

**STATE OF MINNESOTA
MINNESOTA POLLUTION CONTROL AGENCY**

**IN THE MATTER OF THE DECISION
ON THE NEED FOR AN ENVIRONMENTAL
IMPACT STATEMENT FOR THE PROPOSED
NORTSHORE MINING COMPANY –
FURNACE 5 REACTIVATION PROJECT
LAKE COUNTY
SILVER BAY, MINNESOTA**

**FINDINGS OF FACT
CONCLUSIONS OF LAW
AND ORDER**

FINDINGS OF FACT

The above-entitled matter came before the Minnesota Pollution Control Agency (MPCA) Citizens' Board at a regular meeting held in St. Paul, Minnesota on November 22, 2005. Pursuant to Minn. R. 4410.1000 - 4410.1600 (2003), the MPCA staff prepared an Environmental Assessment Worksheet (EAW) for the proposed project. Based on the MPCA staff environmental review, comments, and information received during the comment period, and other information in the record of the MPCA, the MPCA hereby makes the following Findings of Fact, Conclusions of Law, and Order:

FACILITY HISTORY

Overview

1. Northshore Mining Company (NMC) currently mines taconite, a low-grade iron ore, at its Peter Mitchell mine, which is located near Babbitt, St. Louis County, Minnesota. The crude ore is transported by rail from the mine to NMC's taconite processing facility (Facility), located on the north shore of Lake Superior in Silver Bay, Lake County, Minnesota. The crude ore proceeds to fine crushing where it is reduced to a three-fourths inch size or smaller. Following fine crushing, the ore is directed to dry cobbing, which is a dry magnetic separation process used to reject the portion of the ore that does not contain sufficient magnetic iron. The ore not rejected during dry cobbing is sent to a series of wet grinding and concentrating processes to separate, concentrate, and recover the iron from the incoming ore. The iron concentrate is then mixed with a binding agent and rolled into one-fourth to one-half inch balls suitable for feeding to a pelletizing furnace, where the taconite pellets are indurated or hardened. After leaving the furnaces, the pellets are transported to the storage yard for stockpiling or bin storage for eventual shipment to integrated steel making facilities. Iron concentrate is also sold for use in other markets, including production of iron nugget (which contains very high—greater than 96 percent—iron content).
2. Coarse tailings are sent by rail to the Milepost 7 tailings basin, which is approximately four miles to the west of the Facility, where they are used to build and maintain dams that contain the basin. Process wastewaters containing fine tailings are sent to the Milepost 7 tailings basin via an above-ground pipeline and are deposited within the basin. Water from the tailings basin is either recycled

to the Facility by an underground pipeline for use as process water or is sent to a wastewater treatment plant (WWTP) located at Milepost 7. Water sent to the WWTP is chemically treated and then filtered before it is discharged to the Beaver River, which is a tributary to Lake Superior.

The Silver Bay Power Company operates a power plant onsite that provides electricity for the NMC's taconite processing operations and for sale on the power grid as well. The Silver Bay Power Company is owned by Cleveland-Cliffs, Incorporated.

3. Reserve Mining Company built the Facility in the mid-1950s and operated it until it was shut down in 1986 due to bankruptcy. Cyprus Minerals acquired the Facility in August 1989 and resumed operations. Cleveland-Cliffs, Inc., purchased the Facility from Cyprus Minerals in 1994. NMC has operated it since then as a wholly-owned subsidiary of Cleveland-Cliffs, Inc.
4. Production of taconite pellets and concentrate has varied since Cyprus Minerals purchased the Facility in 1989. The currently operating equipment can produce 5 million long tons of concentrate per year and approximately 6.7 million long tons of pellets per year (one long ton equals 2,240 pounds). In 2004, the Facility produced 4.8 million long tons of concentrate and 4.9 million long tons of pellets. Of the 4.8 million long tons of concentrate, approximately 70,000 long tons was sold off-site, with the remainder used by NMC to produce taconite pellets.

Permitting History

Title V Air Emission Permit

5. The Facility received its first air permit in 1972. It has been reissued and modified several times since then to accommodate additional processing units and control equipment.
6. The Title V operating permit application submitted by NMC in January 1995 and November 2002, includes, among the units for taconite processing operations, two power boilers, coal transfer and bunkers, and coal yard fugitive sources. The power boilers and associated units are also found in Air Emission Permit No. 27A-89-OT-1, issued originally to Cyprus Minerals Corporation and Cyprus Northshore Mining Corporation, August 17, 1989, for restarting the boilers and taconite facility after a temporary shutdown related to bankruptcy of Reserve Mining and one of its parent companies. The MPCA has not issued a separate Air Emission Permit to the Silver Bay Power Company for the power boilers and associated units.
7. The Title V Air Emission Permit (now No. 07500003) was recently issued on February 24, 2004, and has been modified once since then. The proposed project will require a major amendment of this Title V Air Emission Permit.
8. As mentioned previously, NMC operates the taconite processing plant in Silver Bay, Minnesota, using ore supplied by NMC's Peter Mitchell mine (located near Babbitt, Minnesota). The Silver Bay Power Company operates a power plant onsite that provides electricity for the NMC's taconite processing operations and for sale on the power grid. Cleveland-Cliffs, Inc., is the parent company of both NMC and Silver Bay Power Company. The Title V Air Emission Permit names all three companies as the Permittee.

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

9. Originally, three separate permits regulated water resources at NMC's Facility: one for operation of the Mile Post 7 tailings basin disposal system; a second to regulate the Mile Post 7 WWTP and the discharge to the Beaver River; and a third to regulate the non-contact cooling water discharge to Lake Superior and the discharge of process wastewaters to the Mile Post 7 tailings basin from the Silver Bay Power Plant. On August 17, 1989, the permits were reissued and/or transferred to new ownership under Cyprus Mineral Company and Cyprus Northshore Mining Company jointly.

The three permits were combined into NPDES/SDS Permit No. MN 0055301, which was issued on September 26, 1996 and expired on July 31, 2001. This permit was reissued on January 26, 2004, and will expire on September 30, 2008.

10. In addition to these issuances/reissuances, these permits have undergone many modifications over the past nineteen years. The proposed project will require a major modification of this NPDES/SDS Permit.

Previous Environmental Review

11. The Facility has been in existence since the mid-1950s. Two other projects proposed in past years have required environmental review:

Cyprus Northshore Mining Company, previous owner of the Facility, proposed to install a Direct Reduced Iron (DRI) process at the Facility in the early 1990s. The MPCA prepared an EAW for the project and issued a negative declaration on the need for an EIS for the project on May 25, 1993. Before the Air Emission Permit was issued, the project economics changed, and the company decided not to pursue the project.

Several years ago, NMC proposed another DRI project, which differed in several respects from the proposal made in the early 1990s. Again, the MPCA prepared and public noticed an EAW for the project. Before the Findings of Fact was finalized, the project economics changed, and NMC decided not to pursue the project.

Compliance/Enforcement History

12. NMC has been involved in a number of enforcement actions with the MPCA regarding this Facility over the past several years:

- On March 22, 2000, a Stipulation Agreement was signed for six ambient total suspended particle (TSP) violations that occurred in 1999. NMC paid a penalty of \$37,000 and improved dust controls were installed.
- On December 11, 2001, a Stipulation Agreement was signed for violations of the NPDES/SDS Permit effluent limits, non-reporting of required information and for violations associated with a tailings pipeline break that occurred in October 2000. NMC paid a penalty of \$200,000, with a Supplemental Environmental Project that required the expenditure of at least \$240,000. An additional \$47,000 in stipulated penalties were assessed for late completion of submittals/corrective actions required by the Stipulation Agreement. An additional penalty of \$7,500 was rolled into this Stipulation Agreement for an ambient TSP violation that occurred on May 5, 2000.

- On October 30, 2003, a Stipulation Agreement was signed for five ambient TSP violations that occurred in 2002 and 2003. NMC paid a penalty of \$26,875 and improved dust controls were installed.
- In June 12, 2004, an Administrative Penalty Order was issued for an air quality test failure on the nugget pilot plant coal crusher bagfilter. NMC paid a penalty of \$2,850. A retest demonstrated compliance.
- On February 17, 2005, an Administrative Penalty Order was issued for an air quality test failure on a fine crusher bagfilter. NMC paid a penalty of \$4,200. A retest demonstrated compliance.
- On October 25, 2005, a Stipulation Agreement was signed for violations of the requirements to take daily parametric readings related to particulate matter from stack and fugitive dust sources during 2004 and the first half of 2005. NMC has agreed to pay a penalty of \$13,000 and to take corrective actions. The Agreement requires that additional penalties will be assessed if significant missed readings occur.
- On October 26, 2005, a Notice of Violation (NOV) was issued for petroleum spills associated with NMC's locomotive fueling activities in Silver Bay. The NOV requires corrective actions to investigate and clean up past spills as well as actions to prevent future spills.
- In November 2005, a Stipulation Agreement was signed for violations of NPDES/SDS permit requirements. The Agreement addresses 1) construction storm water requirements associated with a ditch relocation and railroad realignment project at the Mile Post 7 Tailings Basin, and 2) the operation of the Flouride Treatment System as required by NPDES/SDS Permit No. MN0055301. NMC has agreed to pay a penalty of \$37,750 and to take corrective actions. The Agreement requires additional penalties for future noncompliance.

PROPOSED PROJECT DESCRIPTION

Proposed Modification

13. NMC is proposing to reactivate equipment that is listed in its current Air Emission Permit, but has been idle for more than twenty years. Potential air emissions associated with the project after installation of pollution control equipment will increase by over 100 tons per year for nitrogen oxides (NO_x). It is the increase in potential air emissions for this pollutant that has triggered the need for a mandatory EAW under Minn. R. 4410.4300, subp 15(A).
14. In addition, this proposed project will require Prevention of Significant Deterioration (PSD) permitting and implementation of Best Available Control Technology (BACT) on reactivated equipment.
15. The specific changes will include the following:
 - Reactivating two fine crushing lines along with their corresponding existing permitted fabric filters;
 - Reactivating nine concentrator sections and upgrading multiclones on all nine with fabric filters as the sections are reactivated;
 - Replacing multiclones on all currently operating concentrator sections with new fabric filters;

- Constructing a concentrate handling system consisting of three conveyor belts and two concentrate storage silos;
 - Reactivating pelletizing Furnace 5 along with three Wet-Walled Electrostatic Precipitators (WWESPs) for emission control;
 - Rendering the Iron Nugget Pilot Demonstration Research and Development Plant, located onsite, inoperable;
 - Adding two new filtration units to the Mile Post 7 WWTP and authorizing increased volumes of its associated discharge to the Beaver River to allow the discharge of accumulated precipitation within the tailings basin; and
 - Modifying the effluent amphibole fiber limit in the NPDES/SDS Permit.
16. The currently operating concentrator sections can produce 5 million long tons of concentrate per year. Reactivation of the nine concentrator sections will allow the Facility to produce up to 8 million long tons of concentrate per year. The currently operating furnaces can produce approximately 6.7 million long tons per year of standard pellets. Reactivation of Furnace 5 will allow Facility production of up to 8.1 million long tons per year of standard pellets.
17. On September 27, 2005, NMC announced that it may not implement the entire project if changes in market conditions would make full implementation economically unfavorable for NMC. This sentiment has been confirmed in subsequent conversations with the MPCA. The modified Air Emission Permit will allow the company the flexibility to construct all or part of the proposed project. The MPCA finds that even partial construction of this project will not result in the potential for significant adverse environmental effects.

Environmental Concerns

18. Typical environmental concerns that may be expected from such a proposal include potential impacts to air and surface water quality and noise.

Additional Concerns Described in Comment Letters

19. Commenters expressed concerns about the potential for cumulative impacts from the proposed project and other mining projects also proposed for northeastern Minnesota and for potential health impacts from the release of amphibole fibers (which are present in the ore that NMC processes) to the air and water. Commenters also expressed concern for potential visibility and acid deposition impacts to high quality natural resource areas that are located in northeastern Minnesota.

Community Involvement in Process

20. NMC held an open house for the public at the Facility on May 16, 2005.
21. The MPCA held a public information meeting on June 7, 2005, in the auditorium of the William Kelley High School, 137 Banks Boulevard, Silver Bay, Minnesota. The meeting included an open house, followed by staff presentations on the environmental review process, and proposed modifications to the Air Emission and NPDES/SDS Permits. After the presentations, staff answered questions from meeting attendees.

PROCEDURAL HISTORY

22. Pursuant to Minn. R. 4410.4300 subp. 15(A), an EAW was prepared by MPCA staff on the proposed project. Pursuant to Minn. R. 4410.1500 (2003), the EAW was distributed to the Environmental Quality Board (EQB) mailing list and other interested parties on May 23, 2005.
23. The MPCA notified the public of the availability of the EAW for public comment. A news release was provided to interested parties on May 24, 2005. In addition, the EAW was published in the *EQB Monitor* on May 23, 2005, and available for review on the MPCA Web site at <http://www.pca.state.mn.us/news/eaw/index.html> on May 24, 2005.
24. The public comment period for the EAW and for the draft Air Emission and NPDES/SDS Permits began on May 23, 2005, and ended on June 22, 2005. During the 30-day comment period, the MPCA received 10 comment letters from government agencies, 2 from Indian tribes, and 63 comment letters from citizens. An additional 9 comment letters were received after the end of the comment period from a mix of governmental agencies, Indian tribes and citizens.
25. The MPCA prepared responses to all comments received for the draft EAW and for the draft Air Emission and NPDES/SDS Permits. Comment letters received have been hereby incorporated by reference as Appendix A to these findings. The MPCA responses to comments received are hereby incorporated by reference as Attachment 6.

CRITERIA FOR DETERMINING THE POTENTIAL FOR SIGNIFICANT ENVIRONMENTAL EFFECTS

26. Under Minn. R. 4410.1700 (2003), the MPCA must order an Environmental Impact Statement (EIS) for projects that have the potential for significant environmental effects that are reasonably expected to occur. In deciding whether a project has the potential for significant environmental effects, the MPCA must compare the impacts that may be reasonably expected to occur from the project with the criteria set forth in Minn. R. 4410.1700, subp. 7 (2003). These criteria are:
 - A. the type, extent, and reversibility of environmental effects;
 - B. cumulative potential effects of related or anticipated future projects;
 - C. the extent to which the environmental effects are subject to mitigation by ongoing public regulatory authority; and
 - D. the extent to which environmental effects can be anticipated and controlled as a result of other available environmental studies undertaken by public agencies or the project proposer, including other EISs.

**THE MPCA FINDINGS WITH RESPECT TO EACH OF THESE CRITERIA
ARE SET FORTH BELOW**

Type, Extent, and Reversibility of Environmental Effects

27. The first criterion that the MPCA must consider, when determining if a project has the potential for significant environmental effects that are reasonably expected to occur, is the "type, extent, and reversibility of environmental effects." Minn. R. 4410.1700, subp. 7.A (2003). The MPCA findings with respect to each of these factors are set forth below.
28. The MPCA has identified the following expected environmental effects of this project related to air quality:
- A. Point source, or plant stack, air emissions;
 - B. Fugitive dust air emissions;
 - C. Mercury air emissions;
 - D. Fiber air emissions and
 - E. Noise
29. The MPCA has evaluated the following expected air quality environmental effects with regard to their extent:
- A. Point source, or plant stack, air emissions

For determining applicability of PSD permitting, the project emissions of the new or modified units after installation of pollution control equipment have been calculated. The emissions surpassed PSD major modification thresholds for sulfur dioxide (SO₂), nitrogen oxides (NO_x), particulate matter (PM), and PM smaller than 10 microns in size (PM₁₀). A major modification subject to PSD review is required to ensure that BACT is used for each pollutant for which there is a significant net emissions increase. The Facility, with the proposed project factored in, has undergone air impact evaluations for ambient air quality standards, Class I and II PSD increment consumption, Air Quality Related Values (AQRVs – flora/fauna, acid deposition, and visibility) and an Air Risk Analysis. The evaluations are summarized below.

1. Ambient Air Quality Standards

As part of the air quality permit application, an air dispersion modeling assessment has been completed to determine compliance with National and Minnesota Ambient Air Quality Standards. The air dispersion modeling showed that no criteria pollutant ambient air quality standards would be violated by the reactivation of the units described in the EAW.

2. Class I Increment Consumption

Four areas, designated as having outstanding quality that must be protected, termed Class I areas, have been evaluated for Class I increment consumption and for impacts to AQRVs resulting from the proposed project. The Boundary Waters Canoe Area Wilderness (BWCAW) and the Rainbow Lakes Wilderness fall under the jurisdiction of the U.S. Department of Agriculture (U.S. Forest Service). The other two areas, Isle Royale National Park and Voyageurs National Park, fall under the jurisdiction of the U.S. Department of the Interior (National Park Service and Fish and Wildlife Service). The model-generated atmospheric

concentrations of SO₂, PM₁₀, and nitrogen dioxide (NO₂) are below the corresponding PSD Class I increments and the Significant Impact Levels (SILs) designated by the United States Environmental Protection Agency (USEPA). The SILs are used by USEPA and other regulatory agencies as a decision threshold and are set at four percent of the Class I area increment. USEPA's working assumption is that as long as no individual source contribution exceeds four percent of a Class I increment, it is unlikely that the accumulation of sources over time will exceed that increment. Therefore, the emissions associated with the proposed project are not expected to deteriorate the air quality significantly in the four modeled Class I areas. The U.S. Forest Service (USFS) and the National Park Service (NPS) were offered the opportunity to participate in the review and assessment of this project proposal.

3. Class II Increment Consumption

Class II areas essentially comprise all areas in the country that are not classified as Class I. Three modeling scenarios were assessed and the analysis shows that the Facility, after implementation of the proposed project, will not exceed allowable increment consumption for the three criteria pollutants for which the PSD increment analysis applied: SO₂, NO₂, and PM₁₀.

4. Flora/Fauna

When evaluating potential adverse effects to flora and fauna, lichen species are generally used as a "threshold" indicator of potential air pollution damage because they are especially susceptible to air pollution and show adverse effects before other plant and animal species. According to USFS guidance, if pollutant concentrations in a Class I area are sufficiently low that no damage occurs to native lichens, then it can reasonably be concluded that all other flora and fauna species are protected. The USFS has developed green-line thresholds for atmospheric concentrations of SO₂ for the protection of lichens and sensitive trees. A comparison of the modeled maximum SO₂ concentrations for the BWCAW and the Rainbow Lakes Wilderness to the USFS "green-line" SO₂ concentrations shows that the green-line SO₂ concentrations are not exceeded, suggesting that no adverse effects on lichens or tree foliage are expected from the proposed project.

The National Park Service does not have a screening threshold for potential impacts to foliage. Ozone monitoring has revealed no foliar damage in Voyageurs National Park or Isle Royale National Park, and the respective websites for each park did not identify ozone as a pollutant adversely impacting AQRVs when information was reviewed in September 2004. USEPA and the Federal Land Managers (FLMs) agree that modeling a single source for ozone impacts is not feasible at this time.

5. Acid Deposition

The NPS and the U.S. Fish and Wildlife Service have developed Deposition Analysis Thresholds (DATs) for evaluating the contribution of additional nitrogen or sulfur to deposition within Class I areas. A DAT is the additional amount of nitrogen or sulfur deposition within a Class I area below which estimated impacts from a proposed new or modified source are considered insignificant. The maximum modeled sulfur and nitrogen deposition rates associated with the proposed project at the two national parks are below the corresponding DATs, which indicate that acidic deposition associated with the proposed project will be insignificant at the two parks. The acid deposition impact analysis for the BWCAW and Rainbow Lake Wilderness was conducted according to the "Green-Yellow-Red" screening

procedure methodology outlined in the USFS publication entitled “Screening Procedures to Evaluate Effects of Air Pollution on Eastern Wildernesses Cited as Class I Air Quality Areas” (Adams et al., 1991). When the background deposition rates for the BWCAW and the Rainbow Lakes Wilderness are added to the project’s deposition rates, the combined deposition rates (project + background) are below or within the green-line deposition range, which indicates that no adverse impacts due to acid deposition associated with the proposed project emissions are expected at the two wilderness areas.

6. *Visibility*

A visibility analysis was also completed to address the initial concerns of the FLMs. The potential for visibility impairment was assessed for the BWCAW, Voyageurs National Park, and Isle Royale National Park using the refined *CALPUFF* modeling system approach for regional haze. The USFS has determined that visibility is not an AQRV for the Rainbow Lake Wilderness. For decision-making purposes, the FLMs have identified the visibility thresholds of five and ten percent as a screening threshold with regard to a project’s modeled potential impact; exceedences of the five and ten percent visibility thresholds are assessed for frequency, magnitude, and duration and are used to formulate FLM comments regarding a project’s emissions, BACT applicability, and the need for additional air emission controls. No exceedences of the five percent visibility threshold were identified in the Class I areas when the modeled results were compared to existing background conditions. Additionally, no exceedences of the visibility thresholds for pristine background conditions were identified for Isle Royale and Voyageurs National Parks, respectively.

The modeling results did indicate the potential for the proposed project to exceed a five percent increase over the pristine background extinction coefficients for four days in three years modeled within the BWCAW. The USFS has reviewed the modeling protocol and the modeled results and believe that they are the best representation available of the impact of this project on visibility based on its current understanding of the pollutants emitted from the Facility. Anywhere from a two percent to a ten percent change in light extinction as compared to natural background is generally just noticeable in most landscapes. Due to the low frequency of the modeled impact (only four days in three years over five percent), low magnitude (a highest impact of 7.2 percent extinction and the impacted areas occur over a small geographical portion of the BWCAW for those days with receptors over 5 percent), and short duration (no consecutive days of impact and all impacts are focused during the time of the year that has low visitor use), the FLMs view these impacts to visibility as minor. Additionally, based on the NPS’ review, the impacts of the proposed emissions on the AQRVs at Voyageurs and Isle Royale National Parks would be insignificant (see Comment 81-2 in Attachment 6).

