
| Hardness, Calcium & Magnesium, Calculated (as CaCO3) | Monitor Only | mg/L   | Calendar Month Maximum | Feb, May, Aug, Nov | Grab                       | 1 x Month |       |
| Solids, Total Dissolved (TDS)                        | Monitor Only | mg/L   | Calendar Month Maximum | Feb, May, Aug, Nov | Grab                       | 1 x Month |       |
| Specific Conductance                                 | Monitor Only | umh/cm | Calendar Month Maximum | Feb, May, Aug, Nov | Grab                       | 1 x Month |       |
| Sulfate, Total (as SO4)                              | Monitor Only | mg/L   | Calendar Month Maximum | Feb, May, Aug, Nov | Grab                       | 1 x Month |       |

**SW 003**

| Parameter  | Limit        | Units  | Limit Type             | Effective Period   | Sample Type | Frequency | Notes |
|--|--------------|--------|------------------------|--------------------|-------------|-----------|-------|
| Bicarbonates   | Monitor Only | mg/L   | Calendar Month Maximum | Feb, May, Aug, Nov | Grab        | 1 x Month |       |
| Hardness, Calcium & Magnesium, Calculated (as CaCO3) | Monitor Only | mg/L   | Calendar Month Maximum | Feb, May, Aug, Nov | Grab        | 1 x Month |       |
| Mercury, Total (as Hg)                               | Monitor Only | ng/L   | Calendar Month Maximum | Feb, May, Aug, Nov | Grab        | 1 x Month |       |
| pH   | Monitor Only | SU     | Calendar Month Maximum | Feb, May, Aug, Nov | Grab        | 1 x Month |       |
| Solids, Total Dissolved (TDS)                        | Monitor Only | mg/L   | Calendar Month Maximum | Feb, May, Aug, Nov | Grab        | 1 x Month |       |
| Specific Conductance                                 | Monitor Only | umh/cm | Calendar Month Maximum | Feb, May, Aug, Nov | Grab        | 1 x Month | 4     |
| Sulfate, Total (as SO4)                              | Monitor Only | mg/L   | Calendar Month Maximum | Feb, May, Aug, Nov | Grab        | 1 x Month |       |

**WS 001, WS 002, WS 004**

| Parameter              | Limit        | Units | Limit Type             | Effective Period | Sample Type | Frequency | Notes |
|------------------------|--------------|-------|------------------------|------------------|-------------|-----------|-------|
| Flow                   | Monitor Only | mgd   | Daily Average          | Jan-Dec          | Measurement | 1 x Month |       |
| Mercury, Total (as Hg) | Monitor Only | ng/L  | Calendar Month Maximum | Jan-Dec          | Grab        | 1 x Month | 3     |

**WS 003**

| Parameter  | Limit        | Units | Limit Type             | Effective Period | Sample Type | Frequency | Notes |
|--|--------------|-------|------------------------|------------------|-------------|-----------|-------|
| Bicarbonates   | Monitor Only | mg/L  | Calendar Month Maximum | Jan-Dec          | Grab        | 1 x Month | 5     |
| Chloride, Total                                      | Monitor Only | mg/L  | Calendar Month Maximum | Jan-Dec          | Grab        | 1 x Month |       |
| Flow   | Monitor Only | mgd   | Daily Average          | Jan-Dec          | Measurement | 1 x Month |       |
| Hardness, Calcium & Magnesium, Calculated (as CaCO3) | Monitor Only | mg/L  | Calendar Month Maximum | Jan-Dec          | Grab        | 1 x Month |       |
| Mercury, Total (as Hg)                               | Monitor Only | ng/L  | Calendar Month Maximum | Jan-Dec          | Grab        | 1 x Month | 3     |

**Mesabi Nugget Delaware, LLC**  
**Limits and Monitoring Requirements**

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The Permittee shall comply with the limits and monitoring requirements as specified below.

*Period: Limits Applicable in the Final Period*

**WS 003**

| Parameter                     | Limit        | Units  | Limit Type             | Effective Period | Sample Type | Frequency | Notes |
|-------------------------------|--------------|--------|------------------------|------------------|-------------|-----------|-------|
| Sodium, Total (as Na)         | Monitor Only | mg/L   | Calendar Month Maximum | Jan-Dec          | Grab        | 1 x Month |       |
| Solids, Total Dissolved (TDS) | Monitor Only | mg/L   | Calendar Month Maximum | Jan-Dec          | Grab        | 1 x Month |       |
| Specific Conductance          | Monitor Only | umh/cm | Calendar Month Maximum | Jan-Dec          | Grab        | 1 x Month |       |
| Sulfate, Total (as SO4)       | Monitor Only | mg/L   | Calendar Month Maximum | Jan-Dec          | Grab        | 1 x Month |       |

**WS 005, WS 006**

| Parameter                      | Limit        | Units  | Limit Type           | Effective Period | Sample Type | Frequency | Notes |
|--------------------------------|--------------|--------|----------------------|------------------|-------------|-----------|-------|
| Mass Transported From Facility | Monitor Only | ton/mo | Calendar Month Total | Jan-Dec          | Measurement | 1 x Month |       |

Notes:  
 1 -- See Chapter 1.7.3  
 2 -- Use EPA analytical method 200.8.  
 3 -- Use EPA clean-sampling method 1669 and EPA analytical method 1631  
 4 -- Use EPA clean-sampling method 1669 and EPA analytical method 1631.  
 5 -- as CaCO3

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## **Chapter 1. Surface Discharge Stations**

### **1. Requirements for Specific Stations**

- 1.1 SD 001: Submit a monthly DMR monthly by 21 days after the end of each calendar month following permit issuance.

### **2. Sampling Location**

- 2.1 Samples for Station SD001 shall be taken at the discharge structure leading to Second Creek.
- 2.2 Samples and measurements required by this permit shall be representative of the monitored activity.

### **3. Surface Discharges**

- 3.1 Floating solids or visible foam shall not be discharged in other than trace amounts.
- 3.2 Oil or other substances shall not be discharged in amounts that create a visible color film.
- 3.3 The Permittee shall install and maintain outlet protection measures at the discharge station SD001 to prevent erosion.

### **4. Discharge Monitoring Reports**

- 4.1 The Permittee shall monitor Outfall SD001 according to the requirements in the Limits and Monitoring Section of this permit whenever a discharge occurs whether the manufacturing facility is operating or not.
- 4.2 The Permittee shall submit monitoring results for discharges in accordance with the limits and monitoring requirements for this station. If no discharge occurred during the reporting period, the Permittee shall check the "No Discharge" box on the Discharge Monitoring Report (DMR).

### **5. Winter Sampling Conditions**

- 5.1 The Permittee shall sample flows at the designated monitoring stations including when this requires removing ice to sample the water. If the station is completely frozen throughout a designated sampling month, the Permittee shall check the "No Discharge" box on the Discharge Monitoring Report (DMR) and note the ice conditions in Comments on the DMR.

### **6. Prohibited Discharges**

- 6.1 To minimize the potential impact to wild rice resources in downstream waters, the Permittee shall not discharge from Outfall SD001 from April 1 through August 31 of each year.
- 6.2 To minimize the potential for a discharge with chronic toxicity characteristics, the Permittee shall not discharge from Outfall SD001 from August 1 through September 30 of each year unless it can demonstrate through a Chronic Whole Effluent Toxicity Test conducted on Area 1 Pit water during that time period that a discharge would not exceed 1.0 chronic toxicity units (TU<sub>c</sub>).
- 6.3 The Permittee may submit, by September 30 of each year, the results of a chronic Whole Effluent Toxicity Test conducted at a point representative of SD001 at any time during the August 1 through September 30 timeframe of that year for approval. The Permittee shall not discharge during this timeframe until MPCA receives the passing chronic WET test result, (<1.0 TU<sub>c</sub>), for this discharge. The Permittee may provide such result to MPCA via U.S. mail, electronic, private carrier, courier or hand delivery.

### **7. Special Requirements**

- 7.1 If the data from monitoring at Outfall SD001 establishes exceedences of the mercury monthly average effluent limitation of 1.8 ng/L three times in any rolling 12-month period or four times in any 60-month period, the Permittee shall cease discharge through SD001 until such time compliance with the mercury monthly effluent limitations can be achieved.

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## Chapter 1. Surface Discharge Stations

### 7. Special Requirements

7.2 Upon exceedance of the mercury monthly average effluent limitation as described in Part 7.1 above, the Permittee shall immediately notify the MPCA and comply with the requirements of Part 7.1. In addition, within 14 calendar days of the occurrence of conditions under Part 7.1, the Permittee shall submit for MPCA approval a written plan of the specific course of actions the Permittee will take to comply with the provisions of this Section 7.

The Permittee shall not implement the proposed course of actions until such time that it has received approval of the plan in writing from the MPCA.

7.3 The Permittee may, for the purpose of creating storage capacity in the Area 1 Pit, draw down the Area 1 Pit water level by discharging pit water through Outfall SD001 outside of the period of prohibited discharge as described in Part 6 of this chapter above.

Such discharge may occur provided that the discharge does not exceed 5.8 MGD and that the discharge fully complies with the effluent limitations specified in the Limits and Monitoring Section of this permit.

The Permittee shall not draw the Area 1 Pit water level down by more than the amount representing three years of storage capacity at normal wastewater flows, so as to provide an adequate in-pit mixing ratio for the purpose of maintaining pit water quality at concentrations that will be able to attain compliance after treatment with effluent limitations upon eventual discharge. The determination of the three years storage capacity shall include all hydrologic inputs into the pit including wastewater flows, groundwater inflow and precipitation/runoff inflows.

7.4 If the conditions under Part 7.1 above occur and the Permittee ceases discharges through Outfall SD001, the Permittee may continue iron nugget production provided the following conditions are met:

- a. The Permittee has notified the MPCA in accordance with Part 7.2 above;
- b. The Permittee has storage capacity in the Area 1 Pit, such that an ongoing discharge through SD001 will not occur;
- c. Any wastewater generated by the facility during continued iron nugget production continues to be treated through the chemical precipitation and mercury filtration system of the wastewater treatment facility as necessary prior to routing to the Area 1 Pit;
- d. The Permittee is actively implementing the course of actions identified in the approved plan required by Part 7.2 above; and
- e. The Permittee maintains a minimum freeboard in the Area 1 Pit representing six months of hydrologic inputs into the pit, including wastewater flow at normal rates of operation, groundwater inflow, and precipitation/runoff inflows. For the purpose of this provision, freeboard is defined as the difference in elevation between the Area 1 Pit water level and the elevation at which the Area 1 Pit would otherwise outlet or overflow. This provision to maintain a minimum 6 month freeboard in the Area 1 Pit is applicable if exceedances of the mercury monthly average effluent limitation as described in Part 1.7.1 above have occurred.

