



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 and Steel Dynamics, Inc.
FACILITY NAME: Mesabi Nugget
RECEIVING WATER: Second Creek 1 (a tributary of Partridge River)
CITY OR TOWNSHIP: Hoyt Lakes COUNTY: St. Louis
ISSUANCE DATE: July 29, 2005 EXPIRATION DATE: June 30, 2010
MODIFICATION DATE: February 24, 2011

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 US statutes and rules, including Minn. Stat. chs. 115 and 116, Minn. R. chs.
7001, 7050, 7053, 7060, 7090.3000 through 7090.3080, and the US Clean Water Act.

This permit is effective on the issuance date identified above, as modified on February 24, 2011, and supercedes
the permit that was previously modified on November 30, 2007. This permit expires at midnight on the expiration
date identified above.

Signature: [Handwritten Signature]
Jeff Edd, Supervisor for The Minnesota Pollution Control Agency
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

Submit Other WQ Reports to:
Attention: WQ Submittals Center
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.
• General permit or NPDES program questions, contact: MPCA, 651-282-6143 or 1-800-657-3938.

BANDS EX. 11

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Permitted Facility Description

Written Description

The principal activity at this facility will be 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 will be 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 Cliffs Erie (former LTV Steel Mining Company) Area 1 Pit, and non-sewage wastewater treatment systems within the area designated on the map on page 4.

Raw materials for nugget manufacturing are expected to consist of iron ore concentrate from the Northshore taconite facility in Silver Bay, Minnesota, various coals, fluxes and binders. All raw materials are expected to be delivered by rail, pneumatic truck or in bulk supersacks with the iron ore concentrate stored in a tank/bin and the other raw materials stored in bins and/or storage piles in an adjacent storage yard.

Coals, fluxes, binders and iron ore concentrate will be mixed and formed into green balls (similar to taconite operations). The balls will be 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 will appropriate water from the abandoned and water filled Area 1 Pit and/or Area 2WX 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 for water supply for process temperature control (contact and non-contact cooling) and for process water, including for the wet scrubber system. For water conservation purposes, 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 will be 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 1760 gpm and 3520 gpm will be routed to a multi-stage wastewater treatment system for treatment prior to discharge.

The wastewater treatment system will employ chemical coagulation and precipitation to remove sulfate, fluoride, solids and metals, followed by two stages of filtration through a Mesabi Nugget developed filtration system (MNC Mercury Filter – patent pending) for enhanced mercury removal. Chemical precipitation is accomplished using a two 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 will be passed through a filter press with the solids disposed off site in an approved landfill. The effluent from the chemical precipitation system will then be routed through a microfilter and into the first of two MNC Mercury Filter units for additional solids and mercury removal, and from there into 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 will then be routed into a second MNC Mercury Filter Unit for final mercury removal. The effluent from the second MNC Mercury Filter unit will be 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, 3B, 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 permitted Outfall SD003 in the NPDES/SDS permit for the Cliffs Erie (formerly LTV Steel Mining Company) Mining Area (MN0042536). The Cliffs Erie permit will be modified simultaneously with the final issuance of this permit to transfer Outfall SD003, and its responsibilities, from Cliffs Erie to Mesabi Nugget, LLC.

Effluent monitoring of the SD001 discharge, including low-level monitoring for mercury (Method 1631), is required by this permit. In addition, low-level monitoring for mercury is required at a number of internal points in the wastewater treatment system to assess the efficacy of the treatment system for mercury removal.

A variance from the Class 3B 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 the permit with final effluent limitations becoming effective upon expiration of the permit and variance. 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 a yet to be determined location. The permit requires that this location be identified and approved prior to facility operation. 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 disposed of at an approved facility or location.

Chemical additives proposed for use at the facility 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. Dust suppression at the storage area will be accomplished primarily with water application. Storm water from the plant area and the raw material / product storage areas will be collected and routed to sedimentation basins for solids settling and then to the wastewater treatment system for treatment prior to discharge through Outfall SD001. Sewage generated at the facility will be treated and disposed of at an on-site drainfield system to be installed adjacent to the plant area.

Effective upon the modification date indicated on page 1 of this permit, the Permittee is authorized to transfer water from the Area 1 Pit to the Area 2WX Pit on a temporary basis for the purposes of managing facility water inventory and minimizing the impact of the SD001 discharge on the receiving water.

The location of the facility and the designated discharge location are shown on the map on page 6.



Summary of Stations

Surface Discharge Stations

<u>Station</u>	<u>Type of Station</u>	<u>Local Name</u>	<u>PLS Location</u>
SD001	Effluent To Surface Water		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

Limits and Monitoring Requirements

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

SD 001

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Arsenic, Total (as As)	Monitor Only	ug/L	Single Value	Aug	Grab	1 x Month	4
Bicarbonates	268	mg/L	Calendar Month Average	Jan-Dec	Grab	2 x Month	7
Bicarbonates	301	mg/L	Calendar Month Maximum	Jan-Dec	Grab	2 x Month	7
Cadmium, Total (as Cd)	Monitor Only	ug/L	Single Value	Aug	Grab	1 x Month	4
Chloride, Total	Monitor Only	mg/L	Single Value	Jan-Dec	Grab	1 x Month	
Chromium, Total (as Cr)	Monitor Only	ug/L	Single Value	Aug	Grab	1 x Month	4
Chronic Toxicity Testing	1	TUc	Annual WET Testing	Jan-Dec, effective January 01, 2010	24-Hour Flow Composite	1 x Year	
Cobalt, Total (as Co)	Monitor Only	ug/L	Single Value	Aug	Grab	1 x Month	4
Copper, Total (as Cu)	Monitor Only	ug/L	Single Value	Aug	Grab	1 x Month	4
Flow	Monitor Only	MG	Calendar Month Total	Jan-Dec	Measurement	2 x Month	2
Flow	Monitor Only	mgd	Daily Average	Jan-Dec	Measurement	2 x Month	2
Flow	Monitor Only	mgd	Daily Maximum	Jan-Dec	Measurement	2 x Month	2
Hardness, Calcium & Magnesium, Calculated (as CaCO ₃)	268	mg/L	Calendar Month Average	Jan-Dec	Grab	2 x Month	
Hardness, Calcium & Magnesium, Calculated (as CaCO ₃)	301	mg/L	Calendar Month Maximum	Jan-Dec	Grab	2 x Month	
Lead, Total (as Pb)	Monitor Only	ug/L	Single Value	Aug	Grab	1 x Month	4
Mercury, Total (as Hg)	1.8	ng/L	Calendar Month Average	Jan-Dec	Grab	2 x Month	5
Mercury, Total (as Hg)	0.000070	kg/day	Calendar Month Maximum	Jan-Dec	Grab	2 x Month	5
Mercury, Total (as Hg)	3.2	ng/L	Calendar Month Maximum	Jan-Dec	Grab	2 x Month	5
Molybdenum, Total (as Mo)	Monitor Only	ug/L	Single Value	Jan-Dec	Grab	1 x Month	
Nickel, Total (as Ni)	Monitor Only	ug/L	Single Value	Aug	Grab	1 x Month	4
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	Single Value	Aug	Grab	1 x Month	4
Sodium, Total (as Na)	Monitor Only	mg/L	Single Value	Jan-Dec	Grab	1 x Month	
Solids, Total Dissolved (TDS)	752	mg/L	Calendar Month Average	Jan-Dec	Grab	2 x Month	
Solids, Total Dissolved (TDS)	842	mg/L	Calendar Month Maximum	Jan-Dec	Grab	2 x Month	
Solids, Total Suspended (TSS)	Monitor Only	mg/L	Calendar Month Average	Jan-Dec	Grab	2 x Month	1
Solids, Total Suspended (TSS)	Monitor Only	mg/L	Calendar Month Maximum	Jan-Dec	Grab	2 x Month	1