7. *Air Risk Analysis*

Hazardous air pollutants were analyzed in an Air Risk Analysis for the proposed project. The evaluation indicates that, with the exception of the acute hazard index threshold, all hazard indices and carcinogenic risks for the chemicals and pathways evaluated for the proposed project are below the recommended MPCA thresholds. Exceedence of the acute (hourly) threshold is primarily due to NO₂, with a hazard quotient of 1.4. The maximum modeled hourly NO₂ concentration falls on Highway 61 where it is unlikely a person would be exposed continuously for an hour (the exposure time frame of concern). NO₂ concentrations generally decrease as distance from the highway increases. Locations of modeled concentrations greater than the threshold for the most part fall to the northeast of the Facility in an area zoned

industrial/commercial. One other is immediately west of the Facility near the property line. The proposed project is not expected to pose the potential for significant risks to the general public from the chemicals and exposure pathways assessed.

B. Fugitive dust emissions

Fugitive dust (i.e. PM/PM₁₀ emissions) is released from a variety of sources at the Facility. These sources include movement of material to and from raw material and finished product storage piles located outdoors, wind erosion of outdoor storage piles, pellet cooling and travel on unpaved roads. Some of this material, such as the concentrate, the coal and the pellets as they cool, have a moisture content that limits dust emissions; however, dust emissions are still released from these sources and from sources that do not have a natural moisture content. Although there have been no ambient air exceedences since April 2003, citizens in the area have complained about dust on their property that they attribute to the Facility. The MPCA has required NMC to develop a fugitive dust control plan to limit fugitive dust to respond to the concerns and to ensure continued compliance.

The actual construction phase of the proposed project should not result in the potential for significant dust. Most construction activities will be conducted indoors. The construction of the storage silos will occur outdoors, but the construction will be of short duration (~6-9 months).

The proposed project will require additional raw materials and will yield additional product. However, the additional concentrate that is expected to be produced will be stored within silos which will be equipped with fabric filter bin vents to control air flows within the silos. The Air Emission Permit, which has been modified in response to the proposed project but not yet issued, will require an improved fugitive dust control plan that will include increased dust suppression activity and improved recordkeeping, to better correlate complaints received from citizens to activities occurring at the Facility. There is no reason to believe that either the construction phase or the operation of the proposed project will have the potential for significant dust impacts.

C. Mercury air emissions

Mercury is contained within the ore that NMC mines and processes. Some of the mercury is emitted to the air when the taconite pellets are indurated in the pelletizing furnaces; most of the mercury is sent to the Mile Post 7 tailings disposal system in the tailings slurry. Mercury is also released when coal is combusted in the power plant boilers. Based on the MPCA's calculations, the Facility emitted an estimated 11 pounds of mercury to the air in 2004. There are no state or federal air standards for mercury emissions for the mining sector at this time.

The electricity usage rate is expected to increase by five to ten megawatts with the reactivation of Furnace 5 and the crushing and concentrating equipment. Currently, the power boilers at the Facility operate at full capacity and electricity not used by the Facility is sold on the grid. To accommodate the proposed project, the Facility will use more of the electricity that the power plant generates and sell less electricity for profit. Therefore, the project will not result in additional fuel combustion at the power plant.

Though the amount of coal burned in the power plant is not expected to increase as a result of the proposed project, the reactivation of Furnace 5 will mean that an increased number of pellets will be indurated. At maximum capacity and considering control equipment, the reactivation of this furnace has the potential to emit up to 1.5 pounds of mercury beyond what is currently released to the air each year.

The MPCA relied upon a conservative screening assessment conducted in 1999 of potential mercury deposition from taconite processing and fuel combustion to a number of receptor sites (including seven small lakes located west and northwest of the Facility) to evaluate potential impacts from this proposed project.

In 1999, NMC proposed to incorporate a new process at the Facility which was ultimately never implemented. Using the assumption that 50 percent of the mercury to be emitted is in a divalent form, which is a form more likely to be deposited locally than other forms of mercury, an estimated 2.3 additional pounds of mercury would have been emitted from the project proposed in 1999. The screening assessment determined that the proposed project would cause no measurable increases in local mercury deposition to nearby lakes.

Based on the method used for the 1999 study, and considering that the reactivation of Furnace 5 has the potential to emit less mercury than the 1999 project proposal, the MPCA has concluded that there will be no measurable increase in local mercury deposition to nearby lakes due to the proposed project.

From the information above, there is no reason to believe that the proposed project will result in the potential for significant increases in mercury air emissions or in the potential for significant accumulation of mercury in fish tissue.

D. Fiber air emissions

The taconite ore processed at the Facility contains amphibole mineral fibers. The industrial activities at the Facility emit PM and PM₁₀ to the atmosphere and these emissions contain amphibole mineral fibers. The MPCA has assessed potential air fiber emissions from the proposed project and has found that although additional equipment will be in operation after implementation of the proposed project, fiber air emissions from the facility will decrease because existing multiclone control equipment will be replaced with fabric filters, which are more efficient at removing particulate matter (including fibers) from the exhaust before venting to the atmosphere. As a result, no net increases in fiber air emissions are anticipated. Several commenters raised concerns that the fiber air emissions would cause health issues. Since the project, or any subset thereof, is not expected to increase fiber air emissions from their current levels, there should be no potential for significant health impacts from this project due to fiber air emissions. If, for example, only two concentrators were reactivated, this determination would remain unchanged.

E. Noise

The Facility currently emits noise consistent with industrial activities. Noise will be generated by the outdoor construction of the concentrate silos; other construction will occur indoors. Likewise, the operation of the equipment proposed for reactivation will create noise, but this equipment will be located indoors. The proposed project is expected to result in a negligible increase of noise.

30. The MPCA finds that any potential effect that is reasonably likely to occur from this project would be reversible. Any air emissions or noise released to the atmosphere would not be recovered, but further emissions or noise could be stopped, if necessary. However, as discussed above, there is no record evidence indicating that this project is reasonably expected to cause a potential for significant negative effect on air quality.
31. Some comment letters expressed a concern for fiber air emissions and their potential for health impacts, the potential increase in mercury accumulation in fish tissue resulting from the proposed project and a concern for increased air emissions that may resulting in haze and visibility impacts to scenic areas in the vicinity. Several of these same commenters expressed more general concerns about nuisance dust emissions. As discussed above, the MPCA finds that the effects on air quality that are reasonably expected to occur do not have the potential for significant effects.

All potential impacts to air quality that are reasonably expected to occur from the proposed project have been considered during the review process and methods to prevent any potential for significant impacts have been developed.

The MPCA finds that the project, as it is proposed, does not have the potential for significant environmental effects based on the type, extent, and reversibility of environmental effects reasonably expected to occur as a result of its air emissions.

32. The MPCA has identified the following expected environmental effects of this project related to water quality:
 - A. Water quality;
 - B. Presence of mercury in Mile Post 7 WWTP discharge; and
 - C. Presence of amphibole fibers in Mile Post 7 WWTP discharge.

33. The MPCA has evaluated the following expected water quality environmental effects with regard to their extent:

A. Water quality

The Beaver River, from its headwaters down to Lake Superior, is listed on Minnesota's 303(d) list of impaired waters for mercury, turbidity, and pH. Lake Superior is on the 303(d) list of impaired waters for mercury and polychlorinated biphenyls. A discussion of potential mercury impacts can be found in B of this Finding and in C of Finding 28. Potential water quality impacts from other parameters are summarized below.

1. *Turbidity*

Turbidity is a measure of water clarity. The existing discharge fully complies with the Facility's turbidity limits and is much less turbid than the receiving water. The proposed addition of two treatment units to the WWTP and resulting increased discharge flows will provide additional low-turbidity water to the Beaver River. It will not increase the river's turbidity and may even provide a benefit through dilution.

2. *pH*

In recent years, the pH of the discharge has remained within the acceptable range contained in the NPDES/SDS Permit (6.5-8.5). As mentioned previously, the Beaver River is listed as impaired for high pH. As long as the discharged effluent from the Mile Post 7 basin remains within the acceptable pH, the increased discharge will not increase the river's pH. There is no reason to believe that the proposed project will result in a pH imbalance of the effluent; and, thus, no river impact.

3. *Polychlorinated Biphenyls (PCBs)*

The Facility is not a source of PCBs and so the proposed project will not have the potential for significant environmental impacts with regard to that pollutant nor will it worsen the polychlorinated biphenyls-related impairment for Lake Superior.

4. *Fluoride*

The current NPDES/SDS Permit contains a compliance schedule for fluoride as a result of exceedences of the Facility's 2.5 milligrams per liter (mg/L) effluent fluoride limit. As part of that compliance schedule, a fluoride pretreatment system that reduces fluoride in water sent to the Mile Post 7 basin was installed and began operation in November 2004. The pretreatment system is designed to achieve effluent concentrations of 20 mg/L of the fluoride in the pelletizer air emission control equipment blowdown water before it is sent to the Mile Post 7 tailings basin. While the pretreatment system has demonstrated the ability to reduce fluoride concentrations, it has not yet achieved the 20 mg/L design criteria. To ensure that continued progress is made towards reducing fluoride concentrations in the basin, additional requirements have been added to the modified NPDES/SDS Permit and to the November 2005 Stipulation Agreement. The treated effluent must demonstrate compliance with an intermediate monthly average effluent fluoride limit of 4.8 mg/L within five years of the issuance of the NPDES/SDS Permit modification. If an evaluation of the basin's fluoride concentration completed prior to submittal of an application for permit reissuance indicates that the discharge is not on schedule to comply with the intermediate fluoride limits, the Facility will be required to include a request for a variance from the fluoride limit with the

application for NPDES/SDS Permit reissuance. These additional requirements will verify that reasonable progress is being made to reduce fluoride in the Mile Post 7 basin.

5. *Sulfate*

Currently, the sulfate concentration of water within the Mile Post 7 basin is at a sufficiently low level where there is no need for an effluent sulfate limit. The proposed project will reactivate three WWESPs, so more sulfate will be produced. The pretreatment system referenced in the fluoride discussion above was installed in 2004 primarily to remove fluoride, but it also removes sulfate. The pretreatment system's removal of sulfate is sufficient to offset increases that may be realized with the reactivation of the additional WWESPs. The concentration of sulfate within the basin is expected to remain steady or to decline (due to the increased discharge volumes) after the proposed project has become operational. Effluent sulfate monitoring is, and will continue to be, required by the NPDES/SDS Permit.

6. *Sodium*

Water in the Mile Post 7 basin contains sodium and since the proposed project will increase the use of caustic soda, the sodium concentration within the basin is also expected to increase. At this time, there is no receiving water data available for sodium so MPCA staff is unable to complete a reasonable potential analysis. Therefore, a requirement for quarterly instream monitoring will be added to the modified NPDES/SDS Permit. The data compiled will be assessed with the next NPDES/SDS Permit reissuance to determine if an effluent sodium limit is needed.

34. After consideration of the above information, the MPCA has concluded that the proposed project does not have the potential for significant water quality effects involving turbidity, pH, PCBs, fluoride, sulfate, or sodium, that are reasonably likely to occur.

B. Presence of mercury in Mile Post 7 WWTP discharge

As stated previously, mercury is present in the ore that NMC processes and so is also present in the tailings slurry sent to the Mile Post 7 tailings basin. A 1999 mercury mass balance study for the Facility found that an estimated 99.6 percent of the mercury input to the tailings basin is bound to the fine tailings particles and is permanently trapped in the basin. The Great Lakes Initiative (Minn. R. ch. 7052) water quality standard for mercury is 1.3 nanograms per liter (ng/L). Though no effluent mercury limit has been incorporated into the NPDES/SDS Permit, the Facility does monitor the effluent for low-level mercury. Monitoring data from the past year show that treated effluent discharged to the Beaver River contains less than 0.6 ng/L of mercury and is well below the mercury water quality standard. Monitoring for low-level mercury is, and will continue to be, required for this Facility to ensure the treated effluent does not exceed the mercury water quality standard. The MPCA has concluded that there is no reason to believe that the proposed project will result in a significant increase in mercury within the Mile Post 7 WWTP effluent.

C. Presence of amphibole fibers in Mile Post 7 WWTP discharge

The ore that NMC processes contains amphibole fibers. These fibers are released when the ore is processed and are present in the fine tailings slurry sent to the Mile Post 7 tailings basin. Consequently, they are also present within the effluent discharged to the Beaver River from the Milepost 7 WWTP. An effluent fiber limit of 1 million total fibers per liter (MF/L) determined by the MPCA based on the implementation of Best Available Technology (BAT), was set in the Facility's NPDES/SDS Permit in the 1980s. The limit was not a health-based or water quality-based limit; it was based on the application of similar technology at drinking water plants along the North Shore. The NPDES/SDS Permit also contained language (Chapter 11, Section 8.5 of the current permit) that stated that if this limit was being exceeded and the MPCA determined that the exceedences were not the result of failure by NMC to operate or maintain the treatment system according to the Facilities Operation requirements, this determination shall be cause for modifying the effluent total fiber limit.

Over the years, the effluent limits for turbidity, suspended solids, and amphibole fibers have been of great interest because the working assumption has been that keeping turbidity low will ensure a low fiber concentration in the discharged effluent. In actuality, though the treated effluent discharged to the Beaver River complies with the turbidity and Total Suspended Solids limits and removes 99.9+ percent of the fibers, the discharge nevertheless has often exceeded the 1 MF/L effluent fiber limit. A comparison of turbidity and fiber trends within the basin indicates that although there is some general correlation, the two parameters do not strictly follow the same trends. The fiber concentrations tend to be variable: between January 2004 and March 2005, the effluent fiber concentrations ranged between <1 MF/L to >5 MF/L. NMC has contended that the current effluent fiber limit of 1 MF/L is unachievable.

As a result of the project proposal, MPCA staff has reviewed actual performance data of BAT which has been operated and maintained properly for the WWTP. The MPCA has also considered the WWTP's hydraulic loading, filter efficiency, process, and turbidity control changes made from the original plant design proposed in the 1980s and the recent changes begun at the Mile Post 7 tailings basin described above. Based on a statistical analysis of effluent data, the MPCA has determined that an effluent fiber limit based on BAT would be 6.8 MF/L total amphibole fibers. Future performance will utilize continued operation of the WWTP to maintain BAT effluent turbidity limits, continued operation of filter dike bypass weir, continued addition of chemical flocculent addition at the bypass weir, and the reconstruction of the splitter dike. The monitoring frequency will remain unchanged at one sample every other month (January, March, May, July, September, November).

Some citizens have raised concerns that the increased discharge that would be realized by a WWTP expansion will also mean an increased load of fibers. These citizens express health concerns relative to these fibers. The MPCA staff does not expect the concentration of fibers in the discharge to increase from current levels. Although the revised effluent fiber limit is higher than the current effluent fiber limit, the revised limit is based on past fiber concentrations in the effluent. Statistically, there is no difference between past effluent concentrations and the revised daily and the revised daily maximum limit of 6.8 MF/L.

The MPCA staff acknowledges that with an increase in the discharge rate, there will be an increase in the "total count" of fibers released to the Beaver River and ultimately to Lake

Superior. The Minnesota Department of Health (MDH) was consulted during the MPCA's review of this proposed project. The MDH has determined that the information available for risk of disease following ingestion of asbestos fibers is inconsistent and cannot be used for a quantitative risk assessment. A qualitative examination of the available evidence led to a MDH staff determination that the proposed increase in the effluent fiber limit and the increased rate of discharge are unlikely to result in any health impacts to individuals' drinking water from Lake Superior. The MPCA does not believe the project will result in the potential for significant health or environmental impacts from the increased total count of fibers.

35. The MPCA finds that any potential effect that is reasonably likely to occur from this project would be reversible. There is no reason to believe that this project is reasonably expected to cause a potential for significant negative effect on water quality or quantity.
36. Some comment letters expressed a concern for the potential increased loading of amphibole fibers that may occur with an increased volume of discharge and their potential for health impacts and the potential increase in mercury loading to Beaver River and Lake Superior resulting from the proposed project. As discussed above in Findings 33 and 34, the analysis indicates that the effects on water quality that are reasonably expected to occur will not create the potential for significant environmental effects.
37. The MPCA finds that the environmental review is adequate to address the concerns because all potential impacts to water quality that are reasonably expected to occur from the proposed project have been considered during the review process and a method to prevent the potential for significant environmental impacts has been developed.
38. The MPCA finds that the project as it is proposed does not have the potential for significant environmental effects on water quality based on the type, extent, and reversibility of environmental effects reasonably expected to occur.

Cumulative Potential Effects of Related or Anticipated Future Projects

39. The second criterion that the MPCA must consider, when determining if a project has the potential for significant environmental effects that are reasonably expected to occur, is the "cumulative potential effects of related or anticipated future projects." Minn. R. 4410.1700, subp. 7.B (2003). The MPCA findings with respect to this criterion are set forth below.
40. The EAW, public comments, and MPCA follow-up evaluation did not disclose any related or anticipated future projects that may interact with this project in such a way as to identify any potential cumulative environmental impacts that are reasonably expected to occur.
41. The MPCA received a number of comments from the public concerning the cumulative environmental impact of this project. These comments and the MPCA's response to these comments are set forth below.

A. Connection of project to mine progressions and potential cumulative impacts

Two commenters expressed a belief that the proposed project was a connected action to mine progressions that have been planned for NMC's Babbitt mines. These commenters believed that the cumulative impacts from these two projects may be significant.

As mentioned in Item 12 of the EAW, NMC was scheduled to deplete the mineable reserves in its Main and East Pits near Babbitt, Minnesota, by the end of 2004. In order to continue to meet its taconite production requirements, NMC has planned on extending the Main Pit by approximately 160 acres to the south and the East Pit by approximately 30 acres to the east and south. The MPCA has received information from NMC that these mine progressions would be necessary whether or not the proposed project described in the EAW proceeds. Conversations with Minnesota Department of Natural Resources (DNR) staff support the idea that the planned mine progressions have been fully anticipated.

Two projects are considered to be "connected actions" (as defined in Minn. R. 4410.0200, subp. 9b) if the responsible governmental unit (RGU) - the MPCA, in this case - determines the actions are related in any of the following ways: one project would directly induce the other, one project is a prerequisite for the other or if neither project is justified by itself. In this case, the proposed project is expected to increase mining and can be said to induce a mine progression at some unknown point in the future; however, the mine progressions that are currently being planned were known to be needed even without the project, so the project is not inducing these planned mine progressions. Since the planned mine progressions would be required even if the proposed project does not move forward, they are not considered a prerequisite for the proposed project and the mine progressions can be justified by themselves. Therefore, the planned mine progressions do not meet criteria that would define them as connected actions to the proposed project.

Two or more projects are considered to be phased actions (per Minn. R. 4410.0020, subp 60) if they are to be undertaken by the same proposer that the RGU determines will have environmental effects on the same geographic area and are substantially certain to be undertaken sequentially over a limited period of time. Since the Babbitt mine is located 45 miles away from the Silver Bay plant, the two projects will not have environmental effects on the same geographic area and they are not considered phased actions.

The impact of additional mining within the Babbitt mines with respect to fiber air emissions and PM emissions is discussed in Item 6b of the EAW and under C of this Findings.

B. Cumulative impacts from project and other proposed mining projects

Four commenters raised the concern that air emissions from the proposed project would combine with those of other projects proposed for northeastern Minnesota to create the potential for significant cumulative effects.

Item 29 of the EAW considers, in a quantitative and qualitative manner, the potential cumulative impacts that the project may have on air, water, traffic and on visual impacts on city, county, and regional scales. Regarding cumulative impacts between the proposed project and other mining projects proposed for northeastern Minnesota, concerns of regulatory

authorities have centered on long-range transport of pollutants that may cause acid deposition or visibility impairments in the national parks and wilderness areas in the vicinity of the Silver Bay taconite processing facility. As described in Items 23 and 29 of the EAW, the model-generated atmospheric concentrations of SO₂, NO₂, and PM₁₀, from the proposed facility are below the applicable SILs and below the DATs for four nearby Class I areas: the BWCAW, the Rainbow Lakes Wilderness, Voyageurs National Park, and Isle Royale National Park. This indicates that there is reasonable assurance that cumulative impacts will not be a concern and that emissions associated with the proposed project are not expected to result in the potential for significant cumulative acid deposition impacts.

The proposed project has undergone a visibility analysis as described in Item 23 of the EAW. For decision-making purposes, the FLMs have identified the visibility thresholds of five and ten percent as a screening threshold with regard to a project's modeled potential impact. When the modeled visibility results were compared to existing background conditions, there were no exceedences of the five and ten percent visibility thresholds. Though the modeled visibility results when compared to pristine (i.e. presettlement) conditions did exceed the five percent threshold for the BWCAW, neither the USFS nor the NPS viewed this as significant and they did not request further assessment of potential visibility impacts.

Based on MPCA staff experience, available information on the other proposed projects and the results of the air analyses from the NMC – Furnace 5 Reactivation Project, there is no reason to believe that the proposed NMC project will result in the potential for significant cumulative impacts. The MPCA has relied on input from other authorities, such as the DNR, MDH, USFS, and NPS. None of these entities has indicated a concern regarding cumulative impacts from this proposed project or has requested a more detailed cumulative impact analysis.

Completion of an EIS will be required for three of the other mining projects proposed for northeastern Minnesota: PolyMet, Minnesota Steel Industries and Ispat Inland. The scoping EAWs for the PolyMet and Minnesota Steel Industries projects each include a comprehensive cumulative impact analysis. If these analyses identify potential for significant cumulative impact the matter will be managed through the EIS process.

C. Cumulative fiber air emissions

Two commenters specified a concern that there would be cumulative impacts to human health from the release of fiber air emissions from the proposed project and from other mining projects.

Production at NMC's Babbitt mines will increase, but the crusher at the mine is equipped with a fabric filter, so actual air emissions from coarse crushing will be minor. Most of the fiber emissions are believed to be released during fine crushing and grinding, which takes place at the Silver Bay taconite processing plant. Potential fiber emissions at the Silver Bay plant were taken into consideration in calculating emissions from the facility reflecting the proposed

project. As noted in Item 23 of the EAW, the emissions calculations indicate there will be no net increase of fiber air emissions from the NMC – Silver Bay plant as a result of the proposed project, or any subset thereof, due to the upgrade of several pieces of air pollution control equipment.