Notwithstanding the provisions of this Chapter, the Permittee shall remain responsible for the financial assurance requirements in Chapter 5, Sections 1.15 to 1.26. The Permittee shall provide for treatment for mercury until such time that the water quality of the Area 1 Pit meets water quality standards for mercury.

7.5 The provisions of this Chapter do not relieve the Permittee from any responsibilities, liabilities or penalties for violations of effluent limitations and water quality standards that may have occurred.



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**Chapter 1. Surface Discharge Stations**

**7. Special Requirements**

7.6 Notwithstanding the provisions of this Chapter, nothing in this permit waives the rights or ability of the MPCA to require the Permittee to implement additional remedial and corrective actions, mitigation, and/or other actions that the MPCA deems necessary for the Permittee to comply with the effluent limitations and other terms and conditions of this permit.

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## **Chapter 1. Surface Discharge Stations**

### **8. Variances**

#### **Variance**

- 8.1 The Permittee is granted a variance from the provisions in Minn. R. pt 7050.0223, subp. 3, that specifies the Class 3C (industrial consumption) water quality standard of 500 mg/L for hardness and in Minn. R. pt. 7050.0224, subp. 2, that specifies the Class 4A (agriculture and wildlife) water quality standards of 1000 umhos/cm for specific conductance, 700 mg/L for total dissolved salts (solids), and 5 meq/L for bicarbonates (HCO<sub>3</sub>) for Outfall SD001, in accordance with the variance procedures established in Minn. R. pts. 7000.7000 and 7050.0190. The Permittee shall comply with the effluent limitations for hardness, specific conductance, total dissolved salts (solids), and bicarbonates for Outfall SD001 specified in the Limits and Monitoring Requirements Section of this permit.
- 8.2 For as long as this variance is in effect, it shall be the responsibility of the Permittee to make all reasonable progress towards attainment of the water quality standards. To accomplish this, the Permittee shall investigate and implement on an ongoing basis actions and technologies to improve effluent quality and, upon implementation of the Pollutant Reduction Study Report described in 8.14 of this chapter, to establish a downward trend towards meeting the water quality standards for hardness, TDS, specific conductance and bicarbonates until such time as compliance with the water quality standards are attained.
- 8.3 This permit and variance may be modified by the MPCA if revisions to water quality standards adopted by MPCA and approved by EPA that are applicable to the pollutants involved in the variance. Nothing herein affects or limits any other MPCA authorities regarding permit and variance modifications.
- 8.4 Prior to the facility initiating the schedule of studies required to implement the condition of the variance to make reasonable progress towards attainment of the water quality standards as detailed below, certain requirements of the facility's Air Emission Permit must be completed which may impact the on-site water treatment system and the resulting pollutants in the facility discharge. In context of the required studies and reports included in this permit, the term "initiation of operation" is defined as the submittal of the Wet Scrubber Optimization Study Report, as required by Air Emissions Permit No. 13700318-003. Therefore, the Permittee shall submit notice of initiation of operation within 14 days of submittal of the Wet Scrubber Optimization Study Report to the MPCA.

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## **Chapter 1. Surface Discharge Stations**

### **8. Variances**

8.5 The Permittee shall submit a progress report by the end of each half year following permit issuance. This progress report will describe the activities which have occurred in the past six months related to the Water Balance Study, the Chemical Balance Study, and the Pollutant Reduction Study, as required below. These progress reports shall include a general summary of ongoing monitoring data and the progression toward final effluent limitations.

#### **Water Balance Study**

8.6 Within 60 days after permit reissuance the Permittee shall submit for approval a Water Balance Study work plan. The Water Balance Study work plan shall describe how the Permittee proposes to complete an evaluation of hydraulic loadings to and losses from the Area 1 Pit under the condition of continuous operation of the Large Scale Demonstration Plant. As part of the Water Balance Study, the Permittee shall evaluate the potential for use of the water from Pit 2WX and the impact of this alternative source of process and cooling water, on hydraulic loadings to and losses from the Area 1 Pit.

8.7 Within 180 days after the initiation of operation of the permitted facility, as defined in 8.4 above, the Permittee shall complete and submit for approval the Water Balance Study Report.

8.8 As new information becomes available during the course of the Water Balance Study, the Permittee may submit for approval proposed revisions to the approved Water Balance Study work plan. Upon MPCA approval such revisions shall be incorporated into the ongoing Water Balance Study.

#### **Chemical Balance Study**

8.9 Within 60 days of MPCA approval of the Water Balance Study work plan, the Permittee shall submit for approval a Chemical Balance Study work plan. The Chemical Balance Study work plan shall describe how the Permittee proposes to complete an evaluation of chemical loadings to and losses from the Area 1 Pit under the condition of continuous operation of the Large Scale Demonstration Plant. At a minimum, the work plan shall include a determination of chemical sources/losses from stockpiles within the watershed of the Area 1 Pit, other watershed runoff into Area 1 Pit, surficial and bedrock groundwater and contributions from operation of the facility. The work plan shall also consider the contributions from the source of makeup water, to include at a minimum the current Pit 1 source as well as the potential Pit 2WX source. In determining the contributions from the operations of the facility, the Permittee shall identify the relative contribution to the variance parameters of each chemical addition to the cooling and process waters, the water conditioning processes necessary to make the water suitable for use, the cooling water blowdown, the air scrubber wastewater, and the process wastewater.

8.10 Within 90 days after approval of the Water Balance Study Report the Permittee shall complete and submit for approval the Chemical Balance Study Report.

8.11 As new information becomes available during the course of the Chemical Balance Study, the Permittee may submit for approval proposed revisions to the approved Chemical Balance study work plan. Upon MPCA approval such revisions shall be incorporated into the ongoing Chemical Balance Study.

#### **Pollutant Reduction Study**

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## **Chapter 1. Surface Discharge Stations**

### **8. Variances**

- 8.12 Within 60 days after MPCA approval of the Chemical Balance Study work plan, the Permittee shall submit for approval a Pollutant Reduction Study work plan. A goal of the Pollutant Reduction Study shall be to investigate what internal Best Management Practices (BMPs) and Best Available Technologies (BATs) the Permittee could implement to reduce contaminant discharge into Area 1 Pit and to achieve compliance with effluent limitations in accordance with this permit. The Pollutant Reduction Study work plan shall describe the Permittee's approach to evaluating source control strategies, pollutant management and/or treatment technologies and process optimization changes, with the goal of compliance with final effluent limitations. The Pollutant Reduction Study work plan shall incorporate, as appropriate and available, the results and conclusions of the Water Balance Study and the Chemical Balance Study, as well as data obtained during the initial period of facility operation and shall consider, but not limit itself to, an evaluation of alternative raw materials, water supplies, or methods of treating the source water for facility use, alternative processing techniques, chemical usage, improved wastewater treatment of internal waste streams, waste minimization and wastewater treatment system efficiency. The Pollutant Reduction Study work plan may include specific proposals to begin bench scale and/or pilot scale testing of selected source control strategies and/or treatment technologies to determine feasibility and the impacts of seasonal and operational variability.
- 8.13 Within 150 days of MPCA approval of the Chemical Balance Study Report the Permittee shall complete and submit for approval the Pollutant Reduction Study Report.
- 8.14 The Pollutant Reduction Study Report shall be a compilation and overall analysis of the Water Balance Study Report, the Chemical Balance Study Report, the findings and analysis of the Pollutant Reduction Study, and shall propose a specific plan of action with a schedule that will result in compliance with the final effluent limitations.

This plan of action may include, but is not limited to, installation of wastewater management equipment to determine effectiveness and feasibility, source mitigation, implementation of BMPs or BATs, a proposal for an alternative discharge location, submittal of the information necessary to support a request for development of site-specific water quality standards, and/or a combination of pollutant reduction strategies and waste management technologies. Results of all relevant studies previously completed or compiled by the Permittee should be used as minimal starting points, to preclude reexamination of nonproductive strategies (those determined to have no further value), to facilitate early implementation of novel waste management demonstration projects, and to maximize use of proactive, feasible strategies. Compliance with existing interim and final limits is required by the Permittee for the duration of the permit unless superseded by a modified or reissued permit with alternate effluent limitations.

- 8.15 If the MPCA approved Pollutant Reduction Study Report proposes the installation of waste management or treatment technology, the Permittee shall obtain all applicable permits and approvals, including MPCA approval of plans and specifications prior to any construction.
- 8.16 As new information becomes available during the course of the Pollutant Reduction Study, the Permittee may submit for approval proposed revisions to the approved Pollutant Reduction Study work plan. Upon MPCA approval such revisions shall be incorporated into the ongoing Pollutant Reduction Study and addressed in the Report.

## **Chapter 2. Surface Water Stations**

### **1. Requirements for Specific Stations**

- 1.1 SW 001, SW 002, SW 003: Submit a monthly DMR monthly by 21 days after the end of each calendar month following permit issuance.

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## **Chapter 2. Surface Water Stations**

### **2. Discharge Monitoring Reports**

- 2.1 The Permittee shall submit monitoring results in accordance with the limits and monitoring requirements for this station. If flow conditions are such that no sample could be acquired, the Permittee shall check the "No Flow" box and note the conditions on the Discharge Monitoring Report (DMR).

### **3. Sampling Location**

- 3.1 Samples for Station SW001 (upstream Second Creek) shall be taken at the County Road 666 crossing in Section 20, T59N, R14W.
- 3.2 Samples for Station SW002 (downstream Second Creek) shall be taken at the railroad grade crossing in Section 36, T59N, R15W.
- 3.3 Samples for Station SW003 (Area 1 Pit) shall be taken at the point of water intake from the Area 1 Pit.
- 3.4 Samples for Stations SW001 and SW002 shall be taken at mid-stream, mid-depth. Samples for SW003 shall be representative of the Area 1 Pit water at the depth from which water is appropriated. Record location, date, time and results for each sample on the supplemental Discharge Monitoring Report form.

### **4. Sampling Protocol**

- 4.1 All instruments used for field measurements shall be maintained and calibrated to insure accuracy of measurements.
- 4.2 Sample water shall be preserved according to lab instructions and delivered to a certified lab within the maximum holding times.