Limits and Monitoring Requirements

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

SD 001

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Specific Conductance	1074	umh/cm	Calendar Month Average	Jan-Dec	Measurement, Instantaneous	2 x Month	
Specific Conductance	1203	umh/cm	Calendar Month Maximum	Jan-Dec	Measurement, Instantaneous	2 x Month	
Sulfate, Total (as SO4)	Monitor Only	mg/L	Single Value	Jan-Dec	Grab	1 x Month	
Thallium, Total (as Tl)	Monitor Only	ug/L	Single Value	Aug	Grab	1 x Month	4
Zinc, Total (as Zn)	Monitor Only	ug/L	Single Value	Aug	Grab	1 x Month	4

SW 001: Second Cr. - Upstream

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

SW 002: Second Cr. - Downstream

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

SW 003: Area 1 Pit

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Bicarbonates	Monitor Only	mg/L	Single Value	Feb, May, Aug, Nov	Grab	1 x Month	3
Hardness, Calcium & Magnesium, Calculated (as CaCO3)	Monitor Only	mg/L	Single Value	Feb, May, Aug, Nov	Grab	1 x Month	3
Mercury, Total (as Hg)	Monitor Only	ng/L	Single Value	Feb, May, Aug, Nov	Grab	1 x Month	3
pH	Monitor Only	SU	Single Value	Feb, May, Aug, Nov	Grab	1 x Month	3
Solids, Total Dissolved (TDS)	Monitor Only	mg/L	Single Value	Feb, May, Aug, Nov	Grab	1 x Month	3

Limits and Monitoring Requirements

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

SW 003: Area 1 Pit

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Specific Conductance	Monitor Only	umh/cm	Single Value	Feb, May, Aug, Nov	Grab	1 x Month	6

WS 001: Influent to Wastewater Treatment System

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	Single Value	Jan-Dec	Grab	1 x Month	5

WS 002: Influent to Tailings Filter #1

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	Single Value	Jan-Dec	Grab	1 x Month	5

WS 003: Dschrg fr Tailings Filter #1 to Pit 1

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Bicarbonates	Monitor Only	mg/L	Single Value	Jan-Dec	Grab	1 x Month	7
Chloride, Total	Monitor Only	mg/L	Single Value	Jan-Dec	Grab	1 x Month	
Flow	Monitor Only	mgd	Daily Average	Jan-Dec	Measurement	1 x Month	
Hardness, Calcium & Magnesium, Calculated (as CaCO ₃)	Monitor Only	mg/L	Single Value	Jan-Dec	Grab	1 x Month	
Mercury, Total (as Hg)	Monitor Only	ng/L	Single Value	Jan-Dec	Grab	1 x Month	5
Molybdenum, Total (as Mo)	Monitor Only	ug/L	Single Value	Jan-Dec	Grab	1 x Month	
Sodium, Total (as Na)	Monitor Only	mg/L	Single Value	Jan-Dec	Grab	1 x Month	
Solids, Total Dissolved (TDS)	Monitor Only	mg/L	Single Value	Jan-Dec	Grab	1 x Month	
Specific Conductance	Monitor Only	umh/cm	Single Value	Jan-Dec	Grab	1 x Month	
Sulfate, Total (as SO ₄)	Monitor Only	mg/L	Single Value	Jan-Dec	Grab	1 x Month	

WS 004: Influent fr Pit 1 to Tailings Filter #2

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Flow	Monitor Only	mgd	Daily Average	Jan-Dec	Measurement	1 x Month	

Limits and Monitoring Requirements

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

WS 004: Influent fr Pit 1 to Tailings Filter #2

Parameter	Limit	Units	Limit Type	Effective Period	Sample Type	Frequency	Notes
Mercury, Total (as Hg)	Monitor Only	ng/L	Single Value	Jan-Dec	Grab	1 x Month	5

WS 005: Spent Tailings Disposal

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

WS 006: Slag Disposal

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

Notes:

- 1 -- See Chapter 1.6.2
- 2 -- See Chapter 1.6.4
- 3 -- See Chapter 2.4.1
- 4 -- Use EPA analytical method 200.8. See Chapter 1.6.3
- 5 -- Use EPA clean-sampling method 1669 and EPA analytical method 1631
- 6 -- Use EPA clean-sampling method 1669 and EPA analytical method 1631. See Chapter 2.4.1.
- 7 -- as CaCO₃

Chapter 1. Surface Discharge Station Requirements - General

1. Sampling Location

- 1.1 Samples and measurements required by this permit shall be representative of the monitored activity.
- 1.2 Beginning from the issuance date of this permit until completion of construction of facilities to pipe the effluent to Second Creek, samples for Outfall SD001 shall be taken at the pumped or overflow outlet (old Cliffs Erie outfall SD003) of the Area 1 Pit.

Effective upon the completion of construction of facilities to pipe the effluent to Second Creek, samples for Outfall SD001 shall be taken at the new discharge structure to Second Creek. In addition and after this date, the Permittee shall not discharge from the Area 1 Pit through the prior outlet (old Cliffs Erie outfall SD003).

The Permittee shall notify the MPCA in writing within 30 days upon completion of construction of facilities to pipe the effluent to Second Creek that such construction has been completed.

2. Surface Discharges

- 2.1 Oil or other substances shall not be discharged in amounts that create a visible color film.
- 2.2 The Permittee shall install and maintain outlet protection measures at the discharge stations to prevent erosion.

3. Discharge Monitoring Reports

- 3.1 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).
- 3.2 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. Winter Sampling Conditions

- 4.1 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.

Chapter 1. Surface Discharge Station Requirements - General

5. Chronic Toxicity Testing

5.1 The Permittee shall conduct annual chronic toxicity test batteries on Discharge SD 001 in the month of August beginning the first full calendar year following issuance of this permit.

Results of the annual chronic toxicity testing shall be submitted no later than October 21 beginning the first full calendar year following issuance of this permit.

5.2 Based on the results of the chronic toxicity testing, the permit may be modified to include additional toxicity testing, a requirement to conduct a toxicity reduction evaluation, and a whole effluent toxicity limit.

Species and Procedural Requirements

5.3 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 carbon dioxide-controlled atmosphere technique to control pH drift.

5.4 Test organisms for each test battery shall include the fathead minnow (*Pimephales promelas*) - Method 1000.0 and *Ceriodaphnia dubia* - Method 1002.0.

5.5 Static renewal chronic serial dilution tests of the effluent shall consist of a control, 12, 25, 50, 75, and 100% effluent. The 100% effluent concentration is the Receiving Water Concentration (RWC) since there is no available dilution.

5.6 All effluent samples shall be collected as grab samples representative of the total effluent flow. 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.

5.7 Any other circumstances not covered in this section or that require deviation from the requirements of this section or listed exceptions shall first be approved by the MPCA.

Quality Control and Report Submittals

5.8 Any test that does not meet quality control measures, or results which the Permittee believes reflect an artifact of testing shall be repeated within two (2) weeks. 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.

6. Special Requirements

Interim / Final Limits

Chapter 1. Surface Discharge Station Requirements - General

6. Special Requirements

- 6.1 The Permittee shall comply with the interim monitoring and effluent limitation requirements specified in the Limits and Monitoring Section of this permit until such date that the final monitoring and effluent limitation requirements take effect.