Fibers were considered during the development of effluent limitations for the proposed Mesabi Nugget project. The DNR and Minnesota Department of Transportation (MNDOT) have defined a line along the Iron Range which represents the boundary where contact metamorphic conditions associated with the emplacement of the Duluth Complex were conducive to the formation of fibrous amphibole minerals in the Biwabik Iron Formation. Any concentrate shipped to the Mesabi Nugget plant for use in the nugget process will be of sufficient moisture content to prevent release of fiber emissions in transit. The nugget process essentially melts the concentrate, trapping fibers inside the nugget.

The PolyMet pits will be located east of the DNR/MNDOT prescribed line and the DNR, in preparing the scoping EAW for this proposed project, did consider the possibility that fibers are present within the ore. The PolyMet deposit is also located in a different geologic formation from the Biwabik Iron Formation. Initial drill cores found no fibers, but this testing is considered preliminary and will be redone as a part of the EIS for the proposed PolyMet project. If fibers are present within the ore that PolyMet plans on processing, they will be assessed as part of the EIS. Based on what is known at this time, there is no reason to anticipate the potential for significant cumulative impacts due to fiber air emissions.

D. Cumulative fibers in effluent discharged to Beaver River

Three commenters identified a concern that there would be cumulative impacts to human health from the release of fibers in the Mile Post 7 WWTP effluent as a result of the increased discharge volume.

The MPCA staff does not expect the concentration of fibers in the discharge to increase from current levels. Although the revised fiber limit is higher than current limit, the revised limit is based on past fiber concentrations in the effluent. Statistically, there is no difference between past effluent concentrations and the revised daily maximum limit of 6.8 MF/L. The MPCA staff acknowledges that with an increase in the discharge rate, there will be an increase in the “total count” of fibers released to the Beaver River and ultimately to Lake Superior.

The MDH was consulted during the MPCA’s review of this proposed project. The MDH has determined that the information available for risk of disease following ingestion of asbestos fibers is inconsistent and cannot be used for a quantitative risk assessment. A qualitative examination of the available evidence led to a MDH staff determination that the proposed increase in the effluent fiber limit and the increased discharge volume are unlikely to result in any health impacts to individuals’ drinking water from Lake Superior. The MPCA does not believe the project has the potential for significant health impacts due to the cumulative impact of fibers.

E. Cumulative mercury within the Lake Superior Basin

Six commenters identified a concern that there would be cumulative impacts to human health from the release of mercury from the proposed project.

As described in Item 23 of the EAW, the proposed project will add a small amount (a maximum of 1.5 additional pounds per year) of mercury to the air through the reactivation of the Furnace 5 pelletizer. Other proposed projects may also release mercury due to the combustion of fossil fuels or through other industrial processes. Many lakes and streams in northeastern Minnesota are designated as impaired for mercury (i.e. there are fish consumption advisories due to mercury contamination). For past several years, the MPCA has been using Total Maximum Daily Load (TMDL) studies to manage regional water impairment issues. Such a study is a comprehensive look at all sources, point and nonpoint, that contribute to the designated impairment. The TMDL then seeks to develop an implementation plan to achieve needed pollution reductions.

The MPCA has developed a statewide mercury TMDL that, when implemented, is intended to reduce emissions from air sources of mercury by 93 percent from 1990 levels. The proposed statewide mercury TMDL is in draft form at this time and has completed a public notice period. The MPCA held public information meetings, as well, for the TMDL. There will be an extensive implementation planning effort that will occur as soon as the mercury TMDL is approved by USEPA. Since the TMDL process is a regulatory tool designed to manage regional water quality issues, it is most appropriate to address the commenters' concern through that process.

F. Cumulative impacts from movement of railroad and diversion ditch at Mile Post 7

During the public comment period for the EAW, the MPCA was made aware that the U.S. Army Corps of Engineers (USCOE) was planning on placing on public notice a Section 404 General Permit for NMC. The project that was the subject of the USCOE permit (ditch diversion project) entailed relocating an existing railroad and an existing diversion ditch that run parallel to each other along the northwestern edge of the Mile Post 7 tailings basin. This project was necessitated by rising water levels in the basin. This ditch diversion project was completed in September 2005 and would have been needed whether or not the Furnace 5 Reactivation Project moves forward.

The MPCA has considered whether or not this ditch diversion project is a phased or connected action to the proposed Furnace 5 Reactivation Project. Two projects are considered to be "connected actions" (as defined in Minn. R. 4410.0200, subp. 9b) if the RGU determines one project would directly induce the other, one project is a prerequisite for the other or if neither project is justified by itself. In this case, the proposed Furnace 5 Reactivation Project is expected to increase mining and could possibly induce ditch diversions at some unknown point in the future; however the ditch diversion project that has recently been completed was known to be needed and was even planned prior to conceptualizing the Furnace 5 Reactivation Project, so the Furnace 5 Reactivation Project has not induced the ditch diversion project. Since the ditch diversion project would be required even if the proposed Furnace 5 Reactivation Project does not move forward, it is not considered to be a prerequisite for the proposed Furnace 5 Reactivation Project and the ditch diversion can be justified by itself. Therefore, the planned

ditch diversion project does not meet the criteria that would define it as a connected action to the proposed Furnace 5 Reactivation Project.

Minn. R. 4410.0020, subp 60 defines a phased action as two or more projects to be undertaken by the same proposer that the RGU determines will have environmental effects on the same geographic area and are substantially certain to be undertaken sequentially over a limited period of time. Though these conditions appear to have been met on first consideration, additional guidance is provided in the Guide to Minnesota Environmental Review Rules published per the EQB, which clarifies that phased actions are considered to be later stages of a proposed project. Since the ditch diversion project is not a stage of the Furnace 5 Reactivation Project, the MPCA does not believe that it qualifies as a phased action to the proposed Furnace 5 Reactivation Project.

The MPCA also has reviewed the ditch diversion project to determine whether it had any potential for cumulative impacts. Because the ditch diversion project does not change the flow of water into the East Branch of the Beaver River, the MPCA finds that it does not pose the potential for cumulative impacts with regard to discharges related to the WWTP modification at Milepost 7. Impacts from the project related to wetlands should be mitigated by the mitigation plan agreed upon by the USCOE and the DNR. To the extent that the ditch diversion project has caused impacts to the Beaver River and other downstream waters as a result of noncompliance with the MPCA’s Stormwater Construction Permit Program, the MPCA anticipates that corrective actions undertaken by the company will mitigate future impacts.

- 42. In considering the cumulative potential effects of related or anticipated future projects, the MPCA finds that the reasonably expected effects from this project do not have the potential to be significant.

The Extent to Which the Environmental Effects Are Subject To Mitigation by Ongoing Public Regulatory Authority

- 43. The third criterion that the MPCA must consider, when determining if a project has the potential for significant environmental effects that are reasonably expected to occur, is "the extent to which the environmental effects are subject to mitigation by ongoing public regulatory authority." Minn. R. 4410.1700, subp. 7.C (2003). The MPCA findings with respect to this criterion are set forth below.
- 44. The following permits or approvals will be required for the project:

Unit of Government	Permit or Approval Required	Status
A. MPCA	Air Emission Permit	Modification application submitted; draft permit noticed concurrent with draft EAW
B. MPCA	NPDES/SDS Permit	Modification application submitted; draft permit noticed concurrent with draft EAW

- 45. A. MPCA

Air Emission Permit

The Air Emission Permit for the facility will contain operational and emission limits, including requirements for use of control equipment, that will help prevent or minimize the potential for significant environmental effects.

B. MPCA

NPDES/SDS Permit

The NPDES/SDS Permit authorizes a maximum discharge flow and pollutant loading allowed from the Facility to a surface water. Effluent limitations established within the NPDES/SDS Permit ensure that water quality in the receiving water is protected.

46. The MPCA has considered NMC's enforcement history as listed in Finding 12. Although the company has a number of enforcement actions, the MPCA finds that ongoing public regulatory authority will ensure that the Facility will be operated in compliance with these permits.

The Extent to Which Environmental Effects can be Anticipated and Controlled as a Result of Other Available Environmental Studies Undertaken by Public Agencies or the Project Proposer, Including Other EISs.

47. The fourth criterion that the MPCA must consider is "the extent to which environmental effects can be anticipated and controlled as a result of other available environmental studies undertaken by public agencies or the project proposer, including other EISs." Minn. R. 4410.1700, subp. 7.D (2003). The MPCA findings with respect to this criterion are set forth below.
48. The following documents were reviewed by MPCA staff as part of the potential environmental impact analysis for the proposed reactivation of idled equipment at the Northshore Mining Company – Silver Bay facility and the proposed modification of the Mile Post 7 WWTP to add treatment capacity. This list is not intended to be exhaustive. The MPCA also relies on information provided by the project proposer, commentors, staff experience, and other available information.
- EAW;
 - Air Emission and NPDES/SDS Permit applications and draft permits;
 - Technical support Document (for the Air Emission Permit);
 - Fact Sheet (for the NPDES/SDS Permit); and
 - Air Risk Analysis.
49. There are no elements of the project that pose the potential for significant environmental effects that cannot be addressed in the project design and permit development processes, or by regional and local plans.

Based on the environmental review, previous environmental studies, and MPCA staff expertise on similar projects, the MPCA finds that the environmental effects of the project that are reasonably expected to occur can be anticipated and controlled.

CONCLUSIONS OF LAW

50. The MPCA has jurisdiction in determining the need for an EIS for this project. The EAW, the permit development process, the facility planning process, responses prepared by MPCA staff in response to comments on the Northshore Mining Company – Furnace 5 Reactivation Project EAW, and the evidence in the record are adequate to support a reasoned decision regarding the potential significant environmental effects that are reasonably expected to occur from this project.
51. Areas where the potential for significant environmental effects may have existed have been identified and appropriate mitigation measures have been incorporated into the project design and permits. The project is expected to comply with all MPCA standards.
52. Based on the criteria established in Minn. R. 4410.1700 (2003), there are no potential significant environmental effects reasonably expected to occur from the project.
53. An EIS is not required.
54. All necessary procedures required under Minn. R. ch. 4410 and the rules of the MPCA have been followed.
55. Any findings that might properly be termed conclusions and any conclusions that might properly be termed findings are hereby adopted as such.

ORDER

The Minnesota Pollution Control Agency determines that there are no potential significant environmental effects reasonably expected to occur from the Northshore Mining Company – Furnace 5 Reactivation Project and that there is no need for an Environmental Impact Statement.

IT IS SO ORDERED

Commissioner Sheryl A. Corrigan
Chair, Citizens' Board
Minnesota Pollution Control Agency

Date

**STATE OF MINNESOTA
MINNESOTA POLLUTION CONTROL AGENCY**

**IN THE MATTER OF THE PROPOSAL
FOR MODIFICATION OF
NPDES/SDS PERMIT NO. MN0055301
TO NORTSHORE MINING COMPANY,
SILVER BAY POWER COMPANY, AND
CLEVELAND-CLIFFS, INC.
SILVER BAY, MINNESOTA**

**FINDINGS OF FACT
CONCLUSIONS OF LAW
AND ORDER**

The above-entitled matter came before the Minnesota Pollution Control Agency (MPCA) at an MPCA Citizens' Board (Board) Meeting held in St. Paul, Minnesota, on November 22, 2005. After reviewing the record before it and allowing opportunity for public comment, the MPCA finds, concludes, and orders as follows:

FINDINGS OF FACT

This matter involves the application of Northshore Mining Company, along with Silver Bay Power Company and Cleveland-Cliffs, Inc., for modification of National Pollutant Discharge Elimination System (NPDES)/State Disposal System (SDS) Permit No. MN0055301. For the purposes of these Findings, Conclusions of Law and Order, Northshore Mining Company, Silver Bay Power Company and Cleveland-Cliffs, Inc. are referred to jointly as NMC or the Permittee. The permit modification includes: 1) a modified effluent limit for total amphibole fibers and intermediate effluent limits for fluoride at the discharge of the Mile Post 7 tailings basin; 2) an increase in the design discharge capacity of the Mile Post 7 Wastewater Treatment Plant (WWTP); and 3) authorization to discharge accumulated precipitation from the Mile Post 7 tailings basin (Project). The MPCA must decide whether, under applicable statutes and rules, it should modify the permit and issue the modified permit.

DESCRIPTION OF THE PROJECT

1. The Project is the reactivation of idled equipment including a pelletizing furnace (known as Furnace 5), two fine crushing units, and nine ore concentrator sections at the NMC taconite processing facility (Facility) located at 10 Outer Drive, Silver Bay, Lake County, Minnesota. The Project also entails construction of a concentrate handling system consisting of three conveyors and two concentrate silos, increasing the capacity of the WWTP located at the Mile Post 7 tailings basin, and a revision of the current one million fibers per liter (MFL) total amphibole fiber (fiber) effluent limit at the discharge of the Mile Post 7 tailings basin.
2. All process wastewater generated at the Facility, which includes fine tailings in a slurry, blowdown water from the furnace Wet-Walled Electrostatic Precipitators, boiler blowdown, and Facility-area stormwater runoff, are combined and routed to four, 400-foot diameter clarifiers. The clarifier overflow is recycled through a common sump to the Facility as process water. Remaining process wastewater containing the fine tailings is transported via pipeline to the Mile Post 7 tailings basin for final settling and treatment. On average, 205 million gallons per day (MGD) of process wastewater is recycled to the Facility as process water from the clarifiers and 10.8 MGD of process wastewater is sent through the pipeline to the Mile Post 7 tailings basin.

3. The fine tailings slurry that enters the Mile Post 7 tailings basin is allowed to settle within the basin. The partially treated water then enters the Reclaim Pond, which is a portion of the basin separated from the main basin by a coarse tailings filter dike, via a bypass weir. Water in the Reclaim Pond is either recycled back to the Facility for use as process water, or sent to the Mile Post 7 WWTP for further treatment and discharge.
4. The Mile Post 7 WWTP currently consists of chemical flocculation, four dual media filtration units (operated in parallel), and related equipment, for the removal of suspended solids, including fibers. The technology applied for the removal of fibers is considered Best Available Technology. The treatment plant is designed for average and maximum discharge rates of 4.0 and 5.0 MGD, respectively. The Project provides two additional dual media filtration units and related equipment, which increases the design average and maximum discharge rates to 6.0 and 7.5 MGD, respectively. The WWTP discharges to the Beaver River, which flows to Lake Superior.
5. The Beaver River is a Class 1B, 2A, 3B, 3C, 4A, 4B, 5 and 6 water under Minn. R. 7050.0410, Listed Waters, and is classified for domestic consumption, the protection of aquatic life and recreation, industrial consumption, agriculture and wildlife, aesthetic enjoyment and navigation, and other uses, and is an Outstanding International Resource Water under Minn. R. Ch. 7052. The Beaver River is listed on the MPCA Clean Water Act Section 303(d) Total Maximum Daily Load (TMDL) List of Impaired Waters for mercury, pH, and turbidity.
6. The Mile Post 7 WWTP discharge has consistently complied with the water quality standards for mercury, pH, and turbidity. An increase in the treatment plant capacity, using the same technology currently in operation, will not cause or contribute to the impairment of the receiving water.
7. The Permittee has been unable to consistently achieve the current 1 MFL fiber limit. The Project includes the MPCA determination that 6.8 million fibers per liter (MFL) is the appropriate technology-based effluent limit for fibers based on site-specific past performance of Best Available Technology for the removal of suspended solids, including fibers.
8. The proposed modification of the NPDES/SDS Permit requires MPCA Board action due to the revision of the total amphibole fiber effluent limit. This matter of a fiber limit came before the MPCA Board in 1985. The Findings of Fact, Conclusions of Law, and Order from the Board's 1985 decision stated that the MPCA Board would make the final decision regarding any modification of the permit concerning the fiber effluent limitation.
9. In accordance with the requirements of Minn. R. 7001.0190, the MPCA Commissioner prepared a draft permit modification for the Project, NPDES/SDS Draft Permit No. MN0055301, which was placed on 30-day public notice on May 23, 2005, with the comment period extending until 4:30 p.m. on June 22, 2005. The draft NPDES/SDS Permit was co-noticed with the proposed Air Emission Permit No. 07500003-003 and the Environmental Assessment Worksheet for the Project.

REVISED FIBER EFFLUENT LIMIT

10. On April 27, 1984, the MPCA public noticed the draft NPDES/SDS Permit No. MN0055301 that authorized construction of a WWTP at the Mile Post 7 tailings basin and a discharge from the WWTP into the Beaver River. The notice stated that the WWTP was required to implement Best Available Technology (BAT) to comply with water quality standards. BAT was defined as chemical flocculation followed by dual media filtration as determined through an evaluation and review of technologies available to remove amphibole fibers. The draft permit included an effluent limitation for total amphibole fibers of 15 MFL on a daily maximum basis and 10 MFL on a 30-day consecutive average. The proposed effluent limits were based on nondegradation of the Beaver River.
11. The MPCA Board rejected the MPCA staff's proposed effluent limitations for amphibole fibers and concluded that the permit should contain an amphibole fiber effluent limitation based upon implementation and operation of BAT, rather than nondegradation of the receiving water. The amphibole fiber limitation based on BAT was determined to be 1 MFL on a daily maximum basis. The 1 MFL limit was based, in part, on fiber removal efficiencies achieved by other treatment systems utilizing the same or similar treatment technology as proposed by Reserve Mining Company (herein, Reserve, the former Facility owner), which were the Duluth, Two Harbors, and Silver Bay drinking water plants.
12. Reserve petitioned the Minnesota Court of Appeals for judicial review of MPCA's decision to issue to Reserve the NPDES/SDS Permit that included the 1 MFL amphibole fiber limit. The Court of Appeals vacated MPCA's limit decision because the Court found that MPCA did not adopt findings and reasons supporting its position. The matter was resolved through a Stipulation Agreement dated May 6, 1985, between the Minnesota Pollution Control Agency and Reserve Mining Company.
13. In accordance with the Stipulation Agreement mentioned above, permit language has been included in all permit actions since 1985 outlining cause for modification of the 1 MFL fiber limit. The permit language states:

The fiber effluent limit in the Limits and Monitoring Requirements of this permit has been determined by the MPCA to be a limit based on the implementation of BAT. If the effluent limit for total amphibole fibers is exceeded resulting from failure of the Permittee to operate or maintain the treatment system according to the Total Facility Requirements, Facilities Operation section of this permit, this discharge will be found to be in noncompliance with the terms of this permit and subject to enforcement by the MPCA. If the MPCA determines that the limit being exceeded is not the result of failure by the Permittee to operate or maintain the treatment system according to the Facilities Operation requirements, this determination shall be cause for modifying the total amphibole fiber effluent discharge limit. Any modification of the fiber limit shall be made by the MPCA according to the permit modification requirements of this permit.

14. The MPCA has determined that NMC has properly installed, operated, and maintained the treatment system according to the Facilities operation requirements and has been unable to comply with the 1 MFL effluent fiber limit. According to the above permit term, this is a basis for modification of the effluent limit.
15. The MPCA determined that the modification of the fiber limit is allowed under the state and federal anti-backsliding rules, Minn. R. 7050.0212, Subp. 3(A) and Section 402 (o) of the Clean Water Act. Specifically, exception (E) under Section 402(o)(2) of the Clean Water Act states in part:

The permittee has installed the treatment facilities required to meet the effluent limitations in the previous permit and has properly operated and maintained the facilities but has nevertheless been unable to achieve the previous effluent limitations, in which case the limitations in the reviewed, reissued, or modified permit may reflect the level of pollutant control actually achieved.

16. The MPCA determined the appropriate treatment facilities were installed. The WWTP was constructed in accordance with the BAT requirements and the system was approved for initiation of operation on July 26, 1985.
17. The MPCA determined that the wastewater treatment facility has been operated and maintained properly. This determination is based, in part, on 1) compliance with the BAT-based turbidity limits for the removal of suspended solids (including fibers); 2) fiber removal efficiencies meeting or exceeding the initial design estimates; 3) operations within the hydraulic design parameters for flocculation, filtration, and chemical addition; and 4) routine maintenance practices.
18. The MPCA determined that the Permittee has been unable to comply with the current 1 MFL fiber limit. The current NPDES/SDS Permit states that the Permittee shall comply with the 1 MFL fiber limit for 95 percent of the samples collected. Effluent fiber data from January of 1989 through March 2005, the overall compliance percentage is 56 percent (110 total data points, 48 are over 1 MFL). This is well under the 95 percent compliance as listed in the permit. Data prior to January 1989 (initiation of discharge) was not included in this analysis since this time period included periods of initial WWTP start-up and plant optimization, as well as the taconite plant shutdown due to the Reserve bankruptcy. These factors make this time period not representative of actual operating conditions.
19. The MPCA determined the appropriate technology-based effluent limit for fibers is 6.8 MFL. The technology-based limit was determined using applicable past performance according to Minn. R. 7050.0212, subp. 3(B)(1) and statistical methods outlined in U.S. Environmental Protection Agency's (EPA) *Technical Support Document for Water Quality-Based Toxics Control (EPA/505/2-90-001)*, Appendix E titled "Lognormal Distribution and Permit Limit Derivations." The effluent limit was derived from the 95th percentile assuming a lognormal distribution of the applicable past fiber data.
20. The MPCA determined the past effluent fiber data that best represents future performance is the timeframe from January 2004 through March 2005. Although NMC has operated the WWTP at Mile Post 7 in a consistent fashion over the past 20 years, there have been significant changes

in the operation of the tailings basin. Significant operational changes include the discontinuation of the splitter dikes within the tailings basin, the installation and subsequent bypassing of the filter dike with the installation of a bypass weir, and the addition of chemical flocculant at the filter dike bypass weir for additional turbidity removal prior to the WWTP. NMC has proposed that future treatment plant and basin operations will include: (1) continued operation of all WWTP units to maintain BAT effluent turbidity limits; (2) continued operation of the filter dike bypass weir; (3) continued addition of chemical flocculant at the bypass weir; and 4) the re-construction of splitter dike #2, to be completed in 2008. The effluent fiber data from January 2004 through March 2005 best represents the above operating conditions.