### **5. Winter Sampling Conditions**

- 5.1 The Permittee shall sample flows at the designated monitoring stations including when this requires removing ice to sample the water. If the station is completely frozen throughout a designated sampling month, the Permittee shall check the "No Flow" box on the Discharge Monitoring Report (DMR) and note the ice conditions in Comments on the DMR.

## **Chapter 3. Waste Stream Stations**

### **1. Requirements for Specific Stations**

- 1.1 WS 001, WS 002, WS 003, WS 004: Submit a monthly DMR monthly by 21 days after the end of each calendar month following permit issuance.
- 1.2 WS 005, WS 006: Submit a monthly DMR annually by January 22 of each year following permit issuance.

### **2. Special Requirements**

- 2.1 The Permittee shall conduct mercury monitoring at monitoring stations WS001, WS002, WS003, and WS004 on a monthly basis as specified in the Limits and Monitoring Section of this permit.
- 2.2 Upon completion of two years (24 months) of monthly mercury monitoring, the Permittee may request in writing a reduction in the frequency of mercury monitoring at these stations.
- 2.3 No reduction in the frequency of mercury monitoring at these stations is authorized without approval from the MPCA.

### **3. Sampling Location**

- 3.1 Grab and composite samples shall be collected at a point representative of total influent flow to the system.
- 3.2 Samples for Station WS001 shall be taken at the influent to the chemical coagulation and precipitation system.

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### **Chapter 3. Waste Stream Stations**

#### **3. Sampling Location**

- 3.3 Samples for Station WS002 shall be taken at influent to MNC Mercury Filter unit #1.
- 3.4 Samples for Station WS003 shall be taken between the effluent of MNC Mercury Filter unit #1 and the discharge to the Area 1 Pit.
- 3.5 Samples for Station WS004 shall be taken at the influent to MNC Mercury Filter unit #2, when in use.
- 3.6 Measurements for Station WS005 shall be of the total mass of slag generated in the nugget manufacturing process during the calendar month.
- 3.7 Measurements for Station WS006 shall be of the total mass of spent tailings filtration media removed from the wastewater treatment facility during the calendar month.

### **Chapter 4. Whole Effluent Toxicity (WET) Testing - Chronic**

#### **1. General Requirements**

- 1.1 The Permittee shall conduct annual chronic toxicity test batteries on Discharge SD001 beginning with the issuance date of the permit. This annual chronic toxicity test battery must be conducted on Discharge SD001 outside of the window of prohibited discharge, as detailed in Chapter 1 of this permit. ( )
- 1.2 Annual chronic test batteries shall be conducted in each succeeding year for the remainder of the permit. The first annual results are due June 30, and annually thereafter.
- 1.3 Any test that exceeds 1.0 TUC shall be re-tested according to the Positive Toxicity Results requirement(s) that follow to determine if toxicity is still present above 1.0 TUC (RWC < 100%).

#### **2. Species and Procedural Requirements**

- 2.1 Tests shall be conducted in accordance with procedures outlined in EPA-821-R-02-013 "Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms" - Fourth Edition (Chronic Manual) and any revisions to the Manual. Any test that is begun with an effluent sample that exceeds a total ammonia concentration of 5 mg/l shall use the carbon dioxide-controlled atmosphere technique to control pH drift.
- 2.2 Test organisms for each test battery shall include the fathead minnow (*Pimephales promelas*)-Method 1000.0 and *Ceriodaphnia dubia*-Method 1002.0.
- 2.3 Static renewal chronic serial dilution tests of the effluent shall consist of a control, 12, 25, 50, 75 and 100% effluent.
- 2.4 All effluent samples shall be flow proportioned composite or grab samples. Test solutions shall be renewed daily from each fresh composite. Testing of the effluent shall begin within 36 hours of sample collection. Receiving water collected outside of the influence of discharge shall be used for dilution and controls.
- 2.5 Any other circumstances not addressed in the previous requirements or that require deviation from that specified in the previous requirements shall first be approved by the MPCA.

#### **3. Quality Control and Report Submittals**

- 3.1 Any test that does not meet quality control measures, or has results which the Permittee believes reflect an artifact of testing shall be repeated within two (2) weeks of Permittee's receipt of any results. These reports shall contain information consistent with the report preparation section of the Chronic Manual. The MPCA shall make the final determination regarding test validity.

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## **Chapter 4. Whole Effluent Toxicity (WET) Testing - Chronic**

### **4. Positive Toxicity Result for WET**

4.1 Should a test exceed 1.0 TUc for whole effluent toxicity based on results from the most sensitive test species, the Permittee shall conduct two repeat test batteries on all species. The repeat tests are to be completed within forty-five (45) days after Permittee's receipt of any positive test. These tests will be used to determine if toxicity exceeding 1.0 TUc remains present for any test species. If no toxicity is present above 1.0 TUc for any test species, the Permittee shall return to the test frequency specified by the permit. If the repeat test batteries indicate toxicity above 1.0 TUc for any test species, the Permittee shall submit for MPCA review a plan for conducting a Toxicity Reduction Evaluation (TRE), including the Facility Performance Review (to be submitted to the MPCA WQ Submittals Center within 60 days after toxicity discovery date) and, at a minimum, provide quarterly reports starting from the date of TRE submittal, regarding progress towards the identity, source, and any plans for the removal of the toxicity. The TRE shall be consistent with EPA guidance or subsequent procedures approved by the MPCA in attempting to identify and remove the source of the toxicity. Routinely scheduled chronic toxicity test batteries required in this permit section shall be suspended for the duration of the TRE. The return to routine chronic toxicity testing is subject to successful completion of conformation testing, as determined by the MPCA. Amendments to the initial TRE shall be approved by MPCA staff and the schedules identified therein.

### **5. WET Data and Test Acceptability Criteria (TAC) Submittal**

5.1 All WET test data and TAC must be submitted to the MPCA by the dates required by this section of the permit using the following form(s) and associated instruction forms:

Minnesota Pollution Control Agency Ceriodaphnia dubia Chronic Toxicity Test Report  
Minnesota Pollution Control Agency Fathead Minnow Chronic Toxicity Test Report.

Data not submitted on the correct form(s), or submitted incomplete, will be returned to the permittee and deemed incomplete until adequately submitted on the designated form (identified above). Data should be submitted to:

MPCA  
Attn: WQ Submittals Center  
520 Lafayette Road North  
St. Paul, Minnesota 55155-4194

### **6. Permit Re-opening for WET**

6.1 Based on the results of the testing, the permit may be modified to include additional toxicity testing and a whole effluent toxicity limit.

### **7. Whole Effluent Toxicity Requirement Definitions**

7.1 "Chronic Whole Effluent Toxicity (WET) Test is a static renewal test conducted on an exponentially diluted series of effluent. The purpose is to calculate appropriate biological effect endpoints (NOEC/LOEC or IC25), specified in the referenced chronic manual. A statistical effect level less than or equal to the Receiving Water Concentration (RWC) constitutes a positive test for chronic toxicity. The RWC equals the 100 percent effluent concentration or 1.0 TUc.

7.2 "Chronic toxic unit (TUc)" is the reciprocal of the effluent dilution that causes no unacceptable effect on the test organisms by the end of the chronic exposure period. For example, a TUc equals  $[7Q10flow (mgd) + effluent average dry weather flow (mgd)]/[effluent average dry weather flow (mgd)]$ .

7.3 "Test" refers to an individual species.

7.4 "Test Battery" consists of WET testing of all test species for the specified test. For chronic WET testing, all test species includes Fathead minnows and ceriodaphnia dubia.

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## **Chapter 5. Special Requirements**

### **1. Special Requirements**

#### **Solids Management**

- 1.1 The Permittee is responsible for the proper disposal of all solid waste materials including spent filtration media (i.e. tailings filtration media), wastewater treatment sludges, slag and other waste material, and shall comply with all applicable statutes and rules in the disposal of such waste material.

If any waste material meets any of the criteria for designation as hazardous waste, pursuant to Minn. R. pts 7045.0131 or 7045.0135, it shall be managed as hazardous waste in accordance with Minn. R. ch. 7001 and 7045, unless the Permittee requests and obtains a written determination from the Agency that the regulatory exemptions contained in Minn. R. pt. 7045.0210 apply.

If waste material does not meet any of the criteria for designation as hazardous waste, the waste material shall be disposed of in a permitted solid waste disposal facility or other specifically approved alternative.

- 1.2 By 90 days after permit reissuance, the Permittee shall submit for approval a Solids Management Plan update of the relevant portions of the previously submitted "MNC Mercury Filter Filtration Media Acquisition and Disposal Plan" and "Wastewater Treatment Solids and Slag Management Plan."

- 1.3 At a minimum the Solids Management Plan shall describe:

- a. the source, estimated volume and method of transportation of tailings filtration media to be used in the mercury filtration units;
- b. the method and location for disposal of spent filtration media and any testing that will be conducted to confirm the composition of the spent filtration media;
- c. the method and location for beneficial reuse or disposal of waste solids and sludges generated by the wastewater treatment system;
- d. the estimated volume, composition and nature of the slag generated by the manufacturing process and any testing that will be conducted to confirm the composition of the slag; and
- e. the management and/or method and location for beneficial reuse or disposal of the slag material generated.

- 1.4 Submit a Solids Management Annual Report by February 1 of each year following permit issuance.

- 1.5 The Solid Waste Management Report shall include for the previous calendar year:

- a. the total volume of filtration media acquired for use in the mercury filtration units;
- b. the total volume of spent filtration disposed of and the location where disposal took place;
- c. the total volume of wastewater treatment sludges and solids beneficially reused or disposed of and the location where beneficial reuse or disposal took place;
- d. the total volume of slag generated by the facility;
- e. the ultimate disposition of the slag generated by the facility, (i.e. whether it was sold, transported off site for disposal or stored for use on site);
- f. the results of any testing conducted on any of the waste materials; and
- g. any deviations from the volumes and methods described in the approved Solid Waste Management Plan.



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## Chapter 5. Special Requirements

### 1. Special Requirements

- 1.6 Tailings from the Northshore Mining Company or Cliffs Erie shall not be utilized in the wastewater treatment system.