The final monitoring and effluent limitation requirements take effect on the expiration date of this permit, June 30, 2010.

- 6.2 Effluent limitations for Total Suspended Solids at Outfall SD001 based on federal categorical New Source Performance Standards required by 40 CFR 420, Subpart M shall become effective upon commencement of iron nugget production at the manufacturing facility.

Upon commencement of iron nugget production at the manufacturing facility the Permittee shall comply with a monthly average effluent limitation of 1.4 mg/L and a daily maximum effluent limitation of 2.9 mg/L at Outfall SD001 for Total Suspended Solids.

The Permittee shall notify the MPCA in writing within 30 days upon commencement of iron nugget production that such production has commenced.

- 6.3 Effective upon issuance of this permit until commencement of iron nugget production at the manufacturing facility, the Permittee shall monitor the discharge from Outfall SD001 annually in August for the metals arsenic, cadmium, chromium, cobalt, copper, lead, nickel, selenium, thallium and zinc, as specified in the Limits and Monitoring section of this permit.

Upon the commencement of iron nugget production at the manufacturing facility, the Permittee shall monitor the same metals twice annually in May and October of each year.

Analysis for these parameters shall utilize EPA analytical method 200.8.

- 6.4 Effective upon issuance of this permit until completion of construction of facilities to pipe the SD001 discharge to Second Creek, the Permittee shall visually estimate or otherwise measure the flow at Outfall SD001 (old Cliffs Erie outfall SD003) on a twice monthly basis, as specified in the Limits and Monitoring section of this permit.

Upon the completion of construction of facilities to pipe the SD001 discharge to Second Creek, the Permittee shall monitor the flow at Outfall SD001 on a daily basis using continuous flow monitoring capability.

Exceedance of Mercury Effluent Limitation

Chapter 1. Surface Discharge Station Requirements - General

6. Special Requirements

- 6.5 Effective upon commencement of iron nugget production at the manufacturing facility, if the data from monitoring at Outfall SD001 indicates that the mercury monthly average effluent limitation of 1.8 ng/L is not being achieved, the Permittee shall cease discharge through Outfall SD001 until such time that alternative or additional approved treatment is installed and compliance with the effluent limitations can be achieved.
- 6.6 For the purposes of the provisions in this Chapter, exceedance 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 shall be the criteria used to determine whether cessation of discharge through Outfall SD001 is required in accordance with part 6.5 above.
- 6.7 The Permittee may propose for MPCA approval an alternative statistical criteria for determining an exceedance of the mercury monthly average effluent limitation for the purposes of the provisions in this Chapter, based on US EPA and MPCA policy and guidance, which achieves the same statistical level of compliance as provided for in part 6.6 above. The proposal may propose methods to address values that are reported as 'less than detection' and values where the detection limit for that sample are higher than the effluent limitation, and may propose the use of control charts to demonstrate on-going compliance with the mercury monthly average effluent limitation.

If the MPCA approves an alternative criteria for determining an exceedance of the mercury monthly average effluent limitation for the purposes of the provisions of this Chapter, the approved alternative criteria shall become an integral and enforceable part of this permit and shall supersede the criteria defined in part 6.6 above.

- 6.8 Upon exceedance of the mercury monthly average effluent limitation as described in parts 6.6 or 6.7 above, the Permittee shall immediately notify the MPCA and comply with the requirements of part 6.5. In addition, within 14 calendar days of the occurrence of conditions under parts 6.6 or 6.7, 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 Chapter.

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.

In addition, the Permittee shall not recommence discharge through Outfall SD001 until such time that the Permittee can demonstrate compliance with the mercury effluent limitations and the Permittee has made application for and received a major modification of this permit from the MPCA.

Chapter 1. Surface Discharge Station Requirements - General

6. Special Requirements

6.9 Effective upon the issuance of this permit, 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.

Such discharge may occur prior to the commencement of iron nugget production 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 Requirements 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.

6.10 If the conditions under parts 6.5 and 6.6 (or 6.7) above occur and the Permittee ceases discharge through SD001, the Permittee may continue iron nugget production provided that the following conditions are met:

- a. The Permittee has notified the MPCA in accordance with part 6.8 above,
- b. The Permittee has successfully created storage capacity in the Area 1 Pit in accordance with part 6.8 above, such that an ongoing discharge through Outfall 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 MNC Mercury Filter #1 units of the wastewater treatment facility prior to routing to the Area 1 Pit,
- d. The Permittee is actively implementing the course of actions identified in the plan required by 6.8 above, as well as any other evaluations or actions necessary for the Permittee to comply with the effluent limitations and other requirements of this permit, 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.

Chapter 1. Surface Discharge Station Requirements - General

6. Special Requirements

6.11 If conditions under parts 6.5 and 6.6 (or 6.7) above occur and the Permittee continues iron nugget production in accordance with part 6.10 above, and subsequently if the water level in the Area 1 Pit rises to a level where the minimum freeboard specified in part 6.10 can no longer be maintained, the Permittee shall suspend iron nugget production until such time that alternative or additional approved treatment is installed and compliance with the mercury effluent limitations can be achieved.

Should the Area 1 Pit water level reach the level described in this part, The Permittee shall immediately notify the MPCA and comply with the suspension of iron nugget production requirement of this part.

6.12 If the conditions of part 6.11 above occur, the Permittee shall not recommence iron nugget production or discharge through Outfall SD001 until such time that the Permittee can demonstrate compliance with the mercury effluent limitations and the Permittee has made application for and received a major modification of this permit from the MPCA authorizing commencement of the discharge.

6.13 Notwithstanding the provisions of this Chapter, the Permittee shall remain responsible for the long-term treatment of Area 1 Pit water. Such treatment shall include, but is not limited to, reactivation or continuation of treatment through the MNC Mercury Filter #2.

The Permittee shall provide for treatment until such time that the water quality of the Area 1 Pit is returned to natural conditions as defined by the water quality monitoring data collected from the Area 1 Pit, including data from monitoring station SW003, in the period prior to commencement of iron nugget production.

6.14 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.

6.15 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.

Variance

Chapter 1. Surface Discharge Station Requirements - General

6. Special Requirements

6.16 The Permittee is granted a variance from the provisions in Minn. R. pt. 7050.0223, subp. 3, that specifies the Class 3B (industrial consumption) water quality standard of 250 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 (HCO₃) 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.

6.17 With granting of a variance, the Permittee shall investigate and implement on an ongoing basis actions and technologies to improve effluent quality and to establish a downward trend towards meeting the water quality standards for TDS, specific conductance and bicarbonates.

As part of this requirement, the Permittee shall submit for approval a Source Minimization and Alternate Treatment Technology Evaluation Plan no later than 3 years following issuance of this permit. The Plan shall include an evaluation of alternative raw materials, processing techniques, waste minimization and wastewater treatment technologies with the goal of reducing the loading of pollutants to the wastewater treatment system and/or to improve the degree and efficiency of wastewater treatment. The Plan shall incorporate, as appropriate, data obtained during the initial period of facility operation.

6.18 This permit and variance may be modified by the MPCA if revisions to water quality standards are applicable to the pollutants involved in the variance. Nothing herein affects or limits any other MPCA authorities regarding permit and variance modifications.

Chapter 2. Surface Water Station Requirements - General

1. Sampling Location

1.1 Samples for Station SW001 shall be taken in Second Creek at a location upstream of Outfall SD001.

Samples for Station SW002 shall be taken in Second Creek at a location downstream, and outside the area of direct influence, of Outfall SD001.