21. The Minnesota Department of Health (MDH) was consulted during the MPCA's review of the Project, specifically in regard to the proposed increase to the fiber effluent limit. The MDH has determined that the information available for risk of disease following ingestion of asbestos fibers is inconsistent and cannot be used for a quantitative risk assessment. A qualitative examination of the available evidence led to a MDH determination that the increase in the effluent fiber limit and the proposed increased rate of discharge are unlikely to result in any health impacts to individuals drinking water from Lake Superior.
22. No water quality criteria or standard exists for amphibole fibers. Therefore, the technology-based limit of 6.8 MFL is the appropriate limit. The MPCA has determined that this limit and the proposed increased rate of discharge will not significantly increase the risk of impacts to human health or the environment.
23. The required fiber analysis shall be conducted in accordance with Chapter 11, Requirement 2.3 of the modified permit, which states:

"Fiber analyses shall be quantitative including fiber concentrations as amphibole, chrysotile, non-amphibole/non-chrysotile, ambiguous, and shall also include a mineralogical breakdown of the fibers found and the range of concentrations, consistent with Minnesota Department of Health (MDH) statistical procedures. Monitoring for fibers required by this permit shall be performed according to MDH Method Code 851, "Transmission Electron Microscope Analysis for Asbestos in Water" (March 19, 1991). The Permittee, at its own discretion, may perform fiber monitoring according to U.S. Environmental Protection Agency (EPA) Method EPA-600/4-83-043, "Analytical Method for Determination of Asbestos Fibers in Water" (September 1983), but such monitoring shall not substitute for monitoring according to MDH Method Code 851. Nothing herein shall be considered a waiver by the Permittee of its right to contest data or conclusions derived from the analytical methods acceptable to the MDH and the MPCA."

24. Although there are other currently available analytical techniques available for the analysis of fibers in water, the MDH's well-established Transmission Electron Microscopy (TEM)-based Method 851 for analysis of fibers in water provides a number of advantages over other currently available analytical techniques. The most critical element of MDH's method is the flexibility to count fibers shorter than five microns in length. Fibers shorter than five microns in length constitute the majority of fibers currently being discharged at the Facility. Therefore, the MDH method allows for a more accurate quantification of the fibers associated with the Facility's taconite processing operation. The use of TEM allows for both the visualization of thinner fibers and the differentiation of fiber types. This in turn allows the positive identification of asbestos and related amphibole fibers. An additional advantage is that there is

a long history with the MDH method and it has been used to generate a relatively large dataset that can be used for comparisons. The ability to compare current data to a large historical database provides a clear advantage because such comparisons add to the validity and credibility of any new data being collected.

FLUORIDE

25. The NPDES/SDS Permit issued to NMC on January 26, 2004, contains fluoride effluent limitations and a compliance schedule to meet the secondary drinking water standard for fluoride of 2.0 milligrams per liter (mg/L) in the receiving water as applicable in Minn. R. 7050.0221 for Class 1 waters. The compliance schedule was not changed in the permit modification for the Project.
26. In addition to the secondary drinking water standard for fluoride, the discharge is required to comply with the primary drinking water standard affecting human health (skeletal fluorosis) applicable in Minn. R. Ch. 7050. The basin concentrations also exceed the primary drinking water standard of 4.0 mg/L. Therefore, a reasonable potential analysis was completed to determine appropriate limits.
27. Based on the outcome of the reasonable potential analysis, the modified permit includes intermediate effluent limits for fluoride of 5.8 mg/L daily maximum and 4.8 mg/L monthly average based on compliance with the primary drinking water standard of 4.0 mg/L in the receiving water. The purpose of the intermediate fluoride limits and compliance schedule is to bring the discharge into compliance with the fluoride water quality standards as soon as is reasonably possible.
28. Compliance with the intermediate fluoride limits is required within five years of the date of permit modification in accordance with Minn. R. 7052.0260, subp. 3. Fluoride is listed as a pollutant of initial focus in the Great Lakes Initiative (GLI) Guidance. Since fluoride is listed in the GLI Guidance, compliance schedule provisions of Minn. R. 7052.0260 apply. An estimate and evaluation by MPCA of fluoride concentrations discharged from the basin provides reasonable assurance that compliance with the limits based on the primary drinking water standard can be achieved within five years.
29. The modified permit requires NMC to evaluate the fluoride data from the Mile Post 7 discharge over the next three years. If it is determined that the discharge will not comply with the intermediate fluoride effluent limits for fluoride within five years from the date of permit modification, NMC shall submit a request for a variance with the application for permit reissuance.

DESIGN CAPACITY AND DISCHARGE RATE

30. The tailings basin discharge volume is regulated under 40 CFR 440.14(c)(2) which states:

In the event that the annual precipitation falling on the treatment facility and the drainage area contributing surface runoff to the treatment facility exceeds the annual evaporation, a volume of water equivalent to the difference between

annual precipitation falling on the treatment facility and the drainage area contributing surface runoff to the treatment facility and annual evaporation may be discharged subject to the limitations set forth in paragraph (a) of this section.

31. In addition, past NPDES/SDS Permit language allowed the Permittee to carry discharge volume “credits” from a previous year if the actual discharge volume was less than the allowed discharge volume under federal regulations.
32. The MPCA determined that NMC has been unable to discharge the volume of net precipitation allowed under federal regulations due to the capacity of the wastewater treatment plant. Based on annual reports submitted by NMC, the volume of accumulated precipitation during the years 1985 to 2004 is approximately 57,938 acre-feet, or 18,879 million gallons.
33. The MPCA staff consulted with EPA staff to determine the allowable discharge volume of historical accumulated precipitation. EPA determined that the discharge of accumulated precipitation from past years is allowed according to 40 CFR 440.14(c)(2).
34. The modified permit allows the Permittee to discharge, in addition to the annual net precipitation, the volume of net precipitation that has accumulated within the tailings basin from 1985-2004. The accumulated volume, determined to be 18,879 million gallons, is to be released in a controlled manner, distributed over a number of years subsequent to permit modification.
35. Based on the need to discharge accumulated precipitation to address operational and dam safety needs, NMC also proposed the increased design capacity of the Mile Post 7 WWTP. The maximum design discharge rate would increase from 5.0 MGD to 7.5 MGD. The increased design capacity will be accomplished with the installation of two additional filtration units (for a total of six) and associated equipment in compliance with BAT requirements. The increased discharge capacity is contingent on MPCA approval of the engineering report, plans and specifications, and construction completion.
36. The modified permit also states that the discharge of accumulated precipitation will be reviewed prior to any subsequent permit reissuances or modifications to verify that this practice is still justified for proper facility operation and dam safety. If the MPCA Commissioner determines this practice is no longer justified, the permit may be modified.

NONDEGRADATION

37. The Project involves restarting idled equipment, including Furnace 5 and concentrators, and the Project does not increase the existing Facility’s production capability. The current NPDES/SDS Permit covers the operation and associated production capacity of the existing, idled equipment. Consequently, the restarting falls under the provisions of Minn. R. 7052.0310, subp. 5, Item A.4, (within existing capacity - increases in the rate of production). Based on these facts, the Project does not trigger a nondegradation demonstration for mercury, a Bioaccumulative Substance of Immediate Concern covered under this nondegradation implementation provision.

38. Moreover, the increase in the discharge flow rate is subject to the provisions of 40 CFR 440.14(c)(2), which allows the facility to discharge the accumulated precipitation from the basin. The discharge authorization is included in Part I.C.4. of the 1984 NPDES/SDS permit that included the initial discharge from the basin (originally authorized at 40 CFR 440.12.a.3). The highest volume of annual net precipitation calculated for the basin is 3.16 billion gallons in 1985. If released on a constant daily basis for a year, as is currently the practice, the allowed discharge rate would be 8.64 MGD, compared to the requested treatment plant flow increase to 7.5 MGD. The nondegradation design flow becomes 8.64 MGD. Also, the concentration of mercury, fluoride and fibers will remain the same or decrease within the range currently observed. Therefore, there will be no mass loading increase calculated from the baseline authorized discharge rate. Based on these facts, the flow increase to 7.5 MGD allowed under the modified permit does not trigger a nondegradation analysis.
39. The Project would serve to increase the rate of loading over the current discharge rate, but remain less than the loading allowed at 8.64 MGD. The increase in the rate of release of basin water is especially important for fluoride because of the need to attain the water quality standard as quickly as possible.
40. These two provisions, Minn. R. 7052.0310 and 40 CFR 440.14, indicate that mercury, fibers, and fluoride are not subject to a nondegradation review under either Minn. R. ch. 7050 or 7052 because there is no mass increase above allowable loadings under these provisions.

PUBLIC COMMENTS - GENERAL

41. During the public notice period for the draft NPDES/SDS Permit, members of the public expressed a variety of opinions and concerns about the Project, ranging from full support of the Project and the desire for immediate modification of the permit to significant concerns. Significant comments were received in the following areas: 1) whether appropriate methodologies for statistical analysis were used in the determination of the revised fiber effluent limit; 2) whether there are potential health effects from fibers in the discharge; 3) concerns about fluoride concentrations in the tailings basin and the discharge exceeding water quality standards; 4) whether the need for an increased discharge volume from the Mile Post 7 tailings basin is justified; 5) whether there would be degradation of water quality in the Beaver River and Lake Superior due to the increased discharge volume and pollutant loading; 6) whether there is the need for a health-based standard for amphibole fibers; 7) concerns about the lack of correlation between turbidity and fiber concentrations in the discharge; and 8) concerns about the application and determination of BAT for the removal of fibers.

MPCA CONSIDERATION OF PUBLIC COMMENTS

42. The MPCA reviewed each of the comments and provided a detailed response to each. The responses of MPCA staff are set out in the Responses to Comments document (Attachment 6).
43. Some specific comments are itemized below, along with the MPCA response for each comment.
44. The MPCA concurs with the reasoning of MPCA staff in its Responses to Comments document (Attachment 6) and adopts that reasoning by reference in these Findings.

SELECTED PUBLIC COMMENTS AND MPCA RESPONSES

45. One commenter expressed concern regarding the statistical analysis completed for the determination of the technology-based effluent limit for fibers. The commenter disagreed with the determination that based the daily maximum fiber limit on the 95th percentile calculated from the lognormal distribution of the applicable past performance data. The commenter believes the correct limit should be based on the 99th percentile, which would result in a limit of 14.0 MFL instead of 6.8 MFL.
46. The MPCA finds that the use of the 95th percentile of the lognormal distribution is appropriate for determining the daily maximum fiber effluent limit. The EPA Technical Support Document for Water Quality-Based Toxics Control (EPA/505/2-90-001), March 1991 is the basis for the statistical procedures used in the limit determination. Typically, the maximum daily permit limit is based on the 99th percentile and an average monthly limit is based on the 95th percentile level of the lognormal distribution of data. According to the EPA document cited above, “in certain cases, the 95th percentile value may be allowable” as a daily maximum limit. MPCA, in consultation with EPA Region 5 staff, determined that the fiber limit is one of those certain cases where the use of the 95th percentile value is technically appropriate. Justification for this determination includes: 1) the variability is substantial within the data since the standard deviation of the effluent data approximates the mean; 2) there is uncertainty about whether or not the conditions being estimated actually are lognormally distributed; 3) the present sampling (and historical data relied upon) requires bimonthly sampling and thus provides at best a bimonthly average, more closely resembling a monthly average than a daily maximum; and 4) the current permit requires compliance for 95 percent of the samples, which is essentially the 95th percentile. Therefore, the use of a 95th percentile daily maximum limit based on sampling once every two months is reasonable and justified.
47. Several comments expressed concern regarding the potential increase in fiber concentrations to both the Beaver River and Lake Superior.
48. The concentration of fibers in the discharge is not expected to increase from current levels. Although the revised fiber limit is higher than the current limit, the revised limit is based on past fiber concentrations in the effluent per Minn. R. 7050.0212, subp. 3(B)(1). Statistically, there is no difference between past effluent concentrations and the revised daily maximum limit of 6.8 MFL. The MPCA acknowledges that with an increase in the discharge rate, there will be an increase in the “total count” of fibers released to the Beaver River and ultimately to Lake Superior.
49. Several comments expressed concern regarding potential health impacts from the discharge of fibers, specifically to persons drinking water from Lake Superior.
50. The MPCA finds that the MDH determined that the proposed increase in the effluent fiber limit and the proposed increased rate of discharge are unlikely to result in any health impacts to individuals drinking water from Lake Superior.
51. A comment expressed concern on the selection and application of Best Available Technology at the Mile Post 7 WWTP.

52. The BAT for the removal of amphibole fibers was originally determined by an independent consultant, Black and Veatch Engineers of Kansas City, Missouri, hired by the MPCA prior to the issuance of the NPDES/SDS Permit for the Mile Post 7 tailings basin in 1984. Black and Veatch conducted a review of technical literature dealing with treatment technologies that had been applied to the removal of asbestiform fibers from water or that had been applied to the removal of pollutants of similar size, shape, or chemical characteristics that would be transferable to the removal of asbestiform fibers. Treatment technologies found to be applicable included chemical coagulation and flocculation, sedimentation, and filtration. Of these technologies, BAT was determined to be chemical flocculation followed by dual-media filtration, similar to the treatment being employed at drinking water plants in Duluth, Two Harbors, and Silver Bay. This BAT was to be applied at end-of-pipe, or prior to the discharge from the Mile Post 7 tailings basin. A review of asbestiform removal technologies completed today, some 20 years after the original BAT determination, would provide similar results.
53. Several comments questioned the correlation between production levels and water usage from the basin, as well as the legality of discharging accumulated precipitation.
54. Based on data provided by NMC, the consumption of basin water is directly correlated with production levels. Therefore, as production increases, the volume of water consumed in the process increases. The Mile Post 7 tailings basin was designed for full production, or approximately 9.0 million tons of pellets per year. At 65 percent of full production (approximately 6 million tons per year), NMC has estimated that the taconite process consumes water at rates equal to the flow into the basin (process water plus precipitation). At production levels below 65 percent, water consumption becomes appreciably lower than the flow rates into the basin. Reduced production levels also reduce the volume of tailings available for ongoing construction of the required dams and dikes. The current WWTP was designed to remove a maximum of 5.0 MGD from the basin. At the time of the design, it was believed that these discharge flow rates would maintain basin water levels, taking into account precipitation, evaporation and estimated production levels. The annual production has been below full production since the discharge was initiated in 1985, and more importantly, has been below the 65 percent production value for this time period. This time period also includes three years of no production. Therefore, there has been significant net accumulation occurring within the basin that the current treatment plant simply cannot remove in a timely manner. Assuming production increases as proposed and remains at the proposed levels, the future net accumulation of precipitation will be reduced based on the water balance, but a significant volume of existing accumulated water still exists. The discharge from the tailings basin is in accordance with federal regulations, specifically 40 CFR 440.14(c)(2), for this industry type.
55. The commenter notes that the water intake of Duluth, Minnesota, has been analyzed and shows evidence of fibers. The commenter believes the NPDES/SDS Permit should contain provisions for the analysis of the drinking water in the cities of Silver Bay, Beaver Bay, Two Harbors and other cities along the North Shore of Lake Superior on a regular basis for a long term period of time. The commenter also believes that local schools should be added to the list of sites monitored.

56. The MPCA staff contacted the MDH regarding historical fiber analysis completed at drinking water facilities in Duluth, Two Harbors, and Silver Bay. MDH staff indicated that fiber analysis at these drinking water plants was discontinued in the early 1990s due to consistently low fiber results. Since the revised fiber limit is based on past performance and since MDH determined that the proposed modified limit and the proposed increased rate of discharge would not significantly increase the risk to human health, the MPCA has determined there is no current basis to request additional monitoring, beyond monitoring as required by MDH, of drinking water in the cities of Silver Bay, Beaver Bay, Two Harbors, and other cities along the North Shore.
57. The commenter feels that the MPCA is uninterested in the use of precautionary measures as a public health policy. The commenter believes that irreversible health damage, especially to young children unable to afford bottled, filtered water is a good reason for precautionary measures. The commenter also feels that this is also good reason for further unbiased scientific research by the MDH and the taconite mining industry.
58. The MPCA finds that a conservative and sound approach was used in the determination of the revised effluent fiber limit, which is based on the application of BAT. Information from the MDH indicated that the revised limit and the proposed increased rate of discharge would not significantly increase risk to human health.
59. The commenter believes that the NPDES/SDS Permit should require that the size and efficiency of the Milepost 7 WWTP be increased to reduce the discharged fiber concentration to the court-ordered one MFL. The commenter believes that the current fiber effluent limit should remain in place until NMC can demonstrate with unbiased scientific evidence that the ingestion of the current levels of fiber and the expected cumulative increase in fibers are not harmful to public health, especially that of children who will be carrying these fibers throughout their lives.
60. Based on data provided by NMC, it appears that the current treatment plant efficiency for fiber removal is consistently greater than 99 percent. The current data indicates that removal efficiencies are routinely above 99.9 percent, which exceeds the efficiencies estimated in the BAT review completed in 1984 by Black and Veatch Engineers. Increasing the size of the current treatment plant would increase the hydraulic capacity of the WWTP, but would not increase the efficiency due to the nature of filtration. The MPCA has determined that the current treatment plant is unable to meet the 1 MFL limit. Therefore, in accordance with the permit language in Chapter 11, Requirement 8.5 of the current permit and the anti-backsliding determination in accordance with Minn. R. 7050.0212, subp. 3, the fiber effluent limit was modified.
61. The commenter further states that the environmental effects of an increased volume of water to be discharged and of increased loads of chemical parameters are unclear and notes that both the Beaver River and Lake Superior are on the 303(d) list of impaired waters. The commenter believes that increased releases from the tailings basin may further harm the system and related natural resources.

62. The Beaver River is currently listed as impaired for mercury, pH, and turbidity. Water column measurements for mercury in the Beaver River are above the 1.3 nanograms per liter (ng/L) water quality standard. The limited amount of mercury effluent monitoring data to date for the basin discharge is averaging less than 0.6 ng/L, which is well below the applicable mercury water quality standard. Monitoring will continue for mercury in the NPDES/SDS Permit in order to gather adequate data to determine if a reasonable potential exists to violate water quality standards. Limits for pH in the current permit reflect the lower and upper bound water quality standards for the receiving water. The cause of the pH impairment is not from the Facility since the Facility is in compliance with current permit limitations for pH. The limit for turbidity in the current permit (3 NTU) is lower than the water quality standard for the receiving water (10 NTU). The cause of the turbidity impairment is not from the Facility since the Facility is in compliance with current permit limitations for turbidity.

FINAL DETERMINATION ON WHETHER TO MODIFY PERMIT

63. The MPCA finds there is justification for the NMC's NPDES/SDS permit modifications in accordance with Minn. R. 7001.0170, item A which states:
- A. alterations or modifications to the permitted facility or activity that will result in or have the potential to result in significant alteration in the nature or quantity of permitted materials to be stored, processed, discharged, emitted, or disposed of by the permittee.*
64. The MPCA has followed the procedures for the modification of the NPDES/SDS Permit according to the provisions in Minn. R. ch. 7001, including Minn. R. 7001.0190.
65. The MPCA's decision to issue the modified NPDES/SDS Permit is governed by its permit rule, Minn. R. 7001.0140, which, in part, provides:

Subpart 1. Agency action. Except as provided in subpart 2, the agency shall issue, reissue, revoke and reissue, or modify a permit if the agency determines that the proposed permittee or permittees will, with respect to the facility or activity to be permitted, comply or will undertake a schedule of compliance to achieve compliance with all applicable state and federal pollution control statutes and rules administered by the agency, and conditions of the permit and that all applicable requirements of chapter 116D and the rules adopted under chapter 116D have been fulfilled.

CONCLUSIONS OF LAW

66. The MPCA has jurisdiction over the NPDES/SDS Permit for the Project.
67. A draft permit for the Project was prepared and public noticed in accordance with the requirements of Minn. R. 7001.0100 and public comments on the draft permit were addressed in accordance with MPCA rule requirements.
68. The requirements of Minn. R. ch. 7001, including Minn. R. 7001.0140 and 7001.0190 for issuance of a modified NPDES/SDS Permit, have been met including all applicable provisions

of Minn. Stat. ch. 116D and Minn. R. ch. 4410. The MPCA determines that the Permittee will comply and will undertake the schedules of compliance to achieve compliance with all applicable state and federal pollution control statutes and rules administered by the MPCA, and conditions of the modified NPDES/SDS Permit.

69. The NPDES/SDS Permit contains effluent limitations and requirements that are protective of the environment and human health.
70. The findings of the MPCA justify issuance of the modified NPDES/SDS Permit and do not support denial of the permit.
71. Any finding more properly considered a conclusion shall be considered a conclusion, and any conclusion more properly considered a finding shall be considered a finding.

ORDER

Based on the foregoing Findings of Fact and Conclusions of Law, it is ordered:

The Minnesota Pollution Control Agency authorizes the issuance of the modified National Pollutant Discharge Elimination System/State Disposal System Permit No. MN0055301 to Northshore Mining Company, Silver Bay Power Company, and Cleveland-Cliffs, Inc.

IT IS SO ORDERED

Commissioner Sheryl A. Corrigan
Chair, Citizens' Board
Minnesota Pollution Control Agency

Date

**STATE OF MINNESOTA
MINNESOTA POLLUTION CONTROL AGENCY**

**IN THE MATTER OF THE PROPOSAL
TO ISSUE AIR EMISSION
PERMIT NO. 07500003-003
TO NORTSHORE MINING COMPANY
FOR ITS FURNACE 5 REACTIVATION PROJECT
AT ITS TACONITE PRODUCTION FACILITY
SILVER BAY, MINNESOTA**

**FINDINGS OF FACT
CONCLUSIONS OF LAW
AND ORDER**

The above-entitled matter came before the Minnesota Pollution Control Agency (MPCA) at an MPCA Citizens' Board Meeting held in St. Paul, Minnesota, on November 22, 2005. After reviewing the record before it and allowing opportunity for public comment, the MPCA finds, concludes, and orders as follows:

FINDINGS OF FACT

This matter involves the application of Northshore Mining Company, along with Silver Bay Power Company and Cleveland-Cliffs, Inc. (jointly referred to herein as NMC or Permittee), for issuance of an amended Air Emission Permit No. 07500003-003 authorizing construction to reactivate an idled taconite pellet indurating furnace (Furnace 5) and associated processing equipment (the Project) at its taconite plant in Silver Bay, Minnesota. The MPCA must decide whether, under applicable statutes and rules, it should issue the amended permit and, if so, under what terms and conditions.