#### **Sulfate Transport and Wild Rice Impact Studies**

- 1.7 Within 90 days of permit reissuance, the Permittee shall submit for approval a Sulfate Transport Study work plan. The Sulfate Transport Study shall be based on modeling designed to evaluate and predict sulfate concentrations in the waters between the SD001 discharge and the confluence of the Partridge River with the St. Louis River. The model shall be calibrated to existing data and shall be capable of predicting sulfate concentrations under multiple stream flow and discharge conditions.
- 1.8 Within 12 months after MPCA approval of the Sulfate Transport Study work plan the Permittee shall complete and submit for approval the Sulfate Transport Report.
- 1.9 As new information becomes available during the course of the Sulfate Transport Study, the Permittee may submit for approval proposed revisions to the approved Sulfate Transport Study work plan. Upon MPCA approval such revisions shall be incorporated into the ongoing Sulfate Fate and Transport Study.
- 1.10 By 90 days after permit reissuance, the Permittee shall submit for approval a Wild Rice Impact Study work plan. At a minimum, the Wild Rice Impact Study work plan shall propose:
- a. Monitoring/survey for the presence and general condition (e.g., areal extent, plant density, etc.) of wild rice resources from the SD001 discharge to the confluence of the Partridge River with the St. Louis River over a multi-year (e.g., four year) period;
  - b. Monitoring of water column sulfate concentrations at locations where wild rice is growing;
  - c. An evaluation of the SD001 discharge's contribution to sulfate concentration in affected portions of the Partridge River, taking into account the seasonal nature of the discharge; and
  - d. A general evaluation of water level changes in the Partridge River resulting from the seasonal nature of the SD001 discharge.
- 1.11 Within 48 months after MPCA approval of the Wild Rice Impact Study work plan, the Permittee shall complete and submit the Wild Rice Impact Study Report.
- 1.12 By February 1 of each year of the Study, the Permittee shall submit a written progress report on the status of the Wild Rice Impact Study including a preliminary evaluation of the information and data collected to date.
- 1.13 As new information becomes available during the course of the Wild Rice Impact Study, the Permittee may submit for approval proposed revisions to the approved Wild Rice Impact Study. Upon MPCA approval such revisions shall be incorporated into the ongoing Wild Rice Impact Study.
- 1.14 If data from the studies required provide information previously unavailable to the agency that shows that the terms and conditions of the permit do not accurately represent the actual circumstances relating to the permitted facility or activity, the MPCA may reopen the permit to modify or reissue it.

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## **Chapter 5. Special Requirements**

### **1. Special Requirements**

#### **Financial Assurance**

- 1.15 The Permittee shall maintain financial assurance for long-term operation of wastewater treatment systems necessary for compliance with applicable water quality standards and/or effluent limits for the Area 1 Pit. Financial assurance shall be established and maintained at a level that will cover, at a minimum, all of the following costs:
- a. the cost to the MPCA of administering and contracting with a third party to implement the treatment requirements;
  - b. the costs to operate and maintain, as necessary, the chemical precipitation treatment system and mercury filtration systems;
  - c. transportation costs for both raw and spent filtration media (i.e., tailings filtration media) utilizing current transportation infrastructure;
  - d. disposal costs for spent filtration media and other solid and/or hazardous wastes generated during operation of the treatment facilities;
  - e. cost of polymers, flocculants or other water treatment additives required to attain necessary pollutant removals;
  - f. necessary analytical costs; and
  - g. costs to restore hydraulic flows and discharge locations of overflows from the pit in accordance with reclamation plans approved by Department of Natural Resources.
- 1.16 The financial assurance mechanism to be employed shall be: (1) an irrevocable letter of credit with a standby trust fund, (2) a fully-funded cash trust fund, or (3) another method of financial assurance approved in advance by MPCA. The Permittee shall use forms provided and approved by the Commissioner in establishing any irrevocable letter of credit and any trust fund.
- 1.17 The Permittee shall maintain an initial revocable letter of credit to the MPCA or establish a fully funded cash trust fund to satisfy the long term treatment costs in Section 1.15 above. At the time of permit issuance, the required amount is \$5,000,000.00.

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## Chapter 5. Special Requirements

### 1. Special Requirements

- 1.18 If the Permittee elects to utilize the irrevocable letter of credit and standby trust fund to fulfill this obligation:
- a. The irrevocable letter of credit shall be issued to the Minnesota Pollution Control Agency by an institution that has the authority to issue letters of credit, and whose letter of credit operations are regulated and examined by a federal agency.
  - b. The letter of credit must be irrevocable and issued for a period of at least one year, and must provide that the letter's expiration date shall be automatically extended for at least one year unless, at least 120 days before the current expiration date, the issuing institution notifies both the Permittee and the MPCA of a decision not to extend the expiration date. Under the terms of the letter of credit, the 120-day period must begin on the date when the MPCA received the notice, as evidenced by the return receipt.
  - c. In addition to the irrevocable letter of credit, the Permittee shall also establish and maintain a standby trust fund, and the terms of the letter of credit shall direct the letter's issuing institution to deposit all amounts paid pursuant to the letter of credit directly into the standby trust fund in accordance with instructions from the MPCA.
  - d. The MPCA may draw on the irrevocable letter of credit at any time the MPCA determines the Permittee has failed to perform closure when the Permittee is required to do so in accordance with part 5.1.15 of this Permit, or at any time within sixty (60) days prior to the expiration date of the letter of credit if a replacement irrevocable letter of credit, suitable to the MPCA in its sole discretion, has not been provided by the Permittee to the MPCA to replace an existing irrevocable letter of credit.
- 1.19 If the Permittee elects to establish a fully-funded cash trust fund to fulfill the financial assurance obligation, the amount of the fund shall be equal to the amount of financial assurance required by Section 1.17 as adjusted under Section 1.21 through 1.25, and the form of the trust agreement shall be the same as the form of agreement used to establish the standby trust fund, with only those minor changes necessary to indicate that a fully-funded cash trust fund has been established rather than a letter of credit with a standby trust fund.
- 1.20 The Permittee shall notify the MPCA by certified mail of the filing of any voluntary or involuntary petition under the United States Code, Title 11, naming the Permittee as a debtor, within five (5) days after filing of the petition or of any foreclosure actions taken against the Permittee within five (5) days after the initiation of the foreclosure action.

If the financial institution's authority (the institution which issued the letter of credit or which is the trustee for the trust fund) to issue, maintain or honor the letter of credit or any trust agreement or fund is terminated, suspended, diminished or is otherwise impaired, the Permittee shall within seven (7) days thereafter provide a substitute irrevocable letter of credit and establish the required trust fund to the MPCA, in compliance with all of the requirements of this permit.

- 1.21 On an annual basis, the Permittee shall review and update closure costs in accordance with projected timeframes necessary to fulfill Section 1.15 above. All cost estimates shall be fully supported by accounting principles and standard engineering practices acceptable to the MPCA and documented by actual bids from qualified independent vendors, where appropriate.
- 1.22 By February 1 each year, the Permittee shall submit an annual report to the MPCA identifying any changes in estimated enclosure costs due to changing conditions such as inflation or changes in facility operation and the factual basis for these changes. If there are no changes, the report must reflect this and explain the basis for this determination.

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## **Chapter 5. Special Requirements**

### **1. Special Requirements**

- 1.23 The annual report required by 1.22 above must be reviewed and approved by a qualified, independent (non-employee) registered professional engineer prior to submittal to the MPCA. The report must also contain proof that financial assurance is being maintained in accordance with Permit requirements and must propose a replacement letter of credit, or a modified level of funding if a fully-funded cash trust fund is used, to respond to changes in the estimated closure costs.
- 1.24 The Permittee is prohibited from making any modifications or changes to the financial assurance mechanisms, including levels of funding, unless authorized by written approval of the Commissioner. An account statement from the financial institution maintaining the trust fund shall also be provided to the MPCA at this time (i.e. at the time of submittal of the annual report). If the Permittee wishes to establish a dedicated trust fund, in lieu of a irrevocable letter of credit, to satisfy its financial assurance obligations, it shall make such a request as part of its annual review and report submittal required in 1.22 above.
- 1.25 The Permittee shall obtain the Commissioner's written prior approval to modify any portion of an approved financial assurance plan, including any proposed changes to the financial assurance mechanisms and financial assurance funding levels.
- 1.26 In the event that the MPCA requires the Permittee to provide to the MPCA a facility closure plan for approval in accordance with Chapter 8.1.46 of this permit, or if proper closure of the facility includes corrective, cleanup, or remedial actions for any environmental contamination or damage, the MPCA is authorized to hold, and to require the Permittee to maintain, any letter of credit with standby trust fund or fully-funded cash trust fund until the corrective, cleanup or remedial actions are completed to the satisfaction of the MPCA. If such actions are not completed by the Permittee in a timely manner and to the satisfaction of the MPCA, the MPCA is authorized to draw on the letter of credit or the fully-funded cash trust fund and to initiate and/or complete such actions.

At such time as proper closure of the facility and all required corrective, cleanup and/or remedial actions have been completed and paid for the MPCA shall return the letter of credit to the issuing institution or the balance of the unused funds in any trust fund to the Permittee.

## **Chapter 6. Industrial Process Wastewater**

### **1. Authorization**

- 1.1 This permit authorizes the discharge from the Area 1 Pit, and includes the activities at the Mesabi Nugget Large Scale Demonstration Plant (LDSP) and Area 1 Pit which contribute pollutants or may affect the discharge from the Area 1 Pit. This permit does not authorize activities covered by NPDES/SDS Permit MN0069078 issued to Mesabi Mining LLC associated with the Mesabi Mining Area, or for discharges from the Area 2WX, 6, 9, and 9S Pits.

### **2. Prohibited Discharges**

- 2.1 Unless specifically authorized elsewhere in this permit, this permit does not authorize the discharge of sewage, wash water, scrubber water, spills, oil, hazardous substances, or equipment/vehicle cleaning and maintenance wastewaters to ditches, wetlands or other surface waters of the state.
- 2.2 The Permittee shall prevent the routing of pollutants from the facility to a municipal wastewater treatment system in any manner unless authorized by the pretreatment standards of the MPCA and the municipal authority.
- 2.3 The Permittee shall not transport pollutants to a municipal wastewater treatment system that will interfere with the operation of the treatment system or cause pass-through violations of effluent limits or water quality standards.