Samples for Station SW003 shall be taken from the Area 1 Pit and/or the water intake from the Area 1 Pit.

1.2 Samples for SW001 and SW002 shall be taken at mid-stream, mid-depth. Samples for SW003 shall be representative of the Area 1 Pit water. Record location, date, time and results for each sample on the supplemental Discharge Monitoring Report form.

Chapter 2. Surface Water Station Requirements - General

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. Winter Sampling Conditions

- 3.1 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.

4. Special Requirements

- 4.1 Monitoring at station SW003 shall be conducted on a monthly basis for a period of 12 months following issuance of this permit, beginning with the first full calendar month. Thereafter, monitoring at station SW003 shall be conducted on a quarterly basis.

Chapter 3. Waste Stream Station Requirements - General

1. Sampling Location

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

Samples for Station WS002 shall be taken at: the influent to MNC Mercury Filter unit #1.

Samples for Station WS003 shall be taken at: the effluent of MNC Mercury Filter unit #1 prior to discharge to the Area 1 Pit.

Samples for Station WS004 shall be taken at: the influent to MNC Mercury Filter unit #2.

- 1.3 Measurements for Station WS005 shall be of the total mass of slag generated in the nugget manufacturing process during the calendar month.

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 3. Waste Stream Station Requirements - General

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.

Upon the 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.

No reduction in the frequency of mercury monitoring at these stations is authorized without approval from the MPCA.

Chapter 4. Industrial Process Wastewater, NPDES/SDS

1. Prohibited Discharges

- 1.1 This permit does not authorize the discharge of sewage, wash water, spills, oil, hazardous substances, or equipment/vehicle cleaning and maintenance wastewaters to ditches, wetlands or other surface waters of the state.
- 1.2 The Permittee shall prevent the routing of pollutants from the facility to a municipal wastewater treatment system in any manner unless specifically authorized by a major modification of this permit and by the pretreatment standards of the MPCA and the municipal authority.
- 1.3 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.

2. Toxic Substance Reporting

- 2.1 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)

Chapter 4. Industrial Process Wastewater, NPDES/SDS

2. Toxic Substance Reporting

2.2 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)

3. Polychlorinated Biphenyls (PCBs)

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

4. Application for Permit Reissuance

4.1 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.

4.2 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, lithium, magnesium, manganese, molybdenum, nickel, potassium, selenium, silver, sodium, strontium, thallium, tin, titanium, vanadium, zinc (all in total form) using atomic absorption (AA) furnace methods according to 40 CFR Part 136.3;

d. total mercury using EPA Method 1631;

e. PCB-1016, PCB-1221, PCB-1232, PCB-1242, PCB-1248, PCB-1254, PCB-1260; and

f. 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.

Chapter 4. Industrial Process Wastewater, NPDES/SDS

4. Application for Permit Reissuance

4.3 The Permittee shall, with its application for permit reissuance, submit a Storm Water Pollution Prevention Plan for the facility. The Storm Water Pollution Prevention Plan may be a revision of or an attachment to the current Storm Water Pollution Prevention Plan.

5. Special Requirements

Storm Water Pollution Prevention Plan

5.1 The Permittee shall submit within 180 days following permit issuance a Storm Water Pollution Prevention Plan for the facility.

5.2 The Storm Water Pollution Prevention Plan shall include Best Management Practices for stormwater control from all plant areas, storage areas, roads and other impervious surfaces at the facility so that surface and ground water quality standards are not exceeded. The Plan shall, in particular, address the management of storm water related to the handling and storage areas for raw materials, final products and slag. The Plan shall include the procedures to be followed, including an inspection schedule, by designated staff employed by the Permittee to implement the Plan.

5.3 The Permittee shall comply with its Storm Water Pollution Prevention Plan.

5.4 In addition, the Permittee shall obtain, as necessary, separate coverage under the General Construction Storm Water Permit for any qualifying construction activities related to this project.

Chapter 5. Total Facility Requirements

1. Sampling and Analyses

1.1 All monitoring and analytical instruments used to monitor as required by this permit shall be calibrated and maintained at a frequency necessary to ensure accuracy. The Permittee shall measure flows to ensure accuracy within plus or minus ten percent of the true flow values. The Permittee shall maintain written records of all calibrations and maintenance.

1.2 For bypasses, upsets, spills or any other discharge that may cause pollution of the waters of the state, the Permittee shall take at least one (1) grab sample for permitted effluent parameters two (2) times per week. If the Permittee believes that measuring these parameters is inappropriate due to known information about the discharge, the monitoring may be modified in consultation with the MPCA. Where there is reason to believe a pollutant other than those limited in the permit is present, the Permittee shall sample for that pollutant. Appropriate sampling shall be determined in consultation with the MPCA.

Chapter 5. Total Facility Requirements

1. Sampling and Analyses

- 1.3 If a Permittee monitors more frequently than required by this permit, the results and the frequency of monitoring shall be reported on the Discharge Monitoring Report (DMR) or other form for that reporting period.
- 1.4 If sampling by the Permittee indicates a violation of any discharge limitation specified in this permit, the Permittee shall repeat the sampling and analysis and submit the results of the repeat analysis to the MPCA within 30 days of becoming aware of the violations.
- 1.5 Sample preservation and test procedures for the analysis of pollutants shall conform to 40 CFR Part 136 and Minnesota Rules, part 7041.3200.
- 1.6 Samples and measurements required by this permit shall be representative of the monitored activity and shall be analyzed by a laboratory certified by the Minnesota Department of Health for the applicable permitted parameters. Analyses of dissolved oxygen, pH, temperature and total residual chlorine do not need to be completed by a certified laboratory.
- 1.7 The "sample type", "sampling frequency" and "effective period" identified in the Limits and Monitoring section of this permit together designate the minimum required monitoring frequency.

2. Reporting

- 2.1 The Permittee shall report monitoring results for the completed reporting period in the units specified by this permit on a Discharge Monitoring Report (DMR) form or other report form provided by the MPCA.
- 2.2 The Permittee shall submit the Discharge Monitoring Reports each month beginning with the report for the first full calendar month following permit issuance. The Discharge Monitoring Reports shall include the monitoring data and any other required information for all stations for which monitoring is required that month. The Discharge Monitoring Reports for each month shall be postmarked no later than 21 days after the end of the calendar month.
- 2.3 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.
- 2.4 A Discharge Monitoring Report (DMR) shall be submitted for each station even if no discharge occurred during the reporting period. The Permittee shall report 'No Discharge', 'No Flow' or 'No Materials Generated' on a DMR or other monitoring report form only if no discharge, flow or materials are generated during the entire reporting period.