DESCRIPTION OF THE PROJECT

1. Cleveland-Cliffs, Inc. is the parent company of both Northshore Mining Company and Silver Bay Power Company. Northshore Mining Company operates a taconite processing plant at the Silver Bay facility. Silver Bay Power Company operates a power plant at the Silver Bay facility to provide electricity for use at the Northshore taconite processing operations and for sale on the electric power grid. The three companies are the Permittee for the air emission total facility operating permit for the Silver Bay facility, issued by MPCA on February 24, 2004.
2. The Silver Bay facility was originally built in the mid-1950s by Reserve Mining Company and was briefly owned by Cyprus Minerals from 1989 to 1994. The Silver Bay facility was purchased in 1994 by Cleveland-Cliffs, Inc. The Silver Bay facility is located on the north shore of Lake Superior.
3. Through a company owned, 47-mile railroad, NMC receives crushed ore that has been processed in the primary and secondary crushers at the Peter Mitchell Mine, near Babbitt, Minnesota. The taconite plant further crushes the ore in tertiary crushers, dry cobs the ore (removes the larger non-metallic chunks of ore with magnetic separation of the un-concentrated ore), and then concentrates

the iron content from roughly 25 percent to 65 percent in a series of ball mills, rod mills, magnetic concentrators and froth flotation cells. The iron concentrate is mixed with a variety of binders and fluxing agents (i.e., limestone/dolomite mixture) and formed into small balls referred to as green balls. The green balls are fired in traveling grate furnaces and indurated into taconite pellets. The pellets are shipped through the Great Lakes system to blast furnaces in the lower Great Lakes and made into a variety of steel products.

4. Air emission sources at the Silver Bay facility (taconite plant and power plant) consist of electric generating boilers, steam heating boilers, rail car unloading operations, crushed ore storage bins, tertiary crushers, dry cobbers, coarse tailings handling operations, additive storage and handling operations, indurating furnaces, and fired pellet handling and screening. In addition, there are fugitive emission sources at the plant that consist of haul roads, concentrate storage piles, taconite pellet cooling piles, taconite pellet storage piles, pellet transfer operations, pellet ship loadout operations, coal piles, fluxstone piles, coal/fluxstone handling operations, coal ash handling operations, and tailings basin operations.
5. Fabric filters are used to control particulate matter emissions from the two large power boilers. Fabric filter dust collectors are used to collect particulate matter emissions from the rail car unloading operations, tertiary crushers, dry cobbers, coarse tailings handling operations, pellet screening for the hearth layer, and the additive storage and handling operations. The various crushed ore storage bins are controlled with either fabric filters or multiclones. The indurating furnaces are controlled with wet-walled electrostatic precipitators to collect particulate matter as well as sulfur dioxide, acid gases, and various other air pollutants. Furnace discharges and indoor pellet screening are controlled with rotoclones. Particulate emissions from storage piles and roads are controlled according to a fugitive dust control plan.
6. The amended permit will, with respect to this Project, authorize reactivation of process equipment that was contained in the Permittee's Part 70 operating permit, but has been idle for more than twenty years. This Project is subject to Prevention of Significant Deterioration (PSD) permitting and implementation of Best Available Control Technology (BACT) on the reactivated equipment. The specific changes include:
 - Authorize reactivation of two fine crushers along with their corresponding existing fabric filters;
 - Authorize reactivation of nine concentrator sections and upgrading particulate matter controls on all nine concentrator sections from multiclones to fabric filters as the sections are reactivated;
 - Replace multiclones on all currently operating concentrator sections with new fabric filters, by no later than December 31, 2006;
 - Authorize construction of a concentrate handling system consisting of conveyor belts and two concentrate storage silos;
 - Authorize reactivation of pelletizing Furnace 5 along with existing wet electrostatic precipitators for pollution control, and upgrading the pollution control equipment on the Furnace 5 discharge from the rotoclone to a wet scrubber; and
 - Render the iron nugget pilot plant inoperable.

The Permittee may choose to reactivate some or all of the equipment authorized in this permit amendment. The permit authorizes the Permittee to commence construction of the above changes within 18 months of permit issuance, pursuant to the PSD rules in 40 CFR Section 52.21. If needed and appropriate, the Permittee may request the MPCA to extend this deadline, subject to the limitations in Minn. R. ch. 7007. After this deadline, if the Permittee has yet to commence a continuous program of construction to implement any of the changes, it would have to apply again for the appropriate permit action. One reason for this re-application process is to ensure that, after the passage of time, the level of pollution controls is still considered BACT.

7. In 1990, Congress amended the Clean Air Act (42 U.S.C.7401 *et seq.*). The amendments established, among other things, additional air emission permitting conditions. In 1992, the EPA promulgated regulations, referred to as Part 70 regulations, implementing the new federal permitting provisions (40 CFR pt. 70). In 1993, the MPCA revised its permitting rules to incorporate the new Part 70 requirements (Minn. R. ch. 7007).
8. A source is subject to the Part 70 permitting requirements if it meets the federal definition of a major stationary source under Part 70 which, for sources such as the Silver Bay facility, is a potential-to-emit any pollutant of 100 tons per year or more, 10 tons per year of any hazardous air pollutant, or 25 tons per year of all hazardous air pollutants combined. Thus, the Silver Bay facility is a major source under Part 70, and was issued its Part 70 total facility operating permit on February 24, 2004.
9. Since 1980, federal regulations under the Clean Air Act require preconstruction permits for construction of certain new sources and modifications. These federal regulations are known as the New Source Review (NSR) regulations and are found at 40 CFR 51 Appendix S and 40 CFR 52.21. Minn. R. 7007.3000 has been approved by U.S. Environmental Protection Agency (EPA) as meeting the requirements of 40 CFR 51 Appendix S. The MPCA has been delegated the authority to implement and enforce 40 CFR 52.21 in Minnesota and does so through Minn. R. ch. 7007. Consequently, if a proposed new construction or modification is subject to one or both of the federal preconstruction permit programs, the source submits an application to the MPCA under Minn. R. ch. 7007. These regulations were substantially amended in 1992 as they apply to electric generating facilities and in 2002 as they apply to modifications at existing facilities.
10. A Project is subject to the NSR permitting requirements if it meets the federal definition of a major stationary source or major modification to a major stationary source. In the case of NMC's proposed Furnace 5 Project, the PSD portion of the NSR regulations applies. The existing Silver Bay facility qualifies as a major source since it is a stationary source which emits, or has the potential to emit, 100 tons per year or more (for this source category) of any regulated air pollutant. Generally, stationary sources, or portions thereof, which have been shutdown for more than two years are treated as though they are permanently shutdown and, consequently, they are treated as new under PSD if reactivated (unless an adequately compelling demonstration is made otherwise).
11. The proposed Furnace 5 Project is a major modification because it constitutes a physical change in a major stationary source that will result in a "significant net emissions increase" for nitrogen oxides (NO_x), sulfur dioxide (SO₂), and particulate matter (PM) and PM smaller than 10 microns in size (i.e., PM₁₀). Before commencing construction, NMC must obtain an amendment to its Air Emission Permit in accordance with the rules found in Minn. R. ch. 7007.

PUBLIC NOTICE OF THE PERMIT

12. Minn. R. 7007.0050 to 7007.1850 apply to the issuance of air emission permits, and amended permits, and describe the process the MPCA must follow in reviewing an application for a permit or permit amendment. Minn. R. 7007.0850 to 7007.0950 contain procedural requirements for public notice and comment, review by other states, and review and objection by EPA which apply to this proposed amended permit. Subpart 1 of Minn. R. 7007.0850 requires the MPCA Commissioner to prepare a technical support document (TSD) setting forth the legal and factual basis for the proposed draft permit conditions. Subpart 2 requires the MPCA to give public notice of the preliminary determination to issue an amended permit, including information on how copies of relevant documents can be obtained, the activities involved in the permit action, the emission changes, the comment procedures, any scheduled meetings or hearings, and hearing request procedures. Minn. R. 7007.0900 requires the MPCA to provide notice to affected states. Minn. R. 7007.0950 specifies the procedures for EPA review.
13. On May 23, 2005, pursuant to Minn. R. 7007.0850, subp. 2, the MPCA Commissioner issued a public notice of the preliminary decision to issue the amended permit. The notice was published as required by MPCA's rules, and included the information required. The notice of the preliminary determination to issue the amended permit provided for a comment period ending June 22, 2005. In accordance with Minn. R. 7007.0850, subs. 1 and 2, a draft amended permit and TSD were made available to the public. In addition, a public information meeting for this proposed amended permit was held in Silver Bay, near the proposed Project location, on June 7, 2005.

APPLICABLE STANDARDS

14. NMC's proposed Furnace 5 Project is subject to federal (EPA) and state (MPCA) air quality requirements. The federal air quality regulations include the National Ambient Air Quality Standards, New Source Performance Standards (NSPS), National Emission Standards for Hazardous Air Pollutants (NESHAP), and NSR. The state air quality regulations include the Minnesota Ambient Air Quality Standards and the state standards of performance. The MPCA has been delegated the authority by the EPA to administer the federal NSPS, NESHAP, and NSR regulations.
15. The MPCA has enacted ambient air quality standards, establishing maximum allowable concentrations of pollutants in the outdoor environment (Minn. R. 7009.0080). The rules are designed to protect public health and welfare and are companions to federal ambient air quality standards (40 CFR pt. 50). The MPCA rules prohibit any person from emitting pollutants that cause or contribute to a violation of an ambient air quality standard (Minn. R. 7009.0020).
16. The MPCA also has adopted standards of performance that establish emission limits and other performance requirements for specific sources of air pollutants (Minn. R. ch. 7011). If, however, modeling or monitoring shows that the standards of performance will not prevent a violation of an ambient air quality standard, an emission source will be required to meet more stringent performance standards that will protect ambient air quality.
17. The EPA has adopted standards for performance which apply to specific types of equipment and industrial operations, generally referenced as the NSPS (40 CFR pt. 60). Portions of the NMC

facility are subject to 40 CFR pt. 60, subp. LL – Standards of Performance for Taconite Processing Plants. In addition, the MPCA has adopted this regulation by reference (Minn. R. 7011.2700).

18. The EPA has adopted standards of performance for source categories that are major for hazardous air pollutants, generally referred to as the NESHAPs (40 CFR pt. 63). The NMC facility is a major source under 40 CFR pt. 63, and portions of it are subject to Subpart RRRRR – NESHAPs for Taconite Iron Ore Processing. In addition, Subpart DDDDD – Standards of Performance for Industrial, Commercial, and Institutional Boilers and Process Heaters applies to some emission units.
19. The permit also contains limits required by state standards of performance as follows: Minn. R. 7011.0150: Preventing particulate matter from becoming airborne; Minn. R. 7011.0510, subp. 2: Standards of performance for existing indirect heating equipment; Minn. R. 7011.0710, subp. 1.B: Standards of performance for pre-1969 industrial process equipment; and Minn. R. 7011.0610, subp. 1.A: Standards of performance for fossil-fuel-burning direct heating equipment.
20. The EPA has adopted the PSD regulation, generally referred to as PSD (40 CFR pt. 52.21). The Project is subject to the PSD regulation. The EPA has delegated the MPCA the authority to implement the PSD regulation. In addition, the MPCA has adopted the PSD regulation by reference (Minn. R. 7007.3000).
21. The PSD regulation requires that a major modification at a major stationary source apply the BACT for each pollutant that it would have the potential to emit in significant amounts. (40 CFR 52.21(j)(3)).
22. The PSD regulation requires a demonstration from the owner or operator of the proposed source that the allowable emission increases from the proposed source, in conjunction with all other applicable emissions increases or reductions, would not cause or contribute to air pollution in violation of (1) any national ambient air quality standard; or (2) any applicable maximum allowable increase over the baseline concentration in any area. (40 CFR 52.21(k)).
23. The PSD regulation requires the Administrator (i.e., the MPCA) to provide written notification of any permit application for a proposed major stationary source, which may affect a Class I area, to the Federal Land Manager (FLM) charged with direct responsibility for lands within that area. The notification shall include an analysis of the proposed source's anticipated impacts on visibility in the federal Class I area. The Administrator shall also provide the FLM a copy of the preliminary determination (i.e., draft permit conditions). (40 CFR 52.21 (p)(1)).
24. The PSD regulation charges the FLM with direct responsibility for management of federal lands; provides them an affirmative responsibility to protect the air quality related values (including visibility); and requires them to consult with the Administrator on whether the proposed source will have an adverse impact on air quality related values.

25. The EPA has adopted a requirement for states to enact operating permit programs (40 CFR pt. 70). One EPA-required program element is a requirement to issue permits to each major stationary source under Part 70 which has a potential-to-emit any pollutant of 100 tons per year or more, 10 tons per year of any hazardous air pollutant, or 25 tons per year of all hazardous air pollutants combined. (40 CFR 70.3(a)(1)). Permits issued under the Part 70 regulation must contain periodic monitoring. (40 CFR 70.6(a)(3)(B)).
26. The MPCA has adopted an operating permit program that meets the requirement of the federal regulation (Minn. R. ch. 7007). The requirement to issue permits to each major stationary source is found at Minn. R. 7007.0200, subp. 2.A. The periodic monitoring requirement is found at Minn. R. 7007.0800, subp. 4.

PUBLIC COMMENTS AND MPCA CONSIDERATION OF PUBLIC COMMENTS

27. During the public notice period of the draft amended permit, members of the public expressed a variety of opinions and concerns about the Project ranging from full support of the Project to opposition to the Project.
28. The MPCA staff has reviewed each of the comments and has provided a detailed response to each. The responses of MPCA staff are set out in the Responses to Comments document (Attachment 6).
29. Significant comments were received in the following areas: (1) whether the Project would result in additional mercury impacts on fish in the region; (2) whether there should be additional evaluations of the potential for cumulative impacts to water and air from the Project and other mining projects proposed for northeastern Minnesota; (3) whether the Project would increase the likelihood of nuisance dust problems; (4) whether the Project would create significant additional acid deposition; (5) whether the Project would create significant visibility and haze impacts to high quality natural resource areas located in northeastern Minnesota; (6) whether the BACT emission limits were determined correctly; and (7) whether there is a potential for health impacts from the emissions of fibers to the air and water related to the Project. These comments, along with MPCA's responses, are summarized below.
30. The MPCA also concurs with the reasoning of MPCA staff in its Responses to Comments document (Attachment 6 to the Board Item) and adopts that reasoning by reference in these Findings.

COMMENTS RE: ADDITIONAL MERCURY IMPACTS ON FISH IN THE REGION

31. Several commenters expressed concern about the additional mercury emissions from the reactivated equipment and the potential impacts on fish and those who eat fish.
32. Mercury is contained in the ore that NMC mines and processed, but in lower concentrations than mines located further west on the Iron Range. The MPCA staff calculations indicate that the entire Silver Bay facility emitted approximately 11 pounds of mercury to the air in 2004. After reactivation of Furnace 5 and associated equipment, the MPCA staff estimate that this will increase by approximately 1.5 pounds per year.

33. In considering mercury fish impacts, the MPCA staff relied upon a conservative screening assessment conducted in 1999 of potential nearby mercury deposition from the facility with a then-proposed new process, which was not implemented. The assessment determined that the additional 2.3 pounds per year of mercury would cause no measurable increase in the concentration of mercury in fish tissue.
34. The Furnace 5 Project emits less additional mercury than the amount of mercury (i.e., 2.3 pounds) previously studied. In light of that determination and that over 90 percent of mercury air deposition in Minnesota comes from sources located outside the state, the MPCA finds that the reactivation will not result in significant increases of mercury in fish tissue.

**COMMENTS RE: CUMULATIVE IMPACTS FROM THE PROJECT AND OTHER PROJECTS
IN NORTHEASTERN MINNESOTA**

35. Cumulative impacts were considered qualitatively and quantitatively in analyses summarized in Item 29 of the Environmental Assessment Worksheet (EAW) and further discussed in the MPCA's EAW Findings. Model-generated atmospheric concentrations of SO₂, NO₂, as well as PM₁₀, from the proposed Project are below applicable levels of significance for four nearby Class I areas (BWCAW, Rainbow Lakes Wilderness, Voyageurs National Park, and Isle Royale National Park). According to FLM guidance, this indicates that there is reasonable assurance that cumulative impacts will not be a concern for acid deposition, nor for increases in PM₁₀ ambient concentrations.
36. With respect to visibility, the modeling analyses are summarized in Item 23 of the EAW and further discussed in the MPCA's EAW Findings and, below, in these air emission permit Findings. The FLMs have identified visibility decreases of five percent and ten percent as benchmarks in formulating comments with regard to a project's modeled potential impact. Exceedances of these thresholds are assessed for frequency, magnitude, and duration. When the modeled visibility results for the proposed Project were compared to existing conditions, there were no modeled exceedances of these thresholds. Restoration of visibility in mandatory Class I areas to natural background conditions is the focus of the federal regional haze rule (40 CFR 51.308). The first implementation plans under this long-term program are due in December 2007.
37. With respect to mercury, the proposed statewide mercury Total Maximum Daily Load (TMDL) is in draft form at this time and proposed reductions would be required statewide, not just for the taconite industry. There will be an extensive implementation planning effort that will occur as soon as the mercury TMDL is approved by the EPA. Since the TMDL process is designed to establish how needed reductions will be made, it is most appropriate to address cumulative mercury concerns through that regulatory process.
38. Based on MPCA staff experience, available information on the other proposed projects in the region and the results of the air analyses for the Furnace 5 Project, the MPCA finds that the proposed Project will not result in the potential for significant cumulative impacts.

39. Three of the other mining projects proposed for northeastern Minnesota require Environmental Impact Statements (EISs): PolyMet, Minnesota Steel Industries (MSI), and Ispat Inland. The Scoping EAWs for PolyMet and MSI each include comprehensive cumulative impacts analyses. If these analyses identify potential for significant cumulative impacts, the matter would be managed through the EIS process.
40. The MPCA has relied on input from other authorities, such as the Minnesota Department of Natural Resources, the Minnesota Department of Health, the U.S. Forest Service (USFS), and the National Park Service. None of these entities has indicated a concern regarding cumulative impacts from this proposed Project or has requested a more detailed cumulative impacts analysis.

COMMENTS RE: NUISANCE DUST

41. Some citizens in the area have commented about dust on their property that they attribute to the facility. The MPCA has received similar comments from citizens in the past and agrees that the problem needs to be addressed.
42. Ambient air monitors have not recorded exceedances of ambient air quality standards since April 3, 2003.
43. The construction phase of the Project should not result in significant additional dust. Most construction activities will be conducted indoors, and construction will be of relatively short duration (less than one year).
44. The Project will require additional raw materials and will yield additional finished pellet product and concentrate. This concentrate, however, is relatively moist and will be stored in bins equipped with fabric filters.
45. The amended air permit requires an improved fugitive dust control plan, which was revised while drafting the amended permit, to minimize particulate transport off property. The plan includes increased dust suppression activity and improved recordkeeping, aimed at better correlating citizen complaints to on-site activities. Examples of the enhancements include revisions to visible emissions inspection forms to indicate “visible emissions” in place of “excessive visible emissions” to minimize the subjectivity, and to require recording of the amount of dust suppressant and water applied. In addition, the permit condition requiring the quarterly ambient monitoring report was revised with this amendment to require the Permittee to analyze instances when ambient PM₁₀ measurements are greater than 145 micrograms per cubic meter (5 ug/m³ below the PM₁₀ 24-hour standard) and describe any corrective action(s) taken.
46. These fugitive dust control measures, combined with improved particulate stack controls and ongoing ambient particulate monitoring, provide reasonable assurance that the conditions leading to dust complaints from the existing facility will not be exacerbated by the Project.

COMMENTS RE: ADDITIONAL ACID DEPOSITION

47. Several commenters expressed concern about increased acid deposition impacts due to the Project.
48. The National Park Service and U.S. Fish and Wildlife Service have developed Deposition Analysis Thresholds (DATs) for evaluating the contribution of additional nitrogen and sulfur deposition within Class I areas. A DAT is the additional amount of nitrogen or sulfur deposition below which estimated impacts from a proposed new or modified source are considered insignificant.
49. The maximum modeled sulfur and nitrogen deposition rates associated with the Project at the two nearby national parks are below the corresponding DATs, which indicate that acid deposition associated with the Project will be insignificant. The acid deposition impact analysis for the Boundary Waters Canoe Area Wilderness (BWCAW) and Rainbow Lakes Wilderness was conducted according to the “Green-Yellow-Red” screening methodology outlined in the USFS publication entitled “Screening Procedures to Evaluate Effects of Air Pollution on Eastern Wildernesses Cited as Class I Air Quality Areas” (Adams, et al., 1991). When background deposition rates for the BWCAW and Rainbow Lakes are added to the Project’s deposition rates, the combined deposition rates are below or within the green-line deposition range. This indicates that no adverse impacts due to acid deposition associated with the Project’s emissions are expected.

COMMENTS RE: VISIBILITY AND HAZE IMPACTS TO HIGH QUALITY NATURAL RESOURCE AREAS

50. A visibility analysis was completed to address potential concerns of the FLMs for the nearby Class I areas: BWCAW, Voyageurs National Park, and Isle Royale National Park.
51. As general background, the FLMs have identified visibility decreases of five percent and ten percent as benchmarks in formulating comments with regard to a project’s modeled potential impact. Exceedances of these thresholds are assessed for frequency, magnitude, and duration.
52. In regard to NMC’s Project specifically, no exceedances of the five percent visibility threshold were identified for any of the Class I areas when the modeled results were compared to existing background conditions. Additionally, no exceedances of the thresholds compared to natural background conditions were identified for Isle Royale and Voyageurs. The FLMs concur that the visibility impacts of the Project on these two national parks are insignificant.
53. For the BWCAW, modeling results did indicate the Project caused a decrease in visibility of greater than five percent over natural background extinction coefficients for four days in the three years modeled. Anywhere from a two percent to a ten percent change in light extinction as compared to natural background is generally “just noticeable in most landscapes,” as stated in the U.S. Forest Service letter of April 20, 2005. Due to the low frequency of the modeled impact, low magnitude (highest impact of 7.2 percent extinction), small geographic portion within the BWCAW impacted, and short duration (no consecutive days and all impacts focused during the time of year with low visitor use), the FLM views these visibility impacts as minor and is not concerned about the Project’s visibility impacts.