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## Chapter 6. Industrial Process Wastewater

### 3. Chemical Additives

- 3.1 The following listed chemical additives have been approved for use at the water treatment system. If the facility chooses to change usage of chemical additives, the chemical additive approval processes is included in Chapter 8. Total Facility Requirements, part 1.42. MPCA's prior approval is required before the Permittee may use any new or different water treatment additive or increase the quantity used of an existing additive.
- 3.2 The following chemicals are used as dust suppressants:
  - DustTreat DC9119E, at a maximum rate of 900 gal/day;
  - DustTreat DC9136, at a maximum rate of 1200 gal/day;
  - EC46, at a maximum rate of 1200 gal/day; and
  - HaulEZ, at a maximum rate of 3300 gal/day.
- 3.3 The following chemical additives are authorized for use for pH adjustment:
  - Sulfuric Acid, at a maximum rate of 230 gal/day;
  - Lime (98%Ca(OH)<sub>2</sub>), at a maximum rate of 35 gal/day;and
  - Sodium Hydroxide, at a maximum rate of 240 gal/day.
- 3.4 The following chemical additives are approved for used as anti-scalants:
  - DeposiTrol SF502, at a maximum rate of 5 gal/day; and
  - DepositTrol PY5206, at a maximum rate of 20 gal/day.
- 3.5 The following chemical additives have been approved for use at the facility as corrosion inhibitors:
  - CorrShield NT 402, at a maximum rate of 250 lb/day; and
  - FloGard MS6206, at a maximum rate of 220 lb/day.
- 3.6 The following chemical additives have been approved as settling and filtering aids:
  - Polyfloc AE1115, at a maximum rate of 150 lb/day;
  - Klairaid PC1192, at a maximum rate of 300 lb/day;
  - Klairaid IC1183, at a maximum rate of 5 gal/day; and
  - Nalco 71325, at a maximum rate of 42 gal/day.
- 3.7 The following chemicals have been approved for use at the facility as biocides:
  - Sodium Hypochlorite, at a maximum rate of 250 gal/day; and
  - Spectrus NX 1106, at a maximum rate of 5 lb/day.
- 3.8 GenGard GN 7004, used as a solids dispersant, is approved for use at the facility at a maximum rate of 250 lb/day.
- 3.9 Soda Ash (98% H<sub>2</sub>SO<sub>4</sub>), used in the lime softening system, is approved for use at the facility at a maximum rate of 10 short tons/day.
- 3.10 MetClear MR2405, which is used for metal precipitation, is approved for use at the facility a maximum rate of 50 lb/day.
- 3.11 FoamTrol AF2290, which is used as an anti-foaming agent, is approved for use at the facility at a maximum rate of 5 gal/day.
- 3.12 Nalco 73924, which is used for iron deposit removal, is approved for use at a maximum rate of 5700 lb/day.

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## **Chapter 6. Industrial Process Wastewater**

### **4. Toxic Substance Reporting**

- 4.1 The Permittee shall notify the MPCA immediately of any knowledge or reason to believe that an activity has occurred that would result in the discharge of a toxic pollutant listed in Minnesota Rules, pt. 7001.1060, subp. 4 to 10 or listed below that is not limited in the permit, if the discharge of this toxic pollutant has exceeded or is expected to exceed the following levels:
- a. for acrolein and acrylonitrile, 200 ug/L;
  - b. for 2,4-dinitrophenol and 2-methyl-4,6-dinitrophenol, 500 ug/L;
  - c. for antimony, 1mg/L;
  - d. for any other toxic pollutant listed in Minnesota Rules, pt. 7001.1060, subp. 4 to 10, 100 ug/L; or
  - e. five times the maximum concentration value identified and reported for that pollutant in the permit application. (Minnesota Rules, pt. 7001.1090, subp. 2.A)
- 4.2 The Permittee shall notify the MPCA immediately if the Permittee has begun or expects to begin to use or manufacture as an intermediate or final by-product a toxic pollutant that was not reported in the permit application under Minnesota Rules, pt. 7001.1050, subp. 2.J. (Minnesota Rules, pt. 7001.1090, subp. 2.B)

### **5. Polychlorinated Biphenyls (PCBs)**

- 5.1 PCBs, including but not limited to those used in electrical transformers and capacitors, shall not be discharged or released to the environment.

### **6. New Proposed Dewatering**

- 6.1 The Permittee shall obtain a permit modification before discharging from a previously unpermitted point source to a water of the state.
- 6.2 In addition to the requirements in the Permit Modifications section of this permit, the Permittee shall submit to the MPCA detailed plans and specifications for the proposed methods of achieving any discharge limits for turbidity and total suspended solids for the new outfall, based in part upon representative water quality data for untreated wastewater and a detailed map and diagram description of the proposed design for the flow control structures, and route of the discharge to receiving waters.

### **7. Application for Permit Reissuance**

- 7.1 The permit application shall include analytical data as part of the application for reissuance of this permit. These analyses shall be done on individual samples taken during the twelve-month period before the reissuance application is submitted.

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## **Chapter 6. Industrial Process Wastewater**

### **7. Application for Permit Reissuance**

7.2 The permit application shall include analytical data for at least the following parameters at monitoring station SD001:

- a. biochemical oxygen demand, chemical oxygen demand, total organic carbon, gasoline range organics, diesel range organics, fecal coliform, ammonia, temperature;
- b. color, fluoride, nitrate-nitrite (as nitrogen), total organic nitrogen, oil and grease, total phosphorus, chloride, sulfate, sulfide (as sulfur), surfactants, bicarbonates, alkalinity, total salinity, total dissolved solids, specific conductance;
- c. aluminum, antimony, arsenic, barium, beryllium, boron, cadmium, calcium, chromium, cobalt, copper, iron, lead, magnesium, manganese, molybdenum, nickel, potassium, selenium, silver, sodium, thallium, tin, titanium, vanadium, zinc (all in total form) according to 40 CFR Part 136.3;
- d. total mercury using EPA Method 1631;
- f. PCB-1016, PCB-1221, PCB-1232, PCB-1242, PCB-1248, PCB-1254, PCB-1260; and
- g. a scan of constituents using EPA Methods 624 and 625, in 40 CFR Part 136.

The Permittee shall identify, in addition to those pollutants noted in Methods 624 and 625 (Appendix D, Table II), the concentrations of at least ten of the most abundant constituents of the acid and base/neutral organic fractions shown to be present by peaks on the total ion plots (reconstructed gas chromatograms) within ten percent of the nearest internal standard. Identification shall be through the use of U.S. EPA/NIH computerized library of mass spectra, with visual confirmation and potential quantification.

7.3 The permit application shall include a detailed, finalized version of the Pollutant Reduction Study Report which includes a proposal and complete information submittal which will result in the compliance with applicable final effluent limitations as soon as possible. The application, through the Pollutant Reduction Study Report, shall identify in detail the sequence of specific activities to be undertaken (e.g. the process for design of treatment equipment or pipeline construction), including any pilot testing, and shall include specific milestone dates for completion of the intermediary activities. This permit application submittal shall also include, as necessary, engineering plans and specifications applicable to the proposed design, a complete set of monitoring or background data required as part of the proposal, and details related to the proposal to meet effluent limitations, in addition to all of the components required within an application for modification or reissuance of a permit. The Pollutant Reduction Study Report which fulfills all requirements of the approved Pollutant Reduction Study work plan must be submitted to MPCA before the application for permit reissuance can be determined complete.

## **Chapter 7. Stormwater Management**

### **1. Authorization**

- 1.1 This chapter authorizes the Permittee to discharge stormwater associated with industrial activity from industrial activity associated with SIC codes 3312 in accordance with the terms and conditions of this chapter.
- 1.2 This permit, unless specifically authorized by another chapter, does not authorize the discharge of sewage, wash water, scrubber water, floor drains from process areas, spills, oils, hazardous substances, or equipment/vehicle cleaning and maintenance wastewaters to ditches, wetlands or other surface waters of the state.

### **2. Water Quality Standards**

- 2.1 The Permittee shall operate and maintain the facility and shall control runoff, including stormwater, from the facility to prevent the exceedance of water quality standards specified in Minnesota Rules, chs. 7050 and 7060.

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## **Chapter 7. Stormwater Management**

### **2. Water Quality Standards**

2.2 The Permittee shall limit and control the use of materials at the facility that may cause exceedances of ground water standards specified in Minnesota Rules, ch. 7060. These materials include, but are not limited to, detergents and cleaning agents, solvents, chemical dust suppressants, lubricants, fuels, drilling fluids, oils, fertilizers, explosives and blasting agents.

### **3. Stormwater Pollution Prevention Plan**

3.1 The Permittee shall develop and implement a Stormwater Pollution Prevention Plan (Plan) to address the specific conditions at the industrial facility. The goal of the Plan is to eliminate or minimize contact of stormwater with significant materials that may result in pollution of the runoff. If contact cannot be eliminated or reduced, stormwater that has contacted significant material should be treated before it is discharged from the site.

Guidance for preparing the SWPPP can be found on the web at:

<http://www.pca.state.mn.us/index.php/water/water-types-and-programs/stormwater/industrial-stormwater/industrial-stormwater.html>.

3.2 At a minimum, the SWPPP must include:

- a. a description of appropriate Best Management Practices (BMPs) (including structural and non-structural) for protection of surface and groundwater quality at the facility and a schedule for implementing the practices;
- b. a drainage map for the entire facility;
- c. an inventory of exposed significant materials;
- d. an evaluation of the facility areas with exposure of significant materials to stormwater;
- e. an evaluation of all discharge conveyances from the site; a preventative maintenance program;
- f. a spill prevention and response procedure;
- g. procedures to be followed by designated staff employed by the Permittee to implement the SWPPP; and
- h. description of stormwater controls.

3.3 In addition, the SWPPP must include the following:

- a. Facility Map. Identify where any of the following may be exposed to stormwater: storage or disposal of wastes such as spent solvents and baths, sand, slag and dross; pollution control equipment (e.g. baghouses); coal, coke, scrap, sand, fluxes, refractories, or metal in any form.
- b. Potential Pollutant Sources. Describe the following additional sources that have potential pollutants associated with them: Areas where accumulation of significant amounts of particulate matter could occur from such sources as furnace or oven emissions and losses from coal and coke handling operations.

3.4 The SWPPP shall be developed and implemented within 180 days after permit issuance and shall be available for inspection.



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## **Chapter 7. Stormwater Management**

### **4. Employee Training Program**

4.1 The Permittee must develop and implement an employee training program to inform appropriate personnel of the components and goals of the SWPPP. At a minimum, training must address:

- a. spill/leak prevention and response;
- b. good housekeeping;
- c. petroleum product management;
- d. process chemical management;
- e. fueling procedures;
- f. proper procedures for using fertilizer, herbicides, and pesticides;
- g. erosion and sedimentation controls;
- h. inspections;
- i. preventative maintenance;
- j. runoff management; and
- k. materials management practices.