Chapter 5. Total Facility Requirements

2. Reporting

- 2.5 The Permittee shall report the following information on the Discharge Monitoring Report (DMR):
- a. any substantial changes in operational procedures;
 - b. activities which alter the nature or frequency of the discharge; and
 - c. material factors affecting compliance with the conditions of this permit.
- 2.6 Laboratory analyses sheets shall be attached to and submitted with the DMR forms.
- 2.7 The Permittee or the duly authorized representative of the Permittee shall sign the reports and documents submitted to the MPCA by the Permittee. (Minnesota Rules, pt. 7001.0150, subp. 2.D)
- 2.8 A person who falsifies, tampers with, or knowingly renders inaccurate a monitoring device or method required to be maintained under this permit is subject to penalties provided by federal and state law. (Minnesota Rules, pt. 7001.1090, subp. 1.G)
- 2.9 The Permittee shall report noncompliance with the permit not reported under Minnesota Rules, part 7001.0150, subpart 3, item K as a part of the next report which the Permittee is required to submit under this permit. If no reports are required within 30 days of the discovery of the noncompliance, the Permittee shall submit the information listed in Minnesota Rules, part 7001.0150, subpart 3, item K within 30 days of the discovery of the noncompliance. (Minnesota Rules, pt. 7001.0150, subp. 3.L)
- 2.10 A person who knowingly makes a false statement, representation, or certification in a record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance is subject to penalties provided by federal and state law set forth. (Minnesota Rules, pt. 7001.1090, subp. 1.H)

Chapter 5. Total Facility Requirements

3. Records

- 3.1 The Permittee shall maintain records for each sample and measurement. The records shall include the following information:
 - 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;
 - d. the analytical techniques, procedures and methods used; and,
 - e. the results of the analysis.
- 3.2 The Permittee shall keep the records required by this permit for at least three (3) 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 and/or during the course of an unresolved enforcement action. (Minnesota Rules, pt. 7001.0150, subp. 2.C)
- 3.3 Except for data determined to be confidential according to Minnesota Statutes, ch. 116.075, subd. 2, all reports required by this permit shall be available for public inspection at the MPCA St. Paul office. Effluent data shall not be considered confidential. Confidential material shall be submitted according to Minnesota Rules, pt. 7000.1300.
- 3.4 The Permittee shall, when requested by the commissioner, 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. (Minnesota Rules, pt. 7001.0150, subp. 3.H)

4. Special Requirements

Pilot Scale Testing of MNC Mercury Filter Units

- 4.1 The Permittee shall conduct pilot scale testing of the MNC Mercury Filter technology to demonstrate that the filtration technology proposed will treat wastewater at the MNC Mercury Filter #2 that will comply with the SD001 mercury effluent limitations. The pilot scale testing shall simulate a full scale MNC Mercury Filter system to demonstrate that full scale MNC Mercury Filter technology is feasible to ensure compliance with mercury effluent limitations in the effluent from MNC Mercury Filter #2.

Chapter 5. Total Facility Requirements

4. Special Requirements

- 4.2 The Permittee shall submit for MPCA approval a Pilot Scale Testing Plan which describes the design and testing protocol of the pilot scale MNC Mercury Filter system. The pilot scale MNC Mercury Filter system shall be designed to treat a continuous flow of simulated process wastewater influent to the pilot system, and shall be configured with treatment units that simulate a full scale MNC Mercury Filter system. The Plan shall include the protocol for operation of the pilot system and the mercury testing to be conducted during the pilot system operation. The protocol shall be designed using an adequate number of tests such that the mercury effluent data acquired provides an adequate level of confidence so that effluent results are reproducible. The Plan shall include a schedule for testing and submittal of test results. The MPCA shall approve the Plan prior to implementation of the pilot scale MNC Mercury Filter testing program.
- 4.3 The approved Pilot Scale Testing Plan is incorporated by reference as an enforceable part of this permit.
- 4.4 Pilot scale analytical testing shall be completed by a laboratory certified by the State of Minnesota for such testing, and the laboratory shall use accepted quality assurance/quality control procedures
- 4.5 The Permittee shall not begin actual construction of the manufacturing plant, with the exception of the specific essential building preparation and footing activities identified in part 4.6 below, until the pilot scale testing program has been completed and the pilot scale test results have been approved by the MPCA.

The pilot scale testing program must demonstrate pursuant to the approved testing protocol that the mercury effluent limitations will be consistently complied with using the proposed technology. Construction of the manufacturing plant may begin upon approval by the MPCA that the pilot scale testing results have adequately demonstrated that a full scale MNC Mercury Filter system has the capability to consistently comply with the mercury effluent limitations.

Chapter 5. Total Facility Requirements

4. Special Requirements

4.6 For the purposes of the provisions in this Chapter, "begin actual construction" means initiation of physical on-site construction activities which are of a permanent nature. Such activities include, but are not limited to, installation of building supports and foundations, laying underground pipework and construction of permanent storage facilities, except as noted below.

The "essential building footing activities" exceptions referenced in part 4.5 above are defined as those activities related to sub-grade or at-grade footings for the hearth building, product separation building, ore preparation building and dryer building that must be installed prior to frost conditions. Activities subject to this exception include ground disturbing activities of clearing, grading, filling, excavating and the placement of sub-grade or at-grade footings.

In addition, work qualifying under the exceptions provision of this part shall not exceed a total expenditure of one million dollars. The Permittee shall, upon request of the MPCA, present documentation or certification that work completed under this part has not exceeded a total of one million dollars.

Plans and Specifications for Full Scale Wastewater Treatment System

4.7 Upon approval by the MPCA of the pilot scale testing results as provided for in part 4.5 above, the Permittee may proceed with manufacturing plant construction, and shall within 90 days of this MPCA approval submit a preliminary engineering design for the full scale wastewater treatment plant for MPCA approval, modification, or rejection. The preliminary engineering design shall include treatment units for chemical precipitation and associated treatment units, including the MNC Mercury Filter systems. The preliminary engineering design shall include units sizing, process flows, relevant treatability data, and estimated usage rates for chemical additives. The preliminary engineering design shall include the system required to feed filtration media to the MNC Mercury Filter units, and provisions for removal and disposal of spent filtration media.

4.8 The design and sizing of the full scale MNC Mercury Filter systems shall be based on the specific filtration media loading and other design and operation parameters established in the pilot scale testing required to consistently meet the mercury effluent limitations, and scaled up using appropriate scaling factors. The specific filtration media loading rates and other design and operation parameters used to design and operate the MNC Mercury Filter systems may be modified only by MPCA approval, via adequate demonstration that alternate loadings and other design and operation parameters will provide for consistent compliance with mercury effluent limitations.

Chapter 5. Total Facility Requirements

4. Special Requirements

4.9 Within 90 days of MPCA approval of the preliminary engineering design, the Permittee shall submit for MPCA approval final plans and specifications for the wastewater treatment system.

Construction of the wastewater treatment system shall be according to the approved final plans and specifications and may not begin prior to MPCA approval of the final plans and specifications.

4.10 All design plans and specifications submitted for the wastewater treatment plant shall be certified by a registered professional engineer licensed in Minnesota.

4.11 The Permittee shall not commence production of iron nuggets at the manufacturing plant until the wastewater treatment plant has been fully constructed and is in a fully operational status. The Permittee may conduct limited commissioning of plant equipment provided such commissioning does not result in the generation of wastewater.

MNC Mercury Filter System Filtration Media Acquisition and Disposal

4.12 The Permittee is responsible for the proper disposal of all 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.

The Permittee shall perform the appropriate MPCA approved tests on the waste material to determine if such material meets any of the criteria for designation as hazardous waste, pursuant to Minn. R. pts. 7045.0131 or 7045.0135. If the waste material meets any of the criteria, 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. 7045.0120 apply.

If the 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.

Chapter 5. Total Facility Requirements

4. Special Requirements

4.13 The Permittee shall submit for approval within 180 days following MPCA written approval of pilot scale testing results a MNC Mercury Filter System Filtration Media Acquisition and Disposal Plan. The Plan shall identify the volume of filtration media (i.e., tailings filtration media) required for the MNC Mercury Filter units, the source and method of transportation of the filtration media to be used, and the method and location for disposal of spent filtration media.

The Plan shall specifically address the issue as to whether the spent filtration media meets any of the criteria for designation as 'hazardous waste' and/or 'solid waste' according to Minnesota Rules and any applicable federal regulations. If so, the Plan shall also specifically address as to how the spent filtration media will be managed and/or disposed of in compliance with applicable Hazardous Waste and Solid Waste rules and regulations.