COMMENTS RE: CORRECTNESS OF BACT EMISSION LIMITS

54. Comments were received indicating that other NO_x control technologies for Furnace 5 should have been evaluated in the BACT analysis. One commenter suggested a number of lower temperature selective catalytic reduction (SCR) systems are available, and that the energy and cost impacts of those should be evaluated also.
55. SCR was ruled out in the BACT analysis, due to the high cost and high energy use to re-heat the gas stream after the wet electrostatic precipitators. SCR cannot be installed upstream due to the presence of constituents, such as sulfur, which interfere with and damage the catalyst. The suggested additional analyses for lower temperature systems were conducted, and are summarized in attachments to the technical support document for the permit amendment. This evaluation demonstrated that the cost to re-heat the gas stream was still prohibitive, and led to the same conclusion of ruling out SCR based on cost and energy impact considerations. The MPCA is not aware of another taconite plant that has SCR at this time.
56. A comment was received concerning the appropriateness of the PM BACT limit for Furnace 5, suggesting that the limit of 0.01 grains per dry standard cubic foot (gr/dscf, filterable plus organic condensables) is too high and should be held to the “new source MACT” (Maximum Achievable Control Technology) standard of 0.006 gr/dscf (front half filterable catch only). The MPCA finds that Furnace 5 is not subject to “new-source MACT” under the taconite NESHAP in 40 CFR 63, subp. RRRRR, since it is not being “reconstructed,” under the rule definition. To be considered a “reconstruction” the fixed capital cost of replacement components must exceed 50 percent of the fixed capital cost that would be required to construct a comparable new source, which is not the case with the Furnace 5 Project. The 0.01 limit in the permit includes dry (front-half filterable catch) plus organic condensables plus inorganic condensables as well. The “new-source MACT” limit only includes the dry portion. Considering available stack testing data in which the front-half catch is about half the total, the 0.006 limit for front-half catch will effectively be met. The level and form of the 0.01 limit was determined considering the level and form of similar limits in the EPA Reasonably Available Control Technology/BACT/Lowest Achievable Emission Rate Clearinghouse and those in the facility’s existing operating permit.

COMMENTS RE: HEALTH IMPACTS FROM EMISSIONS OF FIBERS

57. Comments were received concerning the fiber emissions from the Facility, potential health impacts of fibers, and the “control city” standard in the Facility’s existing operating permit that emerged from 1970s court decisions.
58. Some commenters questioned whether the fiber emissions from the Facility would decrease after the Furnace 5 Project. In its detailed Responses to Comments document, the MPCA further explains the emission calculation methodology, which is also summarized in a revised Attachment 4 to the air permit technical support document. Because of the additional upgraded control equipment, the MPCA determined that the stack emissions of fibers from the overall facility are expected to decrease by about 84 percent, even with the reactivation of idled Furnace 5 and associated equipment. Under all scenarios of reactivation authorized under this amended permit, there is no net increase in fiber stack emissions.
59. Various comments concerning the toxicity of fibers and potential impacts from the Facility were received. The MPCA maintains that its approach to assuring the Facility has no net increase in

fiber emissions after the Project, and continuing the ambient fiber monitoring near the facility is the prudent approach.

60. Comments were received concerning the “control city” standard found in the Facility’s existing operating permit. The “control city” standard was originally imposed by the federal appellate court in 1975. The comments imply that the St. Paul data from 1978-80 is too old to be of valid use to assess compliance with this standard. While the MPCA believes that the previously gathered ambient fiber data from St. Paul can be used to assess compliance with the “control city” standard, the MPCA has determined that it is appropriate, necessary and reasonable to begin the process of obtaining new control city data. Because an ambient fiber monitoring program to begin measuring fibers in St. Paul is needed to obtain new data, the MPCA has commenced implementation of fiber monitoring in St. Paul.
61. The ambient fiber samples collected in St. Paul, as well as those collected in Silver Bay and Beaver Bay will continue to be analyzed using the Minnesota Department of Health (MDH) well-established Transmission Electron Microscopy (TEM)-based method (MDH Method 852). This method provides a number of advantages over other currently available analytical techniques. The most critical element of MDH’s method is the flexibility to count fibers shorter than five microns in length. Fibers shorter than five microns constitute the majority of fibers currently being emitted at the Silver Bay facility, thus, the MDH method allows a more accurate quantification of the fibers associated with Northshore’s taconite processing operation. The use of TEM allows for both the visualization of thinner fibers and the differentiation of fiber types. This in turn allows the positive identification of asbestos and related amphibole fibers. An additional advantage is that there is a long history (since the late 1970s) with the MDH method and it has been used to generate a relatively large dataset that can be used for comparisons. The ability to compare current data to a large historical database provides a clear advantage because such comparisons add to the validity and credibility of any new data being collected.
62. On October 11, 2005, the MPCA received a copy of lab analyses for ambient fiber samples that NMC took from August 14, 2005, to September 10, 2005, in a St. Paul location, a Roseville location and Silver Bay. On October 19, 2005, the MPCA sent a request for information (RFI) to NMC requesting additional information about this ambient fiber monitoring. On October 26, 2005, the MPCA received the response to the RFI. Initial review of this information identified several technical issues with the monitoring: the monitor siting does not meet EPA siting criteria for ambient monitors; the monitoring sites were predominantly residential land use; and the MDH method was not used for analyzing samples. In order to use ambient fiber data for compliance purposes, the monitors need to meet EPA siting criteria. Historically, it was determined that a St. Paul residential location for compliance determinations with the control city standard. Downtown St. Paul (representing mixed land use) and an industrial location were used for ambient fiber monitoring for compliance determinations with the control city standard. Due to the siting issues, even if the samples were analyzed using the MDH Method, the MPCA staff believes, based on current review, that the data would be inadequate for determining compliance with the control city standard.
63. Under the current plan, the MPCA would conduct ambient fiber monitoring in St. Paul for a minimum of two years. Once the monitor is installed, it is anticipated that there will be an equipment shakedown period of up to three months during which the sampling time will be optimized. Compliance data collection will start after the shakedown period is complete.

FINAL DETERMINATION ON WHETHER TO ISSUE PERMIT

64. Minn. R. 7007.1000, subp. 1, states:

***Preconditions for issuance.** The agency shall issue a permit or permit amendment, or reissue a permit only if it determines that all of the following conditions have been met:*

A. The agency has received a complete application for a permit, permit amendment, or permit reissuance, except that a complete application need not be received before issuance of a general permit under part 7007.1100, subpart 4.

B. The agency has complied with the public participation procedures for permit issuance, if required by part 7007.0850.

C. The agency has complied with the procedures for notifying and responding to affected states, if required by part 7007.0900.

D. If the administrator's review is required by part 7007.0950, the administrator has received a copy of the permit and any notices required and has not objected to issuance of the permit within the time period specified, or the administrator has objected but the objection has been resolved to the administrator's satisfaction.

E. The conditions of the permit provide for compliance with all applicable requirements and the requirements of parts 7007.0100 to 7007.1850, or include a schedule to achieve such compliance.

F. The permit does not reflect a variance from any federally enforceable applicable requirement or requirement of parts 7007.0100 to 7007.1850.

G. The agency anticipates that the applicant will, with respect to the stationary source and activity to be permitted, comply with all conditions of the permit.

H. All applicable provisions of Minnesota Statutes, chapter 116D, and the rules adopted under Minnesota Statutes, chapter 116D, have been fulfilled.

Each of these preconditions is addressed in turn below.

65. **Receipt of Application.** The requirement of Subitem A has been met. For the purposes of Part 70 and PSD review, the initial application was received on October 25, 2004, and the revised, re-certified application was received on May 2, 2005.
66. **Public Participation Procedures.** The requirement of Subitem B has been met. The public participation described in these Findings demonstrates compliance with the public participation procedures applicable to this permit under Minn. R. ch. 7007.
67. **Affected States.** The requirement of Subitem C, to notify and respond to affected states under Minn. R. 7007.0900 has been met.
68. **EPA Review.** The requirement of Subitem D has been met. EPA's Region 5 office has been included on all public notice mailings. At the start of the public notice for comment on the draft amended permit, a copy of the draft amended permit and technical support document were sent to EPA Region 5. For proposed new construction or modifications, EPA must comment during the 30-day public comment period.

69. **Permit Covers All Applicable Requirements.** The requirement of Subitem E has been met. Compliance with the permit provides for compliance with all “applicable requirements,” as that term is defined in Minn. R. 7007.0100, subp. 7. The permit also provides for compliance with all the requirements of Minn. R. 7007.0050 to 7007.1850, in particular by requiring that any changes or modifications to the Project be performed in compliance with Minn. R. 7007.1150 to 7007.1500.
70. **No Variance.** The requirement of Subitem F is met. The permit does not reflect a variance from any federally enforceable applicable requirement, or the requirements of Minn. R. ch. 7007.
71. **Compliance Anticipated.** The requirement of Subitem G is met. The MPCA anticipates that the Permittee will comply with the conditions of the permit. The limitations are technologically feasible and clearly expressed, and the permit includes monitoring and reporting requirements to insure the enforceability of the permit’s conditions. Although the Facility has been associated with a number of enforcement actions (listed in the EAW findings) over the past five years, the MPCA finds that the Permittee has resolved the enforcement issues and will comply with the conditions of the permit.
72. **Compliance with Chapter 116D.** The requirement of Subitem H is met. For the reasons discussed in the environmental assessment worksheet and related documents, the emissions from the Project, as controlled by the terms and conditions of the amended permit, are not likely to cause “pollution, impairment or destruction” in accordance with Minn. Stat. § 116D.04, subd. 6. As noted, the Project has undergone environmental review under Minn. Stat. ch. 116D and Minn. R. ch. 4410.
73. Minn. R. 7007.1000, subp. 2 provides seven grounds on which the MPCA can refuse to issue the permit. The MPCA finds that that none of the grounds for denial apply to this permit action.

CONCLUSIONS OF LAW

74. All procedural requirements applicable to the issuance of the proposed Air Emission Permit have been met.
75. The findings of the MPCA justify issuance of the amended permit and do not support denial of the Permittee’s application for an amended permit.
76. Any finding more properly considered a conclusion shall be considered a conclusion. Any conclusion more properly considered a finding shall be considered a finding.

ORDER

The Minnesota Pollution Control Agency approves issuance of the attached amended Air Emission Permit No. 07500003-003 to Northshore Mining Company, Silver Bay Power Company, and Cleveland-Cliffs, Inc.

IT IS SO ORDERED

Commissioner Sheryl A. Corrigan
Chair, Citizens' Board
Minnesota Pollution Control Agency

Date

Minnesota Pollution Control Agency

Northshore Mining Company – Furnace 5 Reactivation Project

**Environmental Assessment Worksheet (EAW),
National Pollutant Discharge Elimination and State Disposal System (NPDES/SDS)
Permit No. MN0055301, and
Air Emission Permit No. 07500003-003**

**RESPONSES TO COMMENTS ON THE EAW, NPDES/SDS PERMIT, AND
AIR EMISSION PERMIT**

1. Comments by Gary Zinter, Silver Bay, Minnesota. E-mail received May 24, 2005.

Comment 1-1: The commenter supports the proposed project and believes that it will benefit the community.

Response: The comment is noted. Please note, that financial and economic factors are not considered when completing an EAW or in determining whether or not a project will have the potential for significant adverse environmental effects.

Comment 1-2: The commenter, as a former teacher, has relied on information from former Reserve Mining employees and has found them to be helpful and active within the community.

Response: The comment is noted.

Comment 1-3: The commenter believes that that Northshore Mining Company (NMC) will make every attempt to minimize the environmental impact of the proposed project.

Response: The comment is noted.

2. Comments by the Lake County Board of Commissioners. Resolution received May 24, 2005.

Comment 2-1: The comment letter is a resolution from the Lake County Board of Commissioners that states support for the proposed NMC – Furnace 5 Reactivation Project.

Response: The comment is noted.

Comment 2-2: The resolution asserts the belief that the proposed project will provide needed full-time jobs and additional tax revenue.

Response: The comment is noted. Please refer to the response for Comment 1-1.

Comment 2-3: The resolution further asserts that the additional emission control equipment will provide for the safety of the public and of the environment.

Response: The comment is noted.

3. Comments by A. Kent Shamblin, Beaver Bay, Minnesota. Letter received May 25, 2005.

Comment 3-1: The commenter is concerned about the increase in release to the air of asbestos-like fibers.

Response: The Minnesota Pollution Control Agency (MPCA) has assessed potential fiber air emissions from NMC's taconite processing facility in Silver Bay, Minnesota, (Facility) and has found that although additional equipment will be in operation after implementation of the proposed project, fiber air emissions from the facility will decrease because existing multiclone control equipment will be replaced with fabric filters, which are more efficient at removing particulate matter (including fibers) from the exhaust before venting to the atmosphere. As a result, no net increases in fiber air emissions are anticipated. See also response to comment 64-8.

Comment 3-2: The commenter is also concerned about fibers in the effluent discharged from the Mile Post 7 wastewater treatment plant (WWTP) to the Beaver River and does not believe that the Minnesota Pollution Control Agency (MPCA) should raise the effluent fiber limit.

Response: An effluent fiber limit of one million total amphibole fibers per liter (MF/L) determined by the MPCA based on the implementation of Best Available Technology (BAT), was set in the Facility's NPDES/SDS Permit in the 1980s. It is important to emphasize that the limit was not a health-based or water quality-based limit; it was based on the application of similar treatment technology at drinking water plants located along the north shore of Lake Superior. The previous NPDES/SDS Permits contained a term that stated if this limit was being exceeded and the MPCA determined that the exceedences were not the result of failure by NMC to operate or maintain the treatment system according to the Facilities Operation requirements; the MPCA's determination was cause for modifying the effluent total amphibole fiber limit.

Over the years, the effluent limits for turbidity, suspended solids, and total amphibole fibers have been of great interest because the working assumption has been that keeping turbidity low will ensure a low fiber concentration in the discharged effluent. In actuality, though the treated effluent discharged to the Beaver River complies with the turbidity and total suspended solids limits and removes 99.9+ percent of the fibers, the discharge nevertheless has often exceeded the 1 MF/L effluent fiber limit. A comparison of turbidity and fiber trends within the basin indicates that although there is some general correlation, the two parameters do not strictly follow the same trends.

The fiber concentrations in the effluent tend to be variable: between January 2004 and March 2005 the effluent fiber concentrations ranged between <1 MF/L to >5 MF/L. NMC has contended that the current effluent fiber limit of 1 MF/L is unachievable. MPCA staff has reviewed actual performance data of the BAT installation. The MPCA staff determined that the BAT installation has been operated and maintained properly for the WWTP and determined that the treatment level of fibers in the effluent that could reasonably be achieved using the current BAT is 6.8 MF/L.

The Minnesota Department of Health (MDH) was consulted during the MPCA's review of this proposed project. The MDH has determined that the information available for risk of disease following ingestion of asbestos fibers is inconsistent and cannot be used for a quantitative risk assessment. A qualitative examination of the available evidence led to a MDH staff determination that the proposed increase in the effluent fiber limit and the proposed increased rate of discharge are unlikely to result in any health impacts to individuals' drinking water from Lake Superior. The MDH's letter to the MPCA is included with this document as Attachment A.

4. Comments by the City of Hoyt Lakes. Resolution received May 26, 2005.

Comment 4-1: The comment letter is a resolution from the City of Hoyt Lakes that states support for the proposed NMC – Furnace 5 Reactivation Project.

Response: The comment is noted.

Comment 4-2: The resolution encourages the MPCA to proceed with the permitting process in a reasonable, but expedited, manner.

Response: The comment is noted.

5. Comments by the Two Harbors Area Chamber of Commerce. Resolution received May 26, 2005.

Comment 5-1: The comment letter is a resolution signed by representatives of the Two Harbors Area Chamber of Commerce that states support for the proposed NMC – Furnace 5 Reactivation Project.

Response: The comment is noted.

Comment 5-2: The resolution asserts the belief that the proposed project will provide needed full-time jobs and additional tax revenue.

Response: The comment is noted. Please refer to the response for Comment 1-1.

6. Comments by Alan Goodman, Lake County Highway Department. Letter received May 26, 2005.

Comment 6-1: The commenter voices support for the proposed NMC – Furnace 5 Reactivation Project.

Response: The comment is noted.

Comment 6-2: The commenter believes the project will benefit Lake County’s road and bridge budget by bringing in additional tax revenue and will allow for improved efficiency and safety in movement of people, goods and services in Lake County.

Response: The comment is noted. Please refer to the response for Comment 1-1.

Comment 6-3: The commenter believes that air and water standards in Minnesota are higher than they are in other areas of the world where taconite production would move should this project not move forward.

Response: The comment is noted.

Comment 6-4: The commenter believes that the project will also improve NMC’s economics, allowing for plant modernization and improved pollution control in the future.

Response: The comment is noted.

7. Comments by Carol Brown, Two Harbors, Minnesota. E-mail received May 29, 2005.

Comment 7-1: The commenter notes that the open house held by NMC on May 16, 2005, was interesting and that it was clear from this visit that employees were proud of working for the company.

Response: The comment is noted.

8. Comments by Roger A. Mattson, Duluth, Minnesota. Letter received May 31, 2005.

Comment 8-1: The commenter believes that NMC is a stable and reliable company and that the additional jobs that will be created as a result of the proposed project are needed in the area.

Response: The comment is noted. Please refer to the response for Comment 1-1.

Comment 8-2: The commenter suggests that tailings may be put to better use as fill, used in concrete production and for filtering mercury. This would provide the NMC with additional revenue.

Response: The comment is noted. The coarse tailings are needed for construction and maintenance of the dams that are integral parts of the Mile Post 7 tailings basin and various tailings are also needed for construction of the new splitter dike inside the basin.

9. Comments by Rachel Gischia, Two Harbors, Minnesota. Letter received June 3, 2005.

Comment 9-1: The commenter attended NMC's open house and found it to be honest and informative. The commenter believes the additional jobs to be created as a result of the proposed project, and its indirect impact, would benefit the economy of northern Minnesota.

Response: The comment is noted. Please refer to the response for Comment 1-1.

Comment 9-2: The commenter notes that the company is installing best available control technology (BACT) for air pollution and believes that the benefits of the project outweigh any adverse environmental effects.

Response: The comment is noted. Please note only certain pieces of air pollution control equipment are scheduled to be upgraded with more efficient pollution control technologies.

10. Comments by Paul and Lois Borg, Beaver Bay, Minnesota. Letter received June 3, 2005.

Comment 10-1: The commenters are pleased with the proposed project and believe any improvement in the area's year-round economy is a positive move.

Response: The comment is noted. Please refer to the response for Comment 1-1.

Comment 10-2: The commenters are frustrated with black particles that they see on outdoor furniture, decks, deck railings, and inside the house. They associate them with the existing NMC taconite processing plant in Silver Bay. The commenters have found the particles in their dehumidifier and are concerned about the air they are breathing. They believe that more effective filters or scrubbers could reduce or eliminate this problem. They appeal to the MPCA to find a solution to this problem.

Response: The MPCA has received similar comments from citizens in the past and agrees that the problem needs to be addressed. We believe that the problem stems, at least in part, from particulate matter (PM) emissions released from the taconite storage piles and other fugitive emissions sources located outdoors.

The modified Air Emission Permit requires an improved fugitive dust control plan. The modified Plan includes increased dust suppression activity and improved recordkeeping, which aims to better correlate comments received from citizens to activities occurring at the Facility. Lastly, the proposed project entails replacing some of the existing air pollution control equipment with more efficient pollution control equipment. This will result in a decrease in air emissions from the Facility emission units associated with the retrofitted controls. The responses to Comments 65-42 and 65-43 contain additional information about how past exceedences of PM emission limits have been considered and have resulted in specific conditions within the modified Air Emission Permit.

Citizens who wish to report dust or black particle incidents or file complaints to the MPCA are encouraged to contact Bob Beresford, the MPCA air quality compliance staff person assigned to the Silver Bay facility at (218) 723-4664.

11. Comments by The Lac Vieux Desert Band of Lake Superior Chippewa Indians. Letter received June 6, 2005.

Comment 11-1: The commenters returned the Air Emission Permit and NPDES/SDS Permit public notices with a note stating that The Lac Vieux Desert Band of Lake Superior Chippewa Indians has no interest in the project.

Response: The comment is noted.

12. Comments by David Z. Skolasinski, Northshore Mining Company. Letter received by e-mail on June 6, 2005.

Comment 12-1: NMC has no reason to believe that the proposed project would be the cause of any exceedence of the proposed effluent fiber limit at the discharge of the Mile Post 7 tailings basin.

Response: The comment is noted. The MPCA staff also believes it is reasonable to expect that fiber limit exceedences will not occur.

Comment 12-2: NMC disagrees with the use of the 95th percentile in the development of the effluent fiber limit determination and believes that the appropriate daily maximum fiber limit should be based on the 99th percentile, as originally proposed by MPCA staff. The subsequent use of the 95th percentile was solely a function of the MPCA staff's clearly stated unwillingness to propose an effluent number of 14.0 MF/L, which is the correct number when using the appropriate lognormal methodologies at the staff's previously determined "appropriate" 99th percentile.

Response: As background, the typical MPCA and EPA statistical procedures that are used in permit limit derivation involve fitting distributions to effluent data. The estimated upper percentiles of the distributions form the basis of the limits. In most cases, it is assumed that the effluent data fits a lognormal distribution. Typically, the 95th percentile of the distribution is used to establish a monthly average limit and the 99th percentile is used to establish a daily maximum limit.

The effluent limit for fibers at the Mile Post 7 tailings basin does not fall into the “typical” category. The reasons for looking at the fiber limit in a case-specific way are:

- 1) The treatment system at Mile Post 7 is unique compared to other treatment systems the MPCA evaluates. Most other treatment systems have much more in common regarding design and pollutants controlled.
- 2) Fibers are unique to this permit.
- 3) Fiber variability is extreme compared to what the MPCA usually observes for other, more common, wastewater treatment plant pollutants.
- 4) Fiber counts do not appear to have any correlation with other pollutants in the treated effluent, unlike other discharger situations.
- 5) A lognormal distribution is questionable in this instance.
- 6) The data set used to determine the limit is relatively small.