The SWPPP must identify periodic dates for such training as well as personnel responsible for managing and implementing the SWPPP and those responsible for the reporting requirements of this permit. This must include the facility contact person as indicated on the permit application. Identified personnel must be available at reasonable times of operation.

Guidance regarding employee training programs is available on the web at:  
<http://www.pca.state.mn.us/index.php/water/water-types-and-programs/stormwater/industrial-stormwater/industrial-stormwater.html>.

### **5. Inspection and Maintenance**

5.1 The Permittee must develop and implement an inspection schedule that includes a minimum of one facility inspection per calendar month. A total of two monthly inspections shall occur during runoff events, with at least one being performed during snow melt. Inspections must be conducted by appropriately trained personnel at the facility. The purpose of inspections is to: 1) determine whether structural and non-structural BMPs require maintenance or changes, and 2) evaluate the completeness and accuracy of the SWPPP.

Inspection results and documentation must remain on-site whenever Permittee staff are available on the site and must be available upon request. The inspection form is located on the MPCA's website at  
<http://www.pca.state.mn.us/index.php/water/water-types-and-programs/stormwater/industrial-stormwater/industrial-stormwater.html>.

5.2 Inspections must be documented and must include the following information:

- a. inspection date and time;
- b. weather conditions;
- c. inspector name;
- d. findings; and
- e. a description of any necessary corrective actions and a schedule for corrective action completion.

A copy of all inspection documentation must be stored with the SWPPP.

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## **Chapter 7. Stormwater Management**

### **5. Inspection and Maintenance**

- 5.3 In addition to the inspection requirements listed above, the following areas (including, but not limited to) must be inspected:
- a. air pollution control equipment (e.g. baghouses, electrostatic precipitators, scrubbers, and cyclones) for any signs of degradation (e.g. leaks, corrosion, or improper operation) that could limit efficiency and lead to excessive emissions.
  - b. air flow at inlets and outlets (or use equivalent measures) to check for leaks or blockage in ducts
  - c. all process and material handling equipment (e.g. conveyors, cranes and vehicles) for leaks, drips or the potential loss of material.
- 5.4 If conditions are observed at the site that require changes in the SWPPP, such changes must be made to the SWPPP prior to submission of the annual report for that calendar year.
- 5.5 If the findings of a site inspection indicate that BMPs are not meeting the objectives as identified above, corrective actions must be initiated within thirty days and the BMP restored to full operation as soon as conditions allow.

### **6. Good Housekeeping & Control Measures**

- 6.1 The Permittee shall include a cleaning and maintenance program for all impervious areas of the facility where particulate matter, dust, or debris may accumulate, especially areas where material loading and unloading, storage handling and processing occur.
- 6.2 The Permittee shall also implement a cleaning program which includes regular sweeping for paved areas where vehicle traffic or material storage occur but where vegetative or other stabilization methods are not practicable.
- 6.3 For unstabilized areas where sweeping is not practicable, the Permittee shall choose alternative stormwater management devices that effectively trap or remove sediment.

### **7. Sedimentation Basin Design and Construction**

- 7.1 The Permittee is authorized to use designed infiltration devices or industrial stormwater ponds/sedimentation basins for stormwater management. Stormwater ponds/sedimentation basins must be designed by a registered professional engineer and installed under the direct supervision of a registered professional engineer. If a new stormwater pond/sedimentation basin will be constructed, the Permittee must follow the guidance located on the web site at <http://www.pca.state.mn.us/index.php/water/water-types-and-programs/stormwater/industrial-stormwater/industrial-stormwater.html>.

### **8. Application of Chemical Dust Suppressants**

- 8.1 If chemical dust suppressants are applied, the Permittee shall submit a Chemical Dust Suppressant Annual Report due 31 days after the end of each calendar year, (February 1), following the application of a chemical dust suppressant.
- 8.2 The Chemical Dust Suppressant Annual Report shall include:
- a. a record of the dates, methods, locations and amounts by volume of chemical application at the facility; and
  - b. whether the product was applied in the preceding year.
- 8.3 If a material applied is mixed with water or another solvent before application, the chemical analysis shall be done on the aqueous or other mixture that is representative of the solution applied. This analysis shall be conducted during the same calendar year of application. This analysis shall include the parameters that may be determined by U.S. Environmental Protection Agency (EPA) Methods 624 and 625 which are described in 40 CFR Part 136.

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## **Chapter 7. Stormwater Management**

### **8. Application of Chemical Dust Suppressants**

8.4 Chemical dust suppressants, if used, shall not be applied within 100 feet of the surface receiving waters identified in the 'Facility Description' section of this permit.

### **9. Reporting**

9.1 Submit a Stormwater Annual Report by March 31 of each year following permit issuance. A copy of the Stormwater Annual Report Form is located on the MPCA's website at:

<http://www.pca.state.mn.us/index.php/water/water-types-and-programs/stormwater/industrial-stormwater/industrial-stormwater.html>.

9.2 The Permittee shall, upon request of the Agency, submit within a reasonable time the information and reports that are relevant to compliance with this Chapter, including the Plan, inspection reports, annual reports, original laboratory sheets from analyses conducted on the waste stream, and BMP plans and specifications.

### **10. Records**

10.1 The SWPPP must be retained for the duration of the permit. A copy of the SWPPP must remain on the permitted site whenever Permittee staff are available on the site and be available upon request. The Permittee must maintain the following records for the period of permit coverage:

- a. dates and findings of inspections;
- b. completed corrective actions;
- c. documentation of all changes to the SWPPP; and
- e. a copy of all annual reports.

### **11. Notification**

11.1 If the Permittee discharges stormwater into a regulated Municipal Separate Storm Sewer System (MS4), the Permittee must notify the operator of the first MS4 of the existence of this permit within 30 days of its issuance.

### **12. Request for Termination of Stormwater Permit Coverage**

12.1 If the Permittee meets the eligibility criteria for No Exposure and is eligible for the conditional exclusion for No Exposure, as regulated by 40 CFR 122.26(b)(14)(i) through (ix) and (xi), it may submit: a) a No Exposure certification to the MPCA in accordance with Minn. R. 7090.3060, and b) a permit application for a modification of the NPDES/SDS Permit.

12.2 The Permittee must apply for the No Exposure certification to the MPCA once every five years. A copy of the No Exposure certification card shall be submitted with the permit application for permit reissuance.

12.3 The No Exposure exclusion is conditional. The facility must maintain a condition of No Exposure at the facility in order for the No Exposure exclusion to remain applicable. In the event of any change or circumstance that causes exposure of industrial activities or materials to stormwater, the facility must comply with the stormwater requirements of this chapter.

12.4 The no exposure certification is non-transferrable in accordance with Minn. R. 7090.3060, subp. 5(D). In the event that the facility operator changes, then the new operator must submit a new no exposure certification to the MPCA, Industrial Stormwater Program, 520 Lafayette Rd N, St Paul, MN 55155-4194.

12.5 The MPCA retains the authority to require the facility operator to comply with the requirements of this chapter, even when an industrial operator certifies no exposure, if the MPCA has determined that the discharge is contributing to the violation of, or interfering with the attainment or maintenance of water quality standards, including designated uses.

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## **Chapter 7. Stormwater Management**

### **13. Definitions**

- 13.1 "Benchmark Monitoring Location" means the location(s) within the boundary of the facility where the Permittee will collect stormwater samples for the purpose of compliance with the benchmark monitoring requirements of this permit. The benchmark monitoring location(s) shall be in a location that:
- a. is below the most down-gradient BMP from the source of the industrial activity or significant materials, but prior to discharging from the Permittee's operational control;
  - b. minimizes or eliminates sampling of stormwater from off-site sources (run-on); and
  - c. yields a sample that best represents the contribution of pollutants the Permittee is required to monitor for in accordance with the Benchmark Monitoring Requirements section of this permit, and that receives drainage from an area of industrial activities, processes, and significant materials exposed to stormwater.
- 13.2 "Best Management Practices" or "BMPs" means practices to prevent or reduce the pollution of waters of the state, including schedules of activities, prohibitions of practices, other management practices, and also includes treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge, waste disposal or drainage from raw material storage.
- 13.3 "No exposure" means all industrial materials and activities are protected by a storm resistant shelter to prevent exposure to rain, snow, snow melt, and/or runoff. Industrial activities or materials include, but are not limited to, material handling equipment or activities, industrial machinery, raw materials, intermediate products, by-products, final products, or waste products.
- 13.4 "Non-stormwater discharge" means any discharge not comprised entirely of stormwater discharges authorized by a NPDES permit.
- 13.5 "Runoff" means any liquid that drains over land from any part of a facility.

## **Chapter 8. Total Facility Requirements**

### **1. General Requirements**

#### **General Requirements**

- 1.1 Incorporation by Reference. The following applicable federal and state laws are incorporated by reference in this permit, are applicable to the Permittee, and are enforceable parts of this permit: 40 CFR pts. 122.41, 122.42, 136, 403 and 503; Minn. R. pts. 7001, 7041, 7045, 7050, 7052, 7053, 7060, and 7080; and Minn. Stat. Sec. 115 and 116.
- 1.2 Permittee Responsibility. The Permittee shall perform the actions or conduct the activity authorized by the permit in compliance with the conditions of the permit and, if required, in accordance with the plans and specifications approved by the Agency. (Minn. R. 7001.0150, subp. 3, item E)
- 1.3 Toxic Discharges Prohibited. Whether or not this permit includes effluent limitations for toxic pollutants, the Permittee shall not discharge a toxic pollutant except according to Code of Federal Regulations, Title 40, sections 400 to 460 and Minnesota Rules 7050, 7052, 7053 and any other applicable MPCA rules. (Minn. R. 7001.1090, subp.1, item A)
- 1.4 Nuisance Conditions Prohibited. The Permittee's discharge shall not cause any nuisance conditions including, but not limited to: floating solids, scum and visible oil film, acutely toxic conditions to aquatic life, or other adverse impact on the receiving water. (Minn. R. 7050.0210 subp. 2)
- 1.5 Property Rights. This permit does not convey a property right or an exclusive privilege. (Minn. R. 7001.0150, subp. 3, item C)

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## **Chapter 8. Total Facility Requirements**