The Plan shall include, as appropriate, submissions of written documentation providing proof of commitment by third parties for the source of the filtration media or acceptance of spent filtration media.

4.14 The Permittee shall, prior to operation of the MNC Mercury Filter units, provide to the MPCA written documentation that it has consulted with the Minnesota Department of Natural Resources - Division of Lands and Minerals and has received the Department's explicit written approval for the proposed location and method of filtration media (i.e., tailings filtration media) acquisition and disposal.

4.15 Tailings from the Northshore Mining Company shall not be utilized in the wastewater treatment system.

4.16 The approved MNC Mercury Filter System Filtration Media Acquisition and Disposal Plan is incorporated by reference as an enforceable part of this permit.

Slag Management

Chapter 5. Total Facility Requirements

4. Special Requirements

4.17 The Permittee shall submit for approval within 180 days following MPCA written approval of pilot scale testing results a Wastewater Treatment Solids and Slag Management Plan. The Plan shall describe the projected composition and nature of the slag to be generated and the testing that will be conducted to confirm the projections. The Plan shall also identify the method and location of solids disposal and the eventual management/disposal of the slag material generated.

The Plan shall specifically address the issue as to whether the slag meets any of the criteria for designation as 'hazardous waste' according to Minnesota Rule. If so, the Plan shall specifically address how the slag will be managed and/or disposed of in compliance with applicable Hazardous Waste rules and regulations.

If the waste material does not meet any of the criteria for designation as hazardous waste, the Plan shall specifically address how wastewater treatment solids and slag (if not successfully sold or utilized as a byproduct) shall be disposed of in a permitted solid waste disposal facility or other specifically approved alternative.

4.18 The approved Wastewater Treatment Solids and Slag Management Plan is incorporated by reference as an enforceable part of this permit.

Surface and Mineral Properties

4.19 This permit authorizes the Permittee to perform the activities identified on page 1 of this permit under the conditions and terms of this permit.

4.20 This permit does not authorize the Permittee to enter, invade or trespass on any property (e.g., surface estates, mineral estates, etc.), including but not limited to facility property within the area designated on the map on page 4 of this permit. This permit shall not be construed as authorizing the Permittee to enter, invade or trespass upon any property (e.g., surface estates, mineral estates, etc.) including but not limited to facility property within the area designated on the map on page 4 of this permit.

4.21 This permit does not authorize the Permittee to use, impair, injure, hinder, encumber or interfere with any property (e.g., surface estates, mineral estates, etc.), including but not limited to facility property within the area designated on page 4 of this permit. This permit shall not be construed as authorizing the Permittee to use, impair, injure, hinder, encumber or interfere with any property (e.g., surface estates, mineral estates, etc.), including but not limited to facility property within the area designated on page 4 of this permit.

4.22 The Permittee is solely responsible for obtaining from all property owners (e.g., surface estates, mineral estates, etc.) access to, possession and control of any and all property (e.g., surface estates, mineral estates, etc.) necessary to implement and comply with the terms and conditions of this permit.

Chapter 5. Total Facility Requirements

4. Special Requirements

4.23 The Permittee shall exercise the authorizations under this permit in compliance with the terms and conditions of all other conveyances of property interests (e.g., leases, etc.) to the Permittee.

4.24 The Permittee shall:

a) exclude access or entry to, into or on the Area 1 Pit through any means, over land or under ground;

b) prohibit any human induced direct discharges to or direct water appropriations from the Area 1 Pit except as identified in this permit;

c) prevent and prohibit any use of, interference with or impairment of the Area 1 Pit, including Pit waters, that is inconsistent with the utilization and operations of the Area 1 Pit identified in this permit; and

d) prohibit any mining or mineral exploration in or under the Area 1 Pit and on any surrounding property immediately adjacent to the Area 1 Pit.

4.25 The Permittee shall maintain exclusive possession and control of Area 1 Pit property (e.g., surface estates, mineral estates, etc.) and surrounding property (e.g., surface estates, mineral estates, etc.) immediately adjacent to the Area 1 Pit.

Financial Assurance

Chapter 5. Total Facility Requirements

4. Special Requirements

- 4.26 The Permittee shall establish and maintain financial assurance for the proper closure of Area 1 Pit. Proper closure means treating the water to natural background pollutant concentrations as defined in part 1.6.13 of this permit. 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 closure requirements;
 - b. the costs to operate and maintain Mercury filter #2 (these cost estimates shall be based on the most recent MPCA approved test results);
 - 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 facility;
 - e. cost of polymers, flocculants or other water treatment additives required to attain necessary pollutant removals;
 - f. analytical costs necessary to determine when background water quality levels are achieved; and
 - g. costs to restore hydraulic flows and natural discharge locations of overflows from the pit in accordance with reclamation plans approved by the Department of Natural Resources.
- 4.27 The financial assurance mechanism to be employed shall be: (1) an irrevocable letter of credit with a standby trust fund, or (2) a fully-funded cash trust fund. The Permittee shall use forms provided and approved by the Commissioner in establishing any irrevocable letter of credit and any trust fund.
- 4.28 The Permittee shall provide an initial irrevocable letter of credit to the MPCA or establish a fully funded cash trust fund in the amount of \$5,000,000.00 as follows:
- The Permittee shall provide executed original financial assurance mechanism documents (i.e., the initial irrevocable letter of credit in the amount of \$5,000,000 and standby trust fund or a fully-funded cash trust fund) to the Commissioner no later than July 31, 2007.

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4. Special Requirements

4.29 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 1.6.13 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.

4.30 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 the letter of credit, 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.

4.31 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.

Chapter 5. Total Facility Requirements

4. Special Requirements

4.32 On an annual basis, the Permittee shall review and update closure costs in accordance with projected timeframes necessary to return the Area 1 Pit water to natural background concentrations. 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.

On an annual basis and by February 1 of each year, the Permittee shall submit a report to the MPCA identifying any changes in estimated closure costs due to changing conditions such as inflation or changes in facility operation and the factual basis for the changes. If there is no change, the report must so state and explain the basis for that determination.

The report 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.

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.

4.33 The Permittee shall obtain the Commissioner's written prior approval to modify any portion of an approved facility closure plan, including any proposed changes to the financial assurance mechanisms and financial assurance funding levels.

4.34 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 to 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 5. Total Facility Requirements

5. Chemical Additives

- 5.1 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. "Chemical additive" includes processing reagents, water treatment products, cooling water additives, freeze conditioning agents, chemical dust suppressants, detergents and solvent cleaners used for equipment and maintenance cleaning, among other materials.
- 5.2 The Permittee shall request approval for an increased or new use of a chemical additive 60 days before the proposed increased or new use.
- 5.3 This written request shall include the following information for the proposed additive:
 - a. Material Safety Data Sheet.
 - b. A complete product use and instruction label.
 - c. The commercial and chemical names of all ingredients.
 - d. Aquatic toxicity and human health or mammalian toxicity data including a carcinogenic, mutagenic or teratogenic concern or rating.
 - e. Environmental fate information including, but not limited to, persistence, half-life, intermediate breakdown products, and bioaccumulation data.
 - f. The proposed method, concentration, and average and maximum rates of use.
 - g. If applicable, the number of cycles before wastewater bleedoff.
 - h. If applicable, the ratio of makeup flow to discharge flow.
- 5.4 This permit may be modified to restrict the use or discharge of a chemical additive.