The original MPCA staff suggestion of using the 99th percentile required the use of the percentile calculated from the original untransformed data (i.e.: no distribution assumption). Using the assumption of a lognormal data distribution substantially increases the variability. Consequently, the use of the 99th percentile based upon using the lognormal distribution assumption would establish an unreasonable high limit because the percentiles are substantially increased due to the enhanced variability. The assumption of lognormality has not been sufficiently supported to use it as the basis for an extremely high limit. At the same time, the lack of lognormality has not been sufficiently demonstrated either. Therefore, the use of the lognormal 95th percentile, which provides a value of 6.8 MF/L, is reasonable considering that the highest value in the original data set is 5.4 MF/L. In addition, if one was to use the effluent data and compute normal distribution confidence limits, the value of 6.8 MF/L would correspond to a 99.8 percent approximate upper confidence limit. In other words, it would be highly unlikely that the 6.8 MF/L value would ever be exceeded. The MPCA staff provides this information and explanation only to substantiate the use of the 6.8 MF/L effluent fiber limit, not to recommend using normal distribution based limits.

In summary, the MPCA staff is not rejecting the lognormal distribution assumption. Rather, in this situation, the MPCA staff is not using the lognormal distribution derived 99th percentile because of uncertainty about whether or not the conditions being estimated actually are lognormally distributed. Due to the uncertainty about the appropriate distributional assumptions, it is not scientifically appropriate to depend on the lognormal distribution assumption to develop an unreasonably high discharge limit relative to the effluent data used for these determinations. It should also be noted that the current NPDES/SDS Permit requires compliance with the fiber effluent limit for 95 percent of the samples collected. This again supports the use of the 95th percentile in the revised fiber limit determination.

Comment 12-3: It is clear that the use of the 95th percentile cannot be sustained by reference to Appendix E of the U.S. Environmental Protection Agency’s (USEPA’s) Technical Support Document. Thus, where a daily maximum is the measure utilized, the 99th percentile is indeed the appropriate level to be utilized.

Response: The current fiber sampling requirement consists of one bimonthly (i.e. once every two months) reading. The current sampling requirement provides at best an estimate of the bimonthly (e.g. two month) average. The USEPA *Technical Support Document For Water Quality-Based Toxics Control*, March 1991, page 110, states that a maximum daily permit limit should be based on a 99th

percentile level and an average monthly permit limit should be based on a 95th percentile level. Thus, because the sampling is actually at best providing an estimate of the bimonthly average a 95th percentile value-based limit is more technically appropriate.

Furthermore, the USEPA document also states on page E-15 that “In certain cases the 95th percentile value may be allowable.” Appropriate situations for using the 95th percentile would include instances where the dispersion (variability) within the data is substantial, such as when the standard deviation approximates the mean (i.e.: the ratio of the standard deviation to the mean is approximately 1.0). The standard deviation, variance and mean calculated from the original data values are approximately 1.69, 2.87 and 1.85, respectively. Considering that the standard deviation divided by the mean (1.69/1.85) equals approximately 0.91, the use of the 95th percentile rather than the 99th is further justified.

Comment 12-4: Using the 95th percentile, as the Agency staff now proposes, means that, even while the basin effluent is of acceptable quality, Northshore could expect one false positive per 20 samples, rather than one per 100 samples, which would be expected to result from the conventional 99th percentile. Fairness dictates that a methodology not be employed that is expected to show a 5-fold increase in false positives.

Response: As background, a false positive means the effluent concentration exceeds the limit. The claim is made that MPCA staff’s use of the 6.8 MF/L limit would yield a 0.05 false positive rate. Rather, if the past effluent data are used to estimate false positive likelihoods, the actual probability for a false positive would be substantially less than 0.01. A probability for a false positive of less than 0.01 is equivalent to basing the limit on the 99th percentile or greater when using the past effluent data. This provides further support that the proposed limit is technically justified and reasonable.

Comment 12-5: NMC believes that the effluent fiber data follows a lognormal distribution and consequently, the lognormal distribution should be utilized in the fiber limit determination process per USEPA documents. Positive proof is needed if lognormality is to be rejected.

Response: Please see the response to comment 12-2.

Comment 12-6: NMC requests that the appropriate methodologies be employed by MPCA staff in developing the modified daily maximum effluent fiber limit from the Mile Post 7 tailings basin. It is a matter of record that the establishment of the original 1 MF/L fiber effluent limit was not predicated on science. Let us not witness a repeat of that mistake.

Response: The MPCA staff has demonstrated that the appropriate methodologies have been employed in the development of the 6.8 MF/L limit. The limit is based on actual performance of BAT specifically at the Mile Post 7 WWTP. This limit was determined using good engineering judgment and sound statistical procedures, which were also reviewed and supported by USEPA Region 5 staff.

13. Comments by the City of Babbitt. Resolution received June 7, 2005.

Comment 13-1: The comment letter is a resolution from the City of Babbitt that states support for the Northshore Mining – Furnace 5 project and urges the MPCA to expedite the process to the maximum extent possible.

Response: These comments are noted.

14. Comments by Paul Deaner, Finland, Minnesota. Letter received June 10, 2005.

Comment 14-1: The commenter is encouraged by NMC's steps to remove mercury-containing materials from its facility. The commenter believes that NMC should take this a step further and completely capture all mercury air emissions.

Response: There are no state or federal air standards for mercury emissions for the mining sector at this time. The commenter's desire that NMC install equipment to completely capture all mercury emissions will be forwarded to the company.

Comment 14-2: The commenter believes that the air quality within the concentrator and pelletizing buildings is poor and he has concerns about employees who ingest the PM released in those buildings. The commenter believes that NMC should use newer technologies that will better capture PM air emissions.

Response: The proposed project does entail upgrading some of the air pollution control equipment with more efficient pollution control equipment. This new equipment, though, will have no impact on indoor air quality. The question of whether or not the Facility complies with indoor air quality standards, though important, is outside of the MPCA's purview.

The role of the federal Mine Safety and Health Administration (MSHA) is to protect the safety and health of miners, which includes employees working at NMC's taconite processing plant in Silver Bay. The commenter may consider contacting MSHA, which is housed within the U.S. Department of Labor. More information can be found on their Web site at <http://www.msha.gov/>.

15. Comments by Lyle Northey, Two Harbors, Minnesota. E-mail received June 13, 2005.

Comment 15-1: The commenter states his support for the project and believes that if the criteria and benchmarks for this project are met, that approval should be granted.

Response: The comment is noted.

16. Comments by the City of Silver Bay, Minnesota. Resolution received June 13, 2005.

Comment 16-1: The comment letter is a resolution from the City of Silver Bay that states support for the proposed NMC – Furnace 5 Reactivation Project.

Response: The comment is noted.

17. Comments by Harold B. Leppink, Lake County Human Services. Letter received June 13, 2005.

Comment 17-1: The commenter has considered airborne fiber emissions that will result from the proposed project and notes that fabric filter technologies to control these fibers will replace existing multiclone technology for the concentrator sections. The 1 MF/L effluent fiber limit is unattainable with BAT. The mercury in the effluent discharged to the Beaver River has averaged one half or less of the Great Lakes Initiative water quality standard of 1.3 nanograms per liter (ng/L). Lastly, the commenter

has reviewed all other organic and inorganic elements in the discharges and believes that none pose a threat to either the environment or to public health. The commenter supports continued monitoring for these parameters in the future.

Response: These comments are noted. Air and water monitoring for fibers and quarterly water monitoring for mercury have been, and will continue to be, be required by the facility's Air Emission and NPDES/SDS Permits.

Comment 17-2: The commenter observes that during the facility's fifty years of operation, there has been a continuous concern for the environment and diligent monitoring and oversight by operators and permitting agencies and he expects those relationships to continue once the proposed project is operational.

Response: These comments are noted.

Comment 17-3: The commenter believes the EAW is adequate.

Response: The comment is noted.

18. Comments by Terry J. Wilkins, Metso Minerals. Facsimile letter received June 16, 2005.

Comment 18-1: The commenter states his support of the proposed project.

Response: The comment is noted.

Comment 18-2: The commenter works for a heavy equipment manufacturer and NMC is one of his company's larger customers. The proposed project will stimulate business for his company and for many other businesses in the area and he urges approval of this project.

Response: These comments are noted. Please refer to the response for Comment 1-1.

19. Comments by Pat LeBlanc, Silver Bay, Minnesota. Letter received June 16, 2005.

Comment 19-1: The commenter states his support of the proposed project.

Response: The comment is noted.

Comment 19-2: The commenter has lived in the area since 1955. The commenter believes that all of Minnesota's citizens will benefit from the proposed project and that there is no reason why the necessary permits should not be issued.

Response: These comments are noted.

20. Comments by Dale A. Hintsala, NORAMCO Engineering Corporation. E-mail received June 17, 2005.

Comment 20-1: The commenter states that NORAMCO Engineering Corporation supports the proposed project.

Response: The comment is noted.

Comment 20-2: NORAMCO Engineering Corporation has provided design engineering services for projects resulting in process efficiencies for all Minnesota taconite producers and is pleased to endorse projects that positively impact the economy of northeastern Minnesota.

Response: The comment is noted. Please refer to the response for Comment 1-1.

Comment 20-3: NORAMCO Engineering Corporation strongly recommends issuance of permits needed to implement the proposed project.

Response: The comment is noted.

21. Comments by Len Ruska, Hibbing, Minnesota. E-mail received June 17, 2005.

Comment 21-1: The commenter supports the proposed project and believes it will help continue to stimulate the economy in northeastern Minnesota.

Response: The comment is noted. Please refer to the response for Comment 1-1.

Comment 21-2: The commenter believes that adequate environmental controls are in place to ensure degradation of air and water will not occur.

Response: The comment is noted.

22. Comments by Jim Giles, Door Service, Incorporated. E-mail received June 17, 2005.

Comment 22-1: The commenter states his support for the proposed project.

Response: The comment is noted.

Comment 22-2: The commenter is a business owner in northeastern Minnesota serving the needs of the mining industry. It is his opinion that an increase in production from the proposed project would have a minimal impact on the public's safety, due to the strict pollution control standards in place today.

Response: The comment is noted.

Comment 22-3: The commenter notes that the proposed project would have a significant impact on the local economy and believes that the MPCA must support the proposed project.

Response: The comment is noted. Please refer to the response for Comment 1-1.

23. Comments by Wade LeBlanc, Silver Bay, Minnesota. Letter received June 17, 2005.

Comment 23-1: The commenter states his support of the proposed project.

Response: The comment is noted.

Comment 23-2: The commenter has lived in the area his entire life and has an interest in the health and welfare of his family. The commenter does not believe that the proposed project will pose a threat to human health.

Response: These comments are noted.

24. Comments by Wade LeBlanc, Silver Bay, Minnesota. Letter received June 17, 2005.

Comment 24-1: The commenter states his support of the proposed project.

Response: The comment is noted.

Comment 24-2: The commenter believes that as long as NMC is abiding by its Air Emission and NPDES/SDS Permits, there should be no air or water degradation attributable to the proposed project.

Response: The comment is noted.

Comment 24-3: The commenter believes that NMC has gone above and beyond expectations regarding mercury. The commenter notes that the company sponsored a community program designed to recycle mercury-containing household waste and wonders what would happen to such waste if the company hadn't sponsored the program.

Response: These comments are noted.

Comment 24-4: The commenter believes the project will provide economic benefit for almost all areas of Minnesota and urges the MPCA to grant the permits necessary to allow implementation of the proposed project.

Response: The comment is noted. Please refer to the response for Comment 1-1.

25. Comments by Mark LeBlanc, Silver Bay, Minnesota. Letter received June 17, 2005.

Comment 25-1: The commenter states his support of the proposed project.

Response: The comment is noted.

Comment 25-2: The commenter has lived in the area his entire life and has an interest in the health and welfare of his family. The commenter does not believe that the proposed project will pose a threat to human health.

Response: These comments are noted.

Comment 25-3: The commenter notes that NMC has recycled approximately 700 pounds of mercury that may have caused environmental degradation had it not been recycled. The reactivation of Furnace 5 would result in an annual release of up to 1.5 pounds of additional mercury. The commenter notes that the amount of mercury recycled at the plant in the past equates to up to 700 years of operating the Furnace 5 pelletizing furnace.

Response: These comments are noted.

26. Comments by Todd Borden, Tower, Minnesota. E-mail received June 17, 2005.

Comment 26-1: The commenter was born in northeastern Minnesota and currently lives in Tower, Minnesota. The commenter believes a balance must exist between employment opportunities and environmental stewardship and feels that Minnesota must keep its mining resource viable.

Response: These comments are noted.

Comment 26-2: The commenter notes that NMC will be applying BAT for the Mile Post 7 WWTP and will be investing in higher efficiency control equipment to decrease air emissions. The commenter does not believe the effluent discharge to the Beaver River is a concern. The commenter notes the company's efforts to mitigate environmental impacts and feels they're doing what they can.

Response: These comments are noted. It should be clarified that only certain pieces of air pollution control equipment are scheduled to be upgraded with more efficient pollution control technologies. The proposed project will result in a decrease in fiber air emissions, but will result in an increase in air emissions for other pollutants.

Comment 26-3: The commenter has worked for various mining companies in northeastern Minnesota in the past and he does not believe any argument would convince him that potential risks outweigh the benefit of jobs created by mining activity.

Response: The comment is noted. Please refer to the response for Comment 1-1.

Comment 26-4: The commenter urges the MPCA to issue necessary permits to allow the company to implement the proposed project.

Response: The comment is noted.

27. Comments by Louise Thureen, Lake Superior School District Board of Education. E-mail received June 19, 2005.

Comment 27-1: The commenter is a member of the Lake Superior School District Board of Education and though she cannot speak for the full Board, she is personally in full support of the proposed project.

Response: The comment is noted.

Comment 27-2: The commenter believes that the proposed project is very important to the area because it will create much-needed jobs, which would bring new families to the area and students to the declining student population in the district, and would also increase state and local economies.

Response: These comments are noted. Please refer to the response for Comment 1-1.

Comment 27-3: The commenter believes that the MPCA will proceed with proper oversight in matters related to any pollution that would occur and with recommending appropriate mitigation, if necessary.

Response: The comment is noted.

28. Comments by Jeffrey J. Biondi, United Refractories, Incorporated. Facsimile letter received June 20, 2005.

Comment 28-1: The commenter believes that the proposed project will create needed jobs and boost state and local economies.

Response: The comment is noted. Please refer to the response for Comment 1-1.

Comment 28-2: The commenter notes that NMC has committed to upgrading environmental controls, water treatment and air emissions and that the Air Risk Analysis has concluded that the limits in the proposed permits are acceptable.

Response: These comments are noted. Please note, only certain pieces of air pollution control equipment are scheduled to be upgraded with more efficient pollution control technologies. The proposed project will result in a decrease in fiber air emissions, but will result in an increase in air emissions for other pollutants (see Item 23 of the EAW for more information). The Mile Post 7 WWTP will not be enhancing its water treatment system; rather, it will be expanding its capacity to treat a greater volume of water in an effort to reduce the levels of water within the Mile Post 7 tailings basin. Lastly, the EAW states that the Air Risk Analysis concludes that the proposed project is not expected to pose unacceptable risks to the general public from the chemicals and exposure pathways assessed. In light of the Air Risk Analysis results, the MPCA staff believes that the proposed permit limits will result in air emissions that meet air quality standards.

29. Comments by Michael P. Mlinar, Hibbing Taconite Company. Letter received June 20, 2005.

Comment 29-1: The commenter believes that the proposed project will benefit state and local economies.

Response: The comment is noted. Please refer to the response for Comment 1-1.

Comment 29-2: The commenter acknowledges that consideration of environmental impacts is very important and he believes that Cleveland-Cliffs, Inc., has done a thorough engineering analysis of potential water, air and other impacts. The commenter indicates that the study has shown that there will be no significant deterioration to any areas and notes that the plant's air emissions will decrease because new state-of-the-art air emission control systems will be installed as a part of the project proposal

Response: Please refer to the response given for Comment 28-2.

30. Comments by Art Lind, Hibbing, Minnesota. Letter received June 20, 2005.

Comment 30-1: The commenter believes the proposed project is a good project which will have minimal, if any, detrimental effects to air and water. The commenter states that the environmental controls are state-of-the-art for both air and water quality.

Response: Please refer to the response for Comment 28-2.

Comment 30-2: The commenter believes that the proposed project will create needed jobs and boost state and local economies.

Response: The comment is noted. Please refer to the response for Comment 1-1.

Comment 30-3: The commenter believes that MPCA staff, at a recent public meeting in Hoyt Lakes, Minnesota, for the proposed Mesabi Nugget project, confirmed some of the findings that most of our air and water pollution comes from outside Minnesota.

Response: The MPCA's comments relative to this issue were in regard to mercury pollution only. Approximately 90 percent of the mercury present in Minnesota's surface waters has been carried in the form of air pollution created outside the state. The mercury is then deposited into Minnesota's lakes and streams. About 10 percent of the mercury found in Minnesota's surface waters originated from within the state.

Comment 30-4: The commenter notes that products we use every day are mined or manufactured and that Minnesota's mining companies operate in a cleaner and safer way than anywhere else in the world. The commenter is in full support of the project.

Response: These comments are noted.

31. Comments by Elanne Palcich, Chisolm, Minnesota. Letter received June 20, 2005.

Comment 31-1: The commenter expresses surprise that the project proposal is moving forward despite knowledge of the damaging effects of acid rain and mercury pollution.

Response: The MPCA's purpose is to protect Minnesota's environment through monitoring environmental quality and enforcing environmental regulations. The proposed facility will comply with all federal and state air regulations for nitrogen oxides (NO_x) and sulfur dioxide (SO₂), which are precursors to acid rain. In addition, the air modeling indicates that nitrogen and sulfur deposition will be below thresholds established by the Federal Land Managers (FLM) – the U.S. Forest Service (USFS), the National Park Service (NPS) and U.S. Fish and Wildlife Service. Therefore, it is unlikely that deleterious impacts from acid deposition resulting from the proposed project will occur to the two wilderness areas and two national parks nearest the taconite processing facility in Silver Bay.

There are no state or federal air standards for mercury emissions for the mining sector at this time. Please refer to the response for Comment 56-27 for more information on the MPCA's plan for statewide mercury reduction.

Comment 31-2: The commenter wonders about the health risks of employees who will be working within the taconite processing plant.

Response: Please refer to the response given to Comment 14-2.

Comment 31-3: The commenter believes that the environmental impacts from the proposed project will outweigh the economic benefits and that any tax revenue will be used in mitigating environmental damage caused by the project.

Response: The comment is noted.

Comment 31-4: The commenter expresses dismay that the state legislature would circumvent procedures that were established by the legislature to create a healthy living environment in Minnesota.

Response: The MPCA believes that the commenter is referring to the proposed Mesabi Nugget project, where the state legislature waived environmental review for that project. The NMC – Furnace 5 Reactivation Project has not been waived from environmental review and an EAW for this project proposal was placed on public notice from May 23, 2005, to June 22, 2005. This commenter’s letter is being considered in regard to this proposed NMC – Furnace 5 Reactivation Project.

Comment 31-5: The commenter notes that the north shore of Lake Superior contains some of the most scenic tourist areas in the state, including the Boundary Water Canoe Area Wilderness (BWCAW), and notes that we must balance the value of the proposed project with the intrinsic value of these scenic areas.

Response: Please refer to the response to Comment 56-28 for more information on the project’s potential to cause impacts to scenic areas near the Silver Bay plant.

Comment 31-6: The commenter feels that a new iron nugget industry in Minnesota should be constructed with new equipment that has BACT and recommends that the proposed project be dropped.

Response: The comment is noted. Though the proposed NMC – Furnace 5 Reactivation Project is not newly constructed, the equipment to be reactivated will employ BACT.

Comment 31-7: The commenter believes we should consider the welfare of future generations and their need for a clean environment and support jobs that do not contribute to chronic health problems.

Response: The comment is noted.

32. Comments by Roger Kaspari, P&H MinePro Services. Facsimile letter received June 20, 2005.

Comment 32-1: The commenter believes that NMC has done a great job keeping the environment clean and believes monitoring of the Silver Bay taconite processing facility will continue.

Response: The comment is noted.

Comment 32-2: The commenter notes that the project will bring in temporary and permanent jobs to the community.

Response: The comment is noted. Please refer to the response for Comment 1-1.

Comment 32-3: The commenter urges the MPCA to issue the permits required to implement the proposed project.

Response: The comment is noted.

33. Comments by Chuck Williams, Duluth, Minnesota. Letter received June 20, 2005.

Comment 33-1: The commenter was employed by NMC for a long period of time. The commenter notes the amount of time and effort needed to start Furnaces 11 and 12. The commenter was also a member of a group that planned the restart of Furnaces 5 and 6 in 1984. Furnace 5 was never restarted and the commenter believes it is time for this to happen. The commenter notes that a significant amount of time, situational changes and more stringent environmental requirements have taken place since that first planning effort in the mid-80s.

Response: These comments are noted.

Comment 33-2: The commenter acknowledges the processes involved in implementing changes to a taconite plant and feels that these processes have been satisfied and that permits to implement this proposed project should be issued.

Response: These comments are noted.

Comment 33-3: The commenter was born in northeastern Minnesota and has raised his family in this area and feels that the project review has been thorough. The commenter believes that public health is more than adequately protected and that the environment is properly protected from future harm.

Response: These comments are noted.

Comment 33-4: The commenter notes that everyone living in northeastern Minnesota has an interest in protecting the natural resources of the area, but also believes that these people deserve to prosper economically.

Response: These comments are noted. Please refer to the response for Comment 1-1.

34. Comments by Betty Scofield on behalf of Thomas D. Jamar, Jasper Engineering & Equipment Company. E-mail received June 21, 2005.

Comment 34-1: The commenter is in support of the proposed project.

Response: The comment is noted.

Comment 34-2: The commenter believes that the proposed project will create jobs and provide an annual economic impact of approximately \$30 million dollars.

Response: The comment is noted. Please refer to the response for Comment 1-1.