### **1. General Requirements**

- 1.6 **Liability Exemption.** In issuing this permit, the state and the MPCA assume no responsibility for damage to persons, property, or the environment caused by the activities of the Permittee in the conduct of its actions, including those activities authorized, directed, or undertaken under this permit. To the extent the state and the MPCA may be liable for the activities of its employees, that liability is explicitly limited to that provided in the Tort Claims Act. (Minn. R. 7001.0150, subp. 3, item O)
- 1.7 The MPCA's issuance of this permit does not obligate the MPCA to enforce local laws, rules, or plans beyond what is authorized by Minnesota Statutes. (Minn. R. 7001.0150, subp.3, item D)
- 1.8 **Liabilities.** The MPCA's issuance of this permit does not release the Permittee from any liability, penalty or duty imposed by Minnesota or federal statutes or rules or local ordinances, except the obligation to obtain the permit. (Minn. R. 7001.0150, subp.3, item A)
- 1.9 The issuance of this permit does not prevent the future adoption by the MPCA of pollution control rules, standards, or orders more stringent than those now in existence and does not prevent the enforcement of these rules, standards, or orders against the Permittee. (Minn. R. 7001.0150, subp.3, item B)
- 1.10 **Severability.** The provisions of this permit are severable and, if any provisions of this permit or the application of any provision of this permit to any circumstance are held invalid, the application of such provision to other circumstances and the remainder of this permit shall not be affected thereby.
- 1.11 **Compliance with Other Rules and Statutes.** The Permittee shall comply with all applicable air quality, solid waste, and hazardous waste statutes and rules in the operation and maintenance of the facility.
- 1.12 **Inspection and Entry.** When authorized by Minn. Stat. Sec. 115.04; 115B.17, subd. 4; and 116.091, and upon presentation of proper credentials, the agency, or an authorized employee or agent of the agency, shall be allowed by the Permittee to enter at reasonable times upon the property of the Permittee to examine and copy books, papers, records, or memoranda pertaining to the construction, modification, or operation of the facility covered by the permit or pertaining to the activity covered by the permit; and to conduct surveys and investigations, including sampling or monitoring, pertaining to the construction, modification, or operation of the facility covered by the permit or pertaining to the activity covered by the permit. (Minn. R. 7001.0150, subp.3, item I)
- 1.13 **Control Users.** The Permittee shall regulate the users of its wastewater treatment facility so as to prevent the introduction of pollutants or materials that may result in the inhibition or disruption of the conveyance system, treatment facility or processes, or disposal system that would contribute to the violation of the conditions of this permit or any federal, state or local law or regulation.

#### **Sampling**

- 1.14 **Representative Sampling.** Samples and measurements required by this permit shall be conducted as specified in this permit and shall be representative of the discharge or monitored activity. (40 CFR 122.41 (j)(1))
- 1.15 **Additional Sampling.** If the Permittee monitors more frequently than required, the results and the frequency of monitoring shall be reported on the Discharge Monitoring Report (DMR) or another MPCA-approved form for that reporting period. (Minn. R. 7001.1090, subp. 1, item E)
- 1.16 **Certified Laboratory.** A laboratory certified by the Minnesota Department of Health shall conduct analyses required by this permit. Analyses of dissolved oxygen, pH, temperature, specific conductance, and total residual oxidants (chlorine, bromine) do not need to be completed by a certified laboratory but shall comply with manufacturers specifications for equipment calibration and use. (Minn. Stat. Sec. 144.97 through 144.98 and Minn. R. 4740.2010 and 4740.2050 through 4740.2120) (Minn. R. 4740.2010 and 4740.2050 through 2120)
- 1.17 **Sample Preservation and Procedure.** Sample preservation and test procedures for the analysis of pollutants shall conform to 40 CFR Part 136 and Minn. R. 7041.3200.

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## Chapter 8. Total Facility Requirements

### 1. General Requirements

- 1.18 Equipment Calibration: Flow meters, pumps, flumes, lift stations or other flow monitoring equipment used for purposes of determining compliance with permit shall be checked and/or calibrated for accuracy at least twice annually. (Minn. R. 7001.0150, subp. 2, items B and C)
- 1.19 Maintain Records. The Permittee shall keep the records required by this permit for at least three years, including any calculations, original recordings from automatic monitoring instruments, and laboratory sheets. The Permittee shall extend these record retention periods upon request of the MPCA. The Permittee shall maintain records for each sample and measurement. The records shall include the following information (Minn. R. 7001.0150, subp. 2, item C):
- a. The exact place, date, and time of the sample or measurement;
  - b. The date of analysis;
  - c. The name of the person who performed the sample collection, measurement, analysis, or calculation; and
  - d. The analytical techniques, procedures and methods used; and
  - e. The results of the analysis.
- 1.20 Completing Reports. The Permittee shall submit the results of the required sampling and monitoring activities on the forms provided, specified, or approved by the MPCA. The information shall be recorded in the specified areas on those forms and in the units specified. (Minn. R. 7001.1090, subp. 1, item D; Minn. R. 7001.0150, subp. 2, item B)

Required forms may include:

#### DMR Supplemental Form

Individual values for each sample and measurement must be recorded on the DMR Supplemental Form which, if required, will be provided by the MPCA. DMR Supplemental Forms shall be submitted with the appropriate DMRs. You may design and use your own supplemental form; however it must be approved by the MPCA. Note: Required summary information **MUST** also be recorded on the DMR. Summary information that is submitted **ONLY** on the DMR Supplemental Form does not comply with the reporting requirements.

- 1.21 Submitting Reports. DMRs and DMR Supplemental Forms shall be submitted to:

#### MPCA

Attn: Discharge Monitoring Reports  
520 Lafayette Road North  
St. Paul, Minnesota 55155-4194.

DMRs and DMR Supplemental Forms shall be postmarked by the 21st day of the month following the sampling period or as otherwise specified in this permit. A DMR shall be submitted for each required station even if no discharge occurred during the reporting period. (Minn. R. 7001.0150, subps. 2.B and 3.H)

Other reports required by this permit shall be postmarked by the date specified in the permit to:

#### MPCA

Attn: WQ Submittals Center  
520 Lafayette Road North  
St. Paul, Minnesota 55155-4194

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## Chapter 8. Total Facility Requirements

### 1. General Requirements

- 1.22 Incomplete or Incorrect Reports. The Permittee shall immediately submit an amended report or DMR to the MPCA upon discovery by the Permittee or notification by the MPCA that it has submitted an incomplete or incorrect report or DMR. The amended report or DMR shall contain the missing or corrected data along with a cover letter explaining the circumstances of the incomplete or incorrect report. (Minn. R. 7001.0150 subp. 3, item G)
- 1.23 Required Signatures. All DMRs, forms, reports, and other documents submitted to the MPCA shall be signed by the Permittee or the duly authorized representative of the Permittee. Minn. R. 7001.0150, subp. 2, item D. The person or persons that sign the DMRs, forms, reports or other documents must certify that he or she understands and complies with the certification requirements of Minn. R. 7001.0070 and 7001.0540, including the penalties for submitting false information. Technical documents, such as design drawings and specifications and engineering studies required to be submitted as part of a permit application or by permit conditions, must be certified by a registered professional engineer. (Minn. R. 7001.0540)
- 1.24 Detection Level. The Permittee shall report monitoring results below the reporting limit (RL) of a particular instrument as "<" the value of the RL. For example, if an instrument has a RL of 0.1 mg/L and a parameter is not detected at a value of 0.1 mg/L or greater, the concentration shall be reported as "<0.1 mg/L." "Non-detected," "undetected," "below detection limit," and "zero" are unacceptable reporting results, and are permit reporting violations. (Minn. R. 7001.0150, subp. 2, item B)

Where sample values are less than the level of detection and the permit requires reporting of an average, the Permittee shall calculate the average as follows:

- a. If one or more values are greater than the level of detection, substitute zero for all nondetectable values to use in the average calculation.
  - b. If all values are below the level of detection, report the averages as "<" the corresponding level of detection.
  - c. Where one or more sample values are less than the level of detection, and the permit requires reporting of a mass, usually expressed as kg/day, the Permittee shall substitute zero for all nondetectable values. (Minn. R. 7001.0150, subp. 2, item B)
- 1.25 Records. The Permittee shall, when requested by the Agency, submit within a reasonable time the information and reports that are relevant to the control of pollution regarding the construction, modification, or operation of the facility covered by the permit or regarding the conduct of the activity covered by the permit. (Minn. R. 7001.0150, subp. 3, item H)
- 1.26 Confidential Information. Except for data determined to be confidential according to Minn. Stat. Sec. 116.075, subd. 2, all reports required by this permit shall be available for public inspection. Effluent data shall not be considered confidential. To request the Agency maintain data as confidential, the Permittee must follow Minn. R. 7000.1300.

### Noncompliance and Enforcement

- 1.27 Subject to Enforcement Action and Penalties. Noncompliance with a term or condition of this permit subjects the Permittee to penalties provided by federal and state law set forth in section 309 of the Clean Water Act; United States Code, title 33, section 1319, as amended; and in Minn. Stat. Sec. 115.071 and 116.072, including monetary penalties, imprisonment, or both. (Minn. R. 7001.1090, subp. 1, item B)
- 1.28 Criminal Activity. The Permittee may not knowingly make a false statement, representation, or certification in a record or other document submitted to the Agency. A person who falsifies a report or document submitted to the Agency, or tampers with, or knowingly renders inaccurate a monitoring device or method required to be maintained under this permit is subject to criminal and civil penalties provided by federal and state law. (Minn. R. 7001.0150, subp.3, item G., 7001.1090, subps. 1, items G and H and Minn. Stat. Sec. 609.671)

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## Chapter 8. Total Facility Requirements