6. Definitions

- 6.1 "Act" means the federal Clean Water Act, as amended, 33 U.S. Code 1251 et seq.
- 6.2 "Agency" means the Minnesota Pollution Control Agency (MPCA).
- 6.3 "Calendar Month Average" is calculated by adding all daily values measured during a calendar month and dividing by the number of daily values measured during that month. The "Calendar Month Average" limit is an upper limit.
- 6.4 "Calendar Month Maximum" is the highest value of single samples taken throughout the month. The "Calendar Month Maximum" is an upper limit.

Chapter 5. Total Facility Requirements

6. Definitions

- 6.5 "Calendar Month Minimum" is the lowest value of single samples taken throughout the month. The "Calendar Month Minimum" is a lower limit.
- 6.6 "Calendar Month Total" is calculated by adding all daily values measured during a calendar month. It is usually expressed in mass or volume units. The "Calendar Month Total" is an upper limit.
- 6.7 "Chronic Toxicity 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
- 6.8 "Daily Maximum" means the maximum allowable discharge of pollutant during a calendar day. Where daily maximum limitations are expressed in units of mass, the daily discharge is the total mass discharged over the course of the day. Where daily maximum limitations are expressed in terms of a concentration, the daily discharge is the arithmetic average measurement of the pollutant concentration derived from all measurements taken that day. The "Daily Maximum" is an upper limit.
- 6.9 "Discharge" means the conveyance, channeling, runoff, or drainage of waste water, including stormwater and snow melt from a site.
- 6.10 "Grab" sample type is an individual sample collected from one location at one point in time.
- 6.11 "Instantaneous" sample type means a measurement, such as for flow or temperature, taken at the time of sampling for chemical characteristics.
- 6.12 "MPCA" means the Minnesota Pollution Control Agency, or Minnesota Pollution Control Agency staff as delegated by the Minnesota Pollution Control Agency.
- 6.13 "NPDES" means National Pollutant Discharge Elimination System which is the program for issuing, modifying, revoking, reissuing, terminating, monitoring, and enforcing permits and imposing and enforcing pretreatment requirements under sections, 307, 318, 402 and 405 of the Clean Water Act, United States Code, title 33, sections 1317, 1328, 1342 and 1345.
- 6.14 "Operator" means a person who owns or leases property to conduct activities on that property.
- 6.15 "Permittee" means the entity identified as Permittee on the cover letter authorizing coverage under this permit.
- 6.16 "Single Value" is a reported value from a single sample or measurement for which there is no limit.

Chapter 5. Total Facility Requirements

6. Definitions

- 6.17 "Stormwater" means stormwater runoff, snow melt runoff, and surface runoff and drainage.
- 6.18 "Upset" means an exceptional incident in which the permit discharge limits are unintentionally and temporarily exceeded due to factors beyond the reasonable control of the Permittee.
- 6.19 "Waters of the State" means all streams, lakes, ponds, marshes, wetlands, watercourses, waterways, wells, springs, reservoirs, aquifers, irrigation systems, drainage systems and all other bodies or accumulations of water, surface or underground, natural or artificial, public or private, which are contained within, flow through, or border upon the state or any portion thereof.

7. Compliance Responsibility

- 7.1 The Permittee shall perform the actions or conduct the activity authorized by the permit in accordance with the plans and specifications approved by the agency and in compliance with the conditions of the permit. (Minnesota Rules, pt. 7001.0150, subp. 3.E)
- 7.2 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, parts 7050.0100 to 7050.0221 and 7052.0010 to 7052.0110 (applicable to toxic pollutants in the Lake Superior Basin) and any other applicable MPCA rules. (Minnesota Rules, pt. 7001.0190, subp. 1.A)

8. Noncompliance

- 8.1 Noncompliance with the requirements of this permit subjects the Permittee to penalties provided by federal and state law including monetary penalties, imprisonment, or both. (Minnesota Rules, pt. 7001.1090, subp. 1.B.; U.S.C. title 33, sect. 1319; Minn. Stat. sect. 115.071)
- 8.2 If the Permittee discovers that noncompliance with a condition of the permit has occurred, the Permittee shall:
- a. take all reasonable steps to minimize the adverse impacts to human health, public drinking water supplies, or the environment resulting from a permit violation.
 - b. notify the Minnesota Department of Public Safety Duty Officer at 1(800)422-0798 or (651)649-5451 within 24 hours of becoming aware of a permit violation that may endanger human health, public drinking water supplies or the environment. The Permittee shall submit a written description of the exceedance to the MPCA within five (5) days of discovery of the exceedance.

Nothing in this requirement relieves the Permittee from immediately notifying the MPCA of any release to surface waters of the state. (Minnesota Rules, pt. 7001.0150, subp. 3. J, K)

Chapter 5. Total Facility Requirements

8. Noncompliance

8.3 The Permittee shall submit a written description of any bypass, spill, upset or permit violation during the reporting period to the MPCA with its Discharge Monitoring Report (DMR). If no DMR is required within 30 days, the Permittee shall submit a written report within 30 days of the discovery of the noncompliance. This description shall include the following information:

- a. a description of the event including volume, duration, monitoring results and receiving waters;
- b. the cause of the event;
- c. the steps taken to reduce, eliminate and prevent reoccurrence of the event;
- d. the exact dates and times of the event; and
- e. steps taken to reduce any adverse impact resulting from the event. (Minnesota Rules, pt. 7001.0150, subp. 3.K)

8.4 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.

Chapter 5. Total Facility Requirements

9. Upset Defense

- 9.1 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 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 Minnesota Rules, part 7001.0150, subpart 3, items K and L; and
 - f. that the Permittee implemented the remedial measures required by Minnesota Rules, part 7001.0150, subpart 3, item J. (Minnesota Rules, pt. 7001.1090, subp. 1.L)

10. Duty to Notify and Avoid Water Pollution

- 10.1 The Permittee shall notify the Minnesota Department of Public Safety Duty Officer at (800)422-0798 or (651)649-5451 immediately of the discharge, accidental or otherwise, of any substance or material under its control which, if not recovered, may cause pollution of waters of the state. Notification is not required for a discharge of five (5) gallons or less of petroleum. (Minnesota Statutes, section 115.061)
- 10.2 The Permittee shall report to the Duty Officer all pertinent information regarding the discharge. Refer to the MPCA "Emergency Notification Guidance for Wastewater Treatment Systems" for further information.
- 10.3 The Permittee shall take all reasonable steps to minimize the adverse impacts to human health, public drinking water supplies or to the environment resulting from the discharge. This may include restricting or preventing untreated or partially treated wastewater, plant chemicals or feedlot materials from entering waterways, containing spilled materials, recycling by-passed wastewater through the plant, or using auxiliary treatment methods. (Minnesota Statutes, section 115.061)

Chapter 5. Total Facility Requirements

10. Duty to Notify and Avoid Water Pollution

10.4 The Permittee shall maintain a plan designed to adequately notify the public of potential health threats due to discharges of untreated or partially treated wastewater. The Permittee shall notify the public in accordance with the plan.

11. Anticipated Bypasses

11.1 The Permittee may allow a bypass to occur if the bypass will not cause the exceedance of an effluent limitation but only if the bypass is necessary for essential maintenance to assure efficient operation of the facility. The permittee shall submit notice of the need for the bypass at least ten days before the date of the bypass. (Minnesota Rules, pt. 7001.1090, subp. 1.J)

11.2 The notice of the need for a bypass shall include the following information:

- a. The proposed date and estimated duration of the bypass.
- b. The alternatives to bypassing.
- c. The proposed measures to mitigate environmental harm caused by the bypass.
- d. A proposal for bypass monitoring.

11.3 The Permittee shall not allow an anticipated bypass to occur that will cause an exceedance of an applicable effluent limitation unless the following conditions are met:

- a. The bypass is unavoidable to prevent loss of life, personal injury, or severe property damage. For the purposes of this paragraph, "severe property damage" means substantial damage to property of the Permittee or of others; damage to the wastewater treatment facilities that may cause them to become inoperable; or substantial and permanent loss of natural resources that can be reasonably expected to occur in the absence of a bypass. "Severe property damage" does not mean economic loss as a result of a delay in production.
- b. There is no feasible alternative to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or performance of maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance.
- c. The Permittee has notified the commissioner of the anticipated bypass and the commissioner has approved the bypass. The commissioner shall approve the bypass if the commissioner finds that the conditions set forth in Minnesota Statutes, part 7001.1090, subpart 1, items A and B are met. (Minnesota Rules, pt. 7001.1090, subp. 1.K)

Chapter 5. Total Facility Requirements

12. Facilities Operation

- 12.1 The Permittee shall properly operate and maintain the systems used to achieve permit compliance. Proper operation and maintenance includes effective performance, adequate funding, adequate staffing and training, and adequate process and laboratory controls, including appropriate quality assurance procedures. (Minnesota Rules, pt. 7001.0150, subp. 3.F)
- 12.2 The Permittee is responsible for insuring system reliability and shall install adequate backup or support systems to achieve permit compliance and prevent the discharge of untreated or inadequately treated waste. These systems may include alternative power sources, auxiliary treatment works and sufficient storage volume for untreated wastes. (Minnesota Rules, pt. 7001.0150, subp. 3.F)
- 12.3 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. (Minnesota Rules, pt. 7001.1090, subp. 1.C)
- 12.4 The Permittee shall store, transport and dispose of biosolids, 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.
- 12.5 The Permittee's discharge shall not cause any nuisance conditions, acutely toxic conditions to aquatic life or other adverse impact on the receiving water.
- 12.6 The Permittee shall comply with all applicable water quality, air quality, solid waste and hazardous waste statutes and rules in the operation and maintenance of the facility.
- 12.7 The Permittee shall schedule maintenance of the treatment works during non-critical water quality periods to prevent degradation of water quality.
- 12.8 In-plant control tests shall be conducted at a frequency adequate to ensure continuous efficient operation of the treatment facility.

Chapter 5. Total Facility Requirements

13. Inspection And Entry

- 13.1 The Permittee shall allow a representative of the MPCA, in accordance with Section 308 of the Act and Minnesota Statutes, section 115.04, and upon presentation of proper credentials, to:
- a. enter the premises where the facility is located or activity conducted;
 - b. review and copy the records required by this permit;
 - c. inspect the facilities, systems, equipment, practices or operations regulated or required by this permit;
 - d. sample or monitor to determine compliance; and
 - e. bring equipment upon the Permittee's premises necessary to conduct surveys and investigations. (Minnesota Rules, pt. 7001.0150, subp. 3.I)

14. Permit Modifications

- 14.1 Changes to the facility or operation of the facility may require a permit modification. The Permittee shall submit an application describing the changes to the facility or operation to the MPCA and receive a permit modification prior to implementing the changes. The Permittee must submit the permit modification application fee in accordance with Minnesota Rules, part 7002.0250 with the application.
- 14.2 The following changes may require a permit modification:
- a. Increased use or new use of a chemical additive.
 - b. Changes in the characteristics, concentrations or frequency of the wastewater flow, which may include new significant industrial discharges to a sanitary sewage treatment system, significant changes in existing industrial discharges to a sanitary system, significant rerouting of wastewater for reuse or for land disposal or significant changes in the levels of indicator characteristics.
 - c. Changes in biosolids or residual solids use and disposal practices.
- 14.3 The procedures as set forth in Minnesota Rules, pt. 7001.0100 through 7001.0130, including public notice, apply to applications for permit modifications, with the following exceptions:
- a. Modifications solely as to ownership or control as described in Minnesota Rules, pt. 7001.0190, subp. 2.
 - b. Minor modifications as described in Minnesota Rules, pt. 7001.0190, subp. 3.

Chapter 5. Total Facility Requirements

14. Permit Modifications

14.4 No permit may be assigned or transferred by the holder without the approval of the MPCA. A person to whom the permit has been transferred shall comply with the conditions of the permit. (Minnesota Rules, pt. 7001.0150, subp. 3.N)

15. Construction

15.1 Construction related to facility modifications, additions or expansions that is not expressly authorized by this permit requires a permit modification. If the construction project requires an Environmental Assessment Worksheet under Minnesota Rules, ch. 4410, no construction shall begin until a negative declaration has been issued and all approvals have been received or implemented. (Minnesota Rules, pt. 7001.0030)

15.2 No construction shall begin until the Permittee has received written approval of plans and specifications for the construction from the MPCA.

16. Permit Modification, Suspension or Revocation

16.1 This permit may be modified, suspended, or revoked for the following reasons:

- a. A violation of permit requirements.
- b. Misrepresentation or failure to disclose fully all relevant information to obtain the permit.
- c. A change in a condition that alters the discharge.
- d. The establishment of a new or amended pollution standard, limitation or effluent guideline that is applicable to the permitted facility or activity.
- e. Failure to pay permit fees.
- f. Other reasons listed in Minnesota Rules, pt. 7001.0170.

17. Permit Reissuance

17.1 The Permittee shall submit an application for permit reissuance at least 180 days before permit expiration. (Minnesota Rules, pt. 7001.0040, subp. 3)

Chapter 5. Total Facility Requirements

17. Permit Reissuance

17.2 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 one of the following:

- 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. (Minnesota Rules, pt. 7001.0160)

17.3 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. The MPCA may require the Permittee to apply for reissuance or a major modification of this permit to authorize facility closure.

18. Facility Closure

18.1 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. An application for permit modification shall be submitted to the MPCA for approval before the proposed change is implemented.

18.2 The Permittee is responsible for closure and post-closure care of the facility. The Permittee shall notify the MPCA of a significant reduction or cessation of operations described in this permit.

18.3 The MPCA may require the Permittee to establish financial assurance for closure, post-closure care and remedial action at the facility.

19. Property Rights

19.1 The permit does not convey a property right or an exclusive privilege. (Minnesota Rules, pt. 7001.0150, subp. 3.C)

Chapter 5. Total Facility Requirements

20. Liability Exemption

20.1 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 actions, including those activities authorized, directed, or undertaken to achieve compliance with this permit. To the extent the state and MPCA may be liable for the activities of its employees, that liability is explicitly limited to that provided in the Tort Claims Act, Minnesota Statutes, section 3.736. (Minnesota Rules, pt. 7001.0150, subp. 3.O)

20.2 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. (Minnesota Rules, pt. 7001.0150, subp. 3.D)

21. Liabilities

21.1 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. (Minnesota Rules, pt. 7001.0150, subp. 3.A)

21.2 The issuance of a 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. (Minnesota Rules, pt. 7001.0150, subp. 3.B)

22. Severability

22.1 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, is held invalid, the application of such provision to other circumstances and the remainder of this permit shall not be affected thereby.

23. Incorporation By Reference

23.1 The Permittee shall comply with the provisions of 40 CFR Parts 122.41 and 122.42, Minnesota Rules, pt. 7001.0150, subp. 3, and pt. 7001.1090, which are incorporated into this permit by reference, and are enforceable parts of this permit.