### 1. General Requirements

- 1.29 Noncompliance Defense. It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. ( 40 CFR 122.41(c))
- 1.30 Effluent Violations. If sampling by the Permittee indicates a violation of any discharge limitation specified in this permit, the Permittee shall immediately make every effort to verify the violation by collecting additional samples, if appropriate, investigate the cause of the violation, and take action to prevent future violations. Violations that are determined to pose a threat to human health or a drinking water supply, or represent a significant risk to the environment shall be immediately reported to the Minnesota Department of Public Safety Duty Officer at 1(800)422-0798 (toll free) or (651)649-5451 (metro area). In addition, you may also contact the MPCA during business hours. Otherwise the violations and the results of any additional sampling shall be recorded on the next appropriate DMR or report.
- 1.31 Unauthorized Releases of Wastewater Prohibited. Except for conditions specifically described in Minn. R. 7001.1090, subp. 1, items J and K, all unauthorized bypasses, overflows, discharges, spills, or other releases of wastewater or materials to the environment, whether intentional or not, are prohibited. However, the MPCA will consider the Permittee's compliance with permit requirements, frequency of release, quantity, type, location, and other relevant factors when determining appropriate action. (40 CFR 122.41 and Minn. Stat. Sec 115.061)
- 1.32 Discovery of a release. Upon discovery of a release, the Permittee shall:
  - a. Take all reasonable steps to immediately end the release.
  - b. Notify the Minnesota Department of Public Safety Duty Officer at 1(800)422-0798 or (651)649-5451 (metro area) immediately upon discovery of the release. You may contact the MPCA during business hours at 1(800)657-3864 or (651)296-6300 (metro area).
  - c. Recover as rapidly and as thoroughly as possible all substances and materials released or immediately take other action as may be reasonably possible to minimize or abate pollution to waters of the state or potential impacts to human health caused thereby. If the released materials or substances cannot be immediately or completely recovered, the Permittee shall contact the MPCA. If directed by the MPCA, the Permittee shall consult with other local, state or federal agencies (such as the Minnesota Department of Natural Resources and/or the Wetland Conservation Act authority) for implementation of additional clean-up or remediation activities in wetland or other sensitive areas.
  - d. Collect representative samples of the release. The Permittee shall sample the release for parameters of concern immediately following discovery of the release. The Permittee may contact the MPCA during business hours to discuss the sampling parameters and protocol. In addition, Fecal Coliform Bacteria samples shall be collected where it is determined by the Permittee that the release contains or may contain sewage. If the release cannot be immediately stopped, the Permittee shall consult with MPCA regarding additional sampling requirements. Samples shall be collected at least, but not limited to, two times per week for as long as the release continues.
  - e. Submit the sampling results as directed by the MPCA. At a minimum, the results shall be submitted to the MPCA with the next DMR.



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## **Chapter 8. Total Facility Requirements**

### **1. General Requirements**

- 1.33 Upset Defense. In the event of temporary noncompliance by the Permittee with an applicable effluent limitation resulting from an upset at the Permittee's facility due to factors beyond the control of the Permittee, the Permittee has an affirmative defense to an enforcement action brought by the Agency as a result of the noncompliance if the Permittee demonstrates by a preponderance of competent evidence:
- a. The specific cause of the upset;
  - b. That the upset was unintentional;
  - c. That the upset resulted from factors beyond the reasonable control of the Permittee and did not result from operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventative maintenance, or increases in production which are beyond the design capability of the treatment facilities;
  - d. That at the time of the upset the facility was being properly operated;
  - e. That the Permittee properly notified the Commissioner of the upset in accordance with Minn. R. 7001.1090, subp. 1, item I; and
  - f. That the Permittee implemented the remedial measures required by Minn. R. 7001.0150, subp. 3, item J.

#### **Operation and Maintenance**

- 1.34 The Permittee shall at all times properly operate and maintain the facilities and systems of treatment and control, and the appurtenances related to them which are installed or used by the Permittee to achieve compliance with the conditions of the permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. The Permittee shall install and maintain appropriate backup or auxiliary facilities if they are necessary to achieve compliance with the conditions of the permit and, for all permits other than hazardous waste facility permits, if these backup or auxiliary facilities are technically and economically feasible Minn. R. 7001.0150. subp. 3, item F.
- 1.35 In the event of a reduction or loss of effective treatment of wastewater at the facility, the Permittee shall control production or curtail its discharges to the extent necessary to maintain compliance with the terms and conditions of this permit. The Permittee shall continue this control or curtailment until the wastewater treatment facility has been restored or until an alternative method of treatment is provided. (Minn. R. 7001.1090, subp. 1, item C)
- 1.36 Solids Management. The Permittee shall properly store, transport, and dispose of biosolids, septage, sediments, residual solids, filter backwash, screenings, oil, grease, and other substances so that pollutants do not enter surface waters or ground waters of the state. Solids should be disposed of in accordance with local, state and federal requirements. (40 CFR 503 and Minn. R. 7041 and applicable federal and state solid waste rules)
- 1.37 Scheduled Maintenance. The Permittee shall schedule maintenance of the treatment works during non-critical water quality periods to prevent degradation of water quality, except where emergency maintenance is required to prevent a condition that would be detrimental to water quality or human health. (Minn. R. 7001.0150. subp. 3, item F and Minn. R. 7001.0150. subp. 2, item B)
- 1.38 Control Tests. In-plant control tests shall be conducted at a frequency adequate to ensure compliance with the conditions of this permit. (Minn. R. 7001.0150. subp. 3, item F and Minn. R. 7001.0150. subp. 2, item B)

#### **Changes to the Facility or Permit**

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## Chapter 8. Total Facility Requirements

### 1. General Requirements

- 1.39 Permit Modifications. No person required by statute or rule to obtain a permit may construct, install, modify, or operate the facility to be permitted, nor shall a person commence an activity for which a permit is required by statute or rule until the Agency has issued a written permit for the facility or activity. (Minn. R. 7001.0030)

Permittees that propose to make a change to the facility or discharge that requires a permit modification must follow Minn. R. 7001.0190. If the Permittee cannot determine whether a permit modification is needed, the Permittee must contact the MPCA prior to any action. It is recommended that the application for permit modification be submitted to the MPCA at least 180 days prior to the planned change.

- 1.40 Construction. No construction shall begin until the Permittee receives written approval of plans and specifications from the MPCA (Minn. Stat. Sec. 115.03(f)).

Plans, specifications and MPCA approval are not necessary when maintenance dictates the need for installation of new equipment, provided the equipment is the same design size and has the same design intent. For instance, a broken pipe, lift station pump, aerator, or blower can be replaced with the same design-sized equipment without MPCA approval.

If the proposed construction is not expressly authorized by this permit, it may require a permit modification. If the construction project requires an Environmental Assessment Worksheet under Minn. R. 4410, no construction shall begin until a negative declaration is issued and all approvals are received or implemented.

- 1.41 Report Changes. The Permittee shall give advance notice as soon as possible to the MPCA of any substantial changes in operational procedures, activities that may alter the nature or frequency of the discharge, and/or material factors that may affect compliance with the conditions of this permit. (Minn. R. 7001.0150, subp. 3, item M)
- 1.42 Chemical Additives. The Permittee shall receive prior written approval from the MPCA before increasing the use of a chemical additive authorized by this permit, or using a chemical additive not authorized by this permit, in quantities or concentrations that have the potential to change the characteristics, nature and/or quality of the discharge.

The Permittee shall request approval for an increased or new use of a chemical additive at least 60 days, or as soon as possible, before the proposed increased or new use.

This written request shall include at least the following information for the proposed additive:

- a. The process for which the additive will be used;
- b. Material Safety Data Sheet (MSDS) which shall include aquatic toxicity, human health, and environmental fate information for the proposed additive;
- c. A complete product use and instruction label;
- d. The commercial and chemical names and Chemical Abstract Survey (CAS) number for all ingredients in the additive (If the MSDS does not include information on chemical composition, including percentages for each ingredient totaling to 100%, the Permittee shall contact the supplier to have this information provided); and
- e. The proposed method of application, application frequency, concentration, and daily average and maximum rates of use.

Upon review of the information submitted regarding the proposed chemical additive, the MPCA may require additional information be submitted for consideration. This permit may be modified to restrict the use or discharge of a chemical additive and include additional influent and effluent monitoring requirements.

Approval for the use of an additive shall not justify the exceedance of any effluent limitation nor shall it be used as a defense against pollutant levels in the discharge causing or contributing to the violation of a water quality standard. (Minn. R. 7001.0170)

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## Chapter 8. Total Facility Requirements

### 1. General Requirements

- 1.43 MPCA Initiated Permit Modification, Suspension, or Revocation. The MPCA may modify or revoke and reissue this permit pursuant to Minn. R. 7001.0170. The MPCA may revoke without reissuance this permit pursuant to Minn. R. 7001.0180.
- 1.44 TMDL Impacts. Facilities that discharge to an impaired surface water, watershed or drainage basin may be required to comply with additional permits or permit requirements, including additional restriction or relaxation of limits and monitoring as authorized by the CWA 303(d)(4)(A) and 40 CFR 122.44.1.2.i., necessary to ensure consistency with the assumptions and requirements of any applicable US EPA approved wasteload allocations resulting from Total Maximum Daily Load (TMDL) studies.
- 1.45 Permit Transfer. The permit is not transferable to any person without the express written approval of the Agency after compliance with the requirements of Minn. R. 7001.0190. A person to whom the permit has been transferred shall comply with the conditions of the permit. (Minn. R., 7001.0150, subp. 3, item N)
- 1.46 Facility Closure. The Permittee is responsible for closure and postclosure care of the facility. The Permittee shall notify the MPCA of a significant reduction or cessation of the activities described in this permit at least 180 days before the reduction or cessation. The MPCA may require the Permittee to provide to the MPCA a facility Closure Plan for approval.

Facility closure that could result in a potential long-term water quality concern, such as the ongoing discharge of wastewater to surface or ground water, may require a permit modification or reissuance.

The MPCA may require the Permittee to establish and maintain financial assurance to ensure performance of certain obligations under this permit, including closure, postclosure care and remedial action at the facility. If financial assurance is required, the amount and type of financial assurance, and proposed modifications to previously MPCA-approved financial assurance, shall be approved by the MPCA. (Minn. Stat. Sec. 116.07, subd. 4)

- 1.47 Permit Reissuance. If the Permittee desires to continue permit coverage beyond the date of permit expiration, the Permittee shall submit an application for reissuance at least 180 days before permit expiration. If the Permittee does not intend to continue the activities authorized by this permit after the expiration date of this permit, the Permittee shall notify the MPCA in writing at least 180 days before permit expiration.

If the Permittee has submitted a timely application for permit reissuance, the Permittee may continue to conduct the activities authorized by this permit, in compliance with the requirements of this permit, until the MPCA takes final action on the application, unless the MPCA determines any of the following (Minn. R. 7001.0040 and 7001.0160):

- a. The Permittee is not in substantial compliance with the requirements of this permit, or with a stipulation agreement or compliance schedule designed to bring the Permittee into compliance with this permit;
- b. The MPCA, as a result of an action or failure to act by the Permittee, has been unable to take final action on the application on or before the expiration date of the permit;
- c. The Permittee has submitted an application with major deficiencies or has failed to properly supplement the application in a timely manner after being informed of deficiencies.