Comment 34-3: The commenter understands that state-of-the-art control equipment will be installed as a part of the proposed project and believes that NMC is cognizant of environmental issues and works hard to ensure the plant is operating below acceptable limits.

Response: Please refer to the response for Comment 28-2.

Comment 34-4: The commenter encourages the MPCA to grant the permits needed to implement the proposed project.

Response: The comment is noted.

35. Comments by Lenore M. Johnson, Two Harbors, Minnesota. Facsimile letter received June 21, 2005.

Comment 35-1: The commenter believes that the EAW is adequate and that the Air Emission and NPDES/SDS Permits have been satisfactorily researched. The commenter voices support for the proposed project.

Response: These comments are noted.

Comment 35-2: The commenter attended both the NMC open house on May 16, 2005, and the MPCA public information meeting in Silver Bay on June 7, 2005. The commenter is very satisfied with the improvements of technology that are being proposed for this project. The commenter appreciates the need for upgraded permits that reflect current air emissions and water quality best management practices.

Response: These comments are noted.

Comment 35-3: The commenter believes that the modifications proposed for the Mile Post 7 WWTP are needed and that the area will have enhanced safeguards that would only be available as a result of the proposed project.

Response: These comments are noted. Please note that the Mile Post 7 WWTP will not be enhancing its water treatment system; rather, it will be expanding its capacity to treat a greater volume of water in an effort to reduce the levels of water within the Mile Post 7 tailings basin.

Comment 35-4: The commenter believes that the proposed project will improve NMC's economics and allow them to continue to improve pollution controls and modernize the plant.

Response: The comment is noted.

Comment 35-5: The commenter encourages the MPCA to issue the permits needed to implement the proposed project as soon as possible.

Response: The comment is noted.

36. Comments by Robert Bozich, Malton USA. E-mail received June 21, 2005.

Comment 36-1: Malton Electric provides services to NMC and has recently increased its staffing in anticipation of the proposed project. The commenter believes that NMC is an important customer and feels that the proposed project would allow Malton USA to hire even more staff.

Response: The comment is noted. Please refer to the response for Comment 1-1.

Comment 36-2: The commenter believes that NMC has always required the highest quality of products and services to support its stringent environmental policies and plant efficiencies.

Response: The comment is noted.

Comment 36-3: The commenter feels that residents in the area have benefited from the financial support and good stewardship policies of the taconite industry.

Response: The comment is noted. Please refer to the response for Comment 1-1.

37. Comments by Jean Wagner, Northshore Mining Company. E-mail received June 21, 2005.

Comment 37-1: The commenter notes that the remaining taconite companies in this state have made major investments in pollution control technologies.

Response: The comment is noted.

Comment 37-2: The commenter notes that the new equipment for the proposed project is state-of-the-art and that the impact to the environment will be negligible.

Response: Please refer to the response for Comment 28-2.

Comment 37-3: The commenter attended the MPCA's public information meeting in Silver Bay on June 7, 2005, and believes that it is apparent that the proposed project will be well within environmental boundaries.

Response: The comment is noted.

38. Comments by Kris Small, Northshore Mining Company. E-mail received June 21, 2005.

Comment 38-1: The commenter believes that NMC is working hard to provide a clean and healthy environment for her family.

Response: The comment is noted.

39. Comments by John Sandstrom, Northshore Mining Company. E-mail received June 21, 2005.

Comment 39-1: The commenter believes that NMC has always strived to be a good environmental neighbor and is aware of their responsibility to surrounding communities.

Response: The comment is noted.

Comment 39-2: The commenter does not believe that the proposed project will endanger the environment and thinks that necessary permits should be issued.

Response: The comment is noted.

40. Comments by Michael Solem, Northshore Mining Company. E-mail received June 21, 2005.

Comment 40-1: The commenter supports the proposed project.

Response: The comment is noted.

Comment 40-2: The commenter believes that the proposed project will have little detrimental effect to the environment and should be allowed to proceed.

Response: The comment is noted.

41. Comments by Ronald A. Holm, Northshore Mining Company. E-mail received June 21, 2005.

Comment 41-1: The commenter supports the proposed project.

Response: The comment is noted.

Comment 41-2: The commenter has considered the pertinent facts and believes that the project is viable and should be allowed to proceed.

Response: The comment is noted.

42. Comments by Sandra K. Betzler, Northshore Mining Company. E-mail received June 21, 2005.

Comment 42-1: The commenter is in favor of the proposed project.

Response: The comment is noted.

Comment 42-2: The commenter believes the project is environmentally sound and feels that NMC does many positive things for the community.

Response: The comment is noted.

43. Comments by Trent Nicholson, Northshore Mining Company. E-mail received June 21, 2005.

Comment 43-1: The commenter is in support of the proposed project.

Response: The comment is noted.

Comment 43-2: The commenter believes that the project is well within regulatory limits and so implementation of the project should be allowed to proceed.

Response: The comment is noted.

44. Comments by Eric Lewis, Northshore Mining Company. E-mail received June 21, 2005.

Comment 44-1: The commenter is in support of the proposed project.

Response: The comment is noted.

Comment 44-2: The commenter believes that every day the project is delayed is a day closer to the point where it will no longer be feasible.

Response: The comment is noted.

45. Comments by Kevin Berglund, Northshore Mining Company. E-mail received June 21, 2005.

Comment 45-1: The commenter encourages the MPCA to issue the permits necessary to implement the project without delay.

Response: The comment is noted.

Comment 45-2: The commenter notes that the project will only add a small amount of additional capacity, but will be a large improvement from an environmental standpoint because of the air pollution control upgrades that are a part of the project.

Response: The comment is noted. Please refer to the response given for Comment 26-2.

Comment 45-3: The commenter notes that many people have been involved in providing the necessary data to support the project and to develop solutions to overcome obstacles. The commenter believes that their efforts show that the project should be approved.

Response: The comment is noted.

Comment 45-4: The commenter lives and works in Silver Bay, Minnesota, and feels that NMC is an environmentally-friendly part of the community.

Response: The comment is noted.

46. Comments by Sharon Salquist Clark, Silver Bay, Minnesota. Letter received June 21, 2005.

Comment 46-1: The commenter has read the EAW in its entirety and she does not believe that an Environmental Impact Statement (EIS) is needed.

Response: The comment is noted.

Comment 46-2: The commenter expresses her complete support of the proposed project and of the issuance of the necessary permits.

Response: The comment is noted.

Comment 46-3: The commenter is retired, a full-time resident of Silver Bay, Minnesota, and she plans on living the rest of her life there. The commenter is confident that the high quality of life she currently enjoys will not be compromised by the proposed project.

Response: These comments are noted.

47. Comments by Silver Bay Economic Development Authority. Facsimile letter received June 21, 2005.

Comment 47-1: The Silver Bay Economic Development Authority has reviewed materials received from NMC’s open house, held in Silver Bay on May 16, 2005, and would like to comment that this project will have positive economic developments, both in job creation and in capital investment. The Silver Bay Economic Development Authority strongly supports the proposed project.

Response: These comments are noted. Please refer to the response for Comment 1-1.

48. Comments by Marv Harmer, Northshore Mining Company. E-mail received June 22, 2005.

Comment 48-1: The commenter believes that the proposed project is environmentally credible, that it will have minimal negative impact on the north shore of Lake Superior and that it is allowed to move forward quickly.

Response: These comments are noted.

49. Comments by Melanie Baker, Northshore Mining Company. E-mail received June 22, 2005.

Comment 49-1: The commenter believes that the proposed project is environmentally credible and that it should be allowed to move forward.

Response: These comments are noted.

50. Comments Arnold Overby, Beaver Bay, Minnesota. E-mail received June 22, 2005.

Comment 50-1: The commenter is concerned about the increased discharge from the Mile Post 7 WWTP to the Beaver River and fears that there will be a corresponding increase in mineral fibers released to the river and to Lake Superior.

Response: The MPCA staff does not expect the concentration of fibers in the discharge to increase from current levels. Although the revised effluent fiber limit is higher than the current effluent fiber limit, the revised limit is based on past fiber concentrations in the effluent. Statistically, there is no difference between past effluent concentrations and the revised daily maximum limit of 6.8 MF/L. The MPCA staff acknowledges that with an increase in the discharge rate, there will be an increase in the “total count” of fibers released to the Beaver River, and ultimately to Lake Superior.

Comment 50-2: The commenter notes that the proposed mineral fiber limit would be 6.8 MF/L. It is his understanding that there is no established safe level for ingestion of amphibole fibers.

Response: The MDH was consulted during the MPCA’s review of this proposed project. The MDH has determined that the information available for risk of disease following ingestion of asbestos fibers is inconsistent and cannot be used for a quantitative risk assessment. A qualitative examination of the available evidence led to a MDH staff determination that the proposed increase in the effluent fiber limit and the proposed increased rate of discharge are unlikely to result in any health impacts to individuals’ drinking water from Lake Superior. The MDH’s letter to the MPCA is included with this document as Attachment A.

Comment 50-3: The commenter lives in Beaver Bay, Minnesota, and notes that the municipal water supply is about one mile downstream from the mouth of the Beaver River. The commenter wonders what the cumulative impact will be of drinking municipal water after years of an increased fiber discharge.

Response: Please see the response to Comment 50-2 for a discussion of the potential health impacts of drinking water from Lake Superior.

51. Comments by Ed Williams, Nelson-Williams Linings Incorporated. E-mail received June 22, 2005.

Comment 51-1: The commenter has visited China and has noticed the lack of pollution controls on both vehicles and industrial equipment there. The commenter believes we are all affected by this lack of pollution control equipment in third world countries. Allowing the proposed project will ultimately help the environment by satisfying some of the world demand for steel by companies that use reasonable pollution controls.

Response: These comments are noted.

52. Comments by Larry Carlson, Northshore Mining Company. E-mail received June 22, 2005.

Comment 52-1: The commenter supports the proposed project.

Response: This comment is noted.

Comment 52-2: The commenter notes that all of the plant equipment is permitted, but that new permits are required because some of the equipment has been idled so long. The commenter believes there are no surprises with this reactivation and that NMC has shown the project is environmentally safe.

Response: These comments are noted.

53. Comments by Doug Omtvedt, Northshore Mining Company. E-mail received June 22, 2005.

Comment 53-1: The commenter supports the proposed project.

Response: This comment is noted.

Comment 53-2: The commenter states that the proposed will provide new jobs for the area and believes that it should be approved.

Response: The comment is noted.

54. Comments by Mark Christenson, Northshore Mining Company. E-mail received June 22, 2005.

Comment 54-1: The commenter supports the proposed project.

Response: The comment is noted.

Comment 54-2: The commenter believes that the EAW provides all of the necessary information needed to evaluate the project.

Response: The comment is noted.

Comment 54-3: The commenter states that the expansion of the Mile Post 7 WWTP is necessary for continued safe and economical operation of the Mile Post 7 tailings basin.

Response: The comment is noted. Please refer to the response for Comment 1-1.

Comment 54-4: The commenter believes that the 6.8 MF/L effluent fiber limit is still maintaining strict limits that are lower than the drinking water standard for fibers. The commenter also thinks that the 6.8 MF/L would provide an effluent that is lower in fibers than the background concentrations in the Beaver River.

Response: The comment is noted. Data available on background concentrations of fibers in the Beaver River. However, it is limited and was not used by MPCA staff in the limit determination. The 6.8 MF/L limit is based on the performance of the WWTP in removing fibers. Since the limited background data for the Beaver River was not used by MPCA staff in the limit determination, MPCA staff cannot corroborate the commenter's sentiment regarding the proposed discharge and the background concentration of fibers in the Beaver River.

55. Comments by Kirk Ilenda, Oscar J. Boldt Construction. E-mail received June 22, 2005.

Comment 55-1: The commenter pledges his support of the proposed project on behalf of his company and the Iron Mining Association.

Response: The comment is noted.

Comment 55-2: The commenter believes the proposed project is paramount to continue the viability of the iron mining industry and notes that the project will create over 65 jobs in northeastern Minnesota.

Response: The comment is noted. Please refer to the response for Comment 1-1. Information provided to the MPCA by NMC and incorporated into the EAW indicates that the proposed project would result in the direct creation of 27 new jobs.

Comment 55-3: The commenter believes that NMC and other mining companies are helping by using state-of-the-art environmental control equipment. NMC's commitment to reducing air emissions benefits future industrial plant expansions by continually striving and pushing the environmental controls to a higher level.

Response: These comments are noted. Please refer to the response given to Comment 26-2.

Comment 55-4: The commenter feels that there are great benefits for contractors in working on projects with new environmental technology because such projects increase the contractor's awareness of compliance requirements and installing the new equipment allows the contractor to better understand what is required to maintain the equipment to design standards.

Response: These comments are noted.

Comment 55-5: The commenter believes that NMC is acting as a steward of the environment by complying with current environmental standards and utilizing the latest technology.

Response: The comment is noted.

Comment 55-6: The commenter further believes that the economic impact from the proposed project will continue to support the mining industry and the local communities.

Response: The comment is noted. Please refer to the response for Comment 1-1.

56. Comments by LeRoger Lind, Two Harbors, Minnesota. E-mail received June 22, 2005.

Comment 56-1: The commenter is a resident in Lake County and a Board Member of the Save Lake Superior Association (SLSA). The commenter believes that, despite improvements in pollution control equipment, emissions continue to degrade the water and air quality along the North Shore of Lake Superior.

Response: Despite the increase in emissions from the Facility for many pollutants after the reactivation, the fiber air emissions are expected to decrease after implementation of the project. Air dispersion modeling shows that ambient air quality standards will be met and that emission impacts to parks and wildernesses will be minor. The MPCA staff believes the Facility's Air Emission and NPDES/SDS Permits have in the past, and continue to be, protective of both the water quality and air quality.

Comment 56-2: The commenter requests an EIS.

Response: The comment is noted. The MPCA Citizens' Board will decide whether or not an EIS is warranted during a Board meeting held at the MPCA's St. Paul office at 520 Lafayette Road North, St. Paul, Minnesota. The meeting will be open to the public and will provide additional opportunity for citizen participation. All individuals who received the draft EAW and the draft Air Emission and NPDES/SDS Permits and citizens who have provided comment on these documents will be notified of the meeting.

Comment 56-3: The commenter believes that the proposed project is directly connected to the mine progressions that are planned for mines operated by NMC.

Response: As mentioned in Item 12 of the EAW, NMC was scheduled to deplete the mineable reserves in their Main and East Pits near Babbitt, Minnesota, by the end of 2004. In order to continue to meet its taconite production requirements, NMC has planned on extending the Main Pit by approximately 160 acres to the south and the East Pit by approximately 30 acres to the east and south. We have received information from NMC that these mine progressions would be necessary whether or not the proposed project described in the EAW proceeds. Conversations with Minnesota Department of Natural Resources (DNR) staff verified that the planned mine progressions have been fully anticipated.

Two projects are considered to be "connected actions" (as defined in Minn. R. 4410.0200, subp. 9b) if the responsible governmental unit (RGU) - the MPCA, in this case - determines the actions are related in any of the following ways: one project would directly induce the other, one project is a prerequisite for the other or if neither project is justified by itself. In this case, the proposed project is expected to increase mining and can be said to induce a mine progression at some unknown point in the future. However, the

mine progressions that are currently being planned were known to be needed, so the project is not inducing these planned mine progressions. Since the planned mine progressions would be required even if the proposed project does not move forward, they are not considered a prerequisite for the proposed project and the mine progressions can be justified by themselves. Therefore, the planned mine progressions do not meet criteria that would define them as connected actions to the proposed project.

Two or more projects are considered to be phased actions (per Minn. R. 4410.0020, subp 60) if they are to be undertaken by the same proposer that the RGU determines will have environmental effects on the same geographic area and are substantially certain to be undertaken sequentially over a limited period of time. Since the Babbitt mine is located 45 miles away from the Silver Bay plant, the two projects will not have environmental effects on the same geographic area and they are not considered phased actions.

Comment 56-4: The commenter believes that increases in power output at the Taconite Harbor and Silver Bay Power Plants resulting from the proposed project must be assessed.

Response: The EAW compares existing conditions to those anticipated once the proposed project is implemented. NMC currently operates the Silver Bay Power Plant (which is located on NMC's Silver Bay plant site) at full capacity, selling electricity they don't use on the grid. NMC plans on using a portion of the electricity that is currently sold on the grid to power the proposed project and expects the Silver Bay Power Plant can supply all the electricity needed. Since the power plant is already operating at maximum capacity, there will be no need to burn additional coal. Air emissions generated from operating the coal boilers at maximum capacity have been incorporated into the air dispersion modeling for the proposed project and for the modified Air Emission Permit. Therefore, the emissions have been included in the MPCA's assessment of the project. The MPCA is unaware of any NMC plans to purchase electricity from the Taconite Harbor Power Plant to implement the proposed project.

Comment 56-5: The commenter believes that the assumptions, exceptions and methodologies involved in setting emission and discharge limits for mineral fibers, fluorides, mercury, and the Mile Post 7 WWTP maximum discharge flow rate need independent review. The commenter further believes that the permits have been designed to fit the project needs significant review and explanation.

Response: The MPCA staff followed all state and federal rules in the development of discharge limits and/or monitoring requirements for fibers, fluoride, mercury, and total volume at the Mile Post 7 WWTP. The effluent fiber limit of 6.8 MF/L was determined according to Minn. R. 7050.0212, Subp.3 (B) using past performance that is most representative of future performance. A statistical analysis of the applicable past performance was completed in accordance with USEPA's *Technical Support Document for Water-Quality-Based Effluent Control (EPA/505/2-90-001)* and in consultation with USEPA Region 5 staff. Effluent fluoride limits are based on the Beaver River's classification as a class 1B, 2A, 3B, 4A, 4B, 5, and 6 water. Low-level mercury monitoring was continued according to the current MPCA mercury strategy for major discharges. The discharge volume at Mile Post 7 is regulated under 40 CFR 440.14(c)(2). The MPCA staff, in consultation with USEPA Region 5 staff, determined that the discharge of historical net precipitation is allowed under the federal regulations for facilities mining and processing iron ore on the Mesabi Range.

Comment 56-6: The commenter believes that the logic involved in the use of reductions in emissions of PM and fibers emitted from equipment not directly related to Line 5 expansion to offset increases in emissions from equipment directly related to the reactivation needs extensive review.

Response: Established federal procedures per the USEPA’s Prevention of Significant Deterioration (PSD) program were used to evaluate estimated emissions for the proposed project. With this approach, increment analysis is evaluated by considering emission increases and decreases on a facility-wide scale. This approach is used for every project proposal that triggers PSD review.

Comment 56-7: The commenter believes an EIS is needed to explore the health risks of mineral fibers related to the mining and crushing activities at the NMC mines in Babbitt, Minnesota.

Response: The increased production at the Babbitt mine will be managed through the existing Air Emission Permit for the mine; an amendment to that permit will not be needed to accommodate the proposed project. Operations at the mine include crushing, loading and unloading of ore, and travel on unpaved haul roads. Though coarse crushing is believed to be the primary process whereby fiber particles may be created in notable quantities at the mine, the greatest concern with regards to fibers are emissions associated with the fine crushing and grinding operations which take place at the Silver Bay taconite processing plant. Potential emissions from processes at the Silver Bay plant have been taken into consideration during the air dispersion modeling. See the response to Comment 3-1 for more information.

Though production at the mine will increase by 33 percent as a result of the proposed project, the fabric filter on the coarse crusher removes an estimated 99 percent of the PM and PM smaller than ten microns (PM₁₀) emissions (which includes fiber air emissions), so actual emissions are expected to increase by approximately 4.59 tons of PM per year and 2.29 tons of PM₁₀ per year which is not a significant increase in air emissions.

Dust emissions from loading and unloading ore at the mine are controlled by spraying and also from the natural moisture content of the rock. After control, actual emissions from the loading, unloading and travel on unpaved road combined are expected to increase by approximately 60.48 tons of PM per year and 39.59 tons of PM₁₀ per year and though these are larger air emission increases, few fiber emissions are believed to be released from these activities.

Considering the relatively remote location of the mine (as compared with the fiber emissions released at the Silver Bay plant, which is within one mile of most of the city of Silver Bay) and the other information we have about the mine operations, the MPCA do not believe that there is potential for significant health risks from increased mining activities.

Comment 56-8: The commenter believes that the level of application of BAT and BACT is not addressed adequately in the EAW or in the Air Emission and NPDES/SDS Permits. Variables such as equipment location in the process flow, intensity of application and application configuration need to be addressed and reviewed independently. The BAT selection process also needs review and explanation. The commenter believes that each of these issues deserves full environmental review in view of the public health risk involved with emissions from this plant.

Response: Environmental review requires consideration of the project as a whole, even when it is a complex project involving multimedia components. Only by reviewing it as a whole can the RGU gain a comprehensive idea of the potential environmental impacts. The BACT review conducted for the modified Air Emission Permit followed established federal guidance.

BAT for the removal of amphibole fibers was determined by an independent consultant, Black and Veatch Engineers of Kansas City, Missouri, hired by the MPCA prior to issuance of the NPDES/SDS

Permit for the Mile Post 7 tailings basin in the 1980s. Black and Veatch conducted a review of technical literature dealing with treatment technologies that had been applied to the removal of asbestiform fibers from water or that had been applied to the removal of pollutants of similar size, shape, or chemical characteristics that would be transferable to the removal of asbestiform fibers. Treatment technologies found to be applicable included chemical coagulation and flocculation, sedimentation, and filtration. Of these technologies, BAT was determined to be chemical flocculation followed by dual-media filtration, similar to the treatment being employed at drinking water plants in Duluth, Two Harbors, and Silver Bay. This BAT was to be applied at end-of-pipe, or prior to the discharge from the Mile Post 7 tailings basin. A review of asbestiform removal technologies completed today, some 20 years after the original BAT determination, would provide similar results.

Comment 56-9: The SLSA does not appreciate the manner in which multiple permits for associated projects have been issued in the same timeframe, allowing little time for public comment, and believes that the large amount of technical information by itself is good reason for an EIS on this and related projects.

Response: The comment is noted. The public noticing of the EAW and permits at one time provides a more complete picture of the project and its potential impacts. Reviewers can see directly the permit limits and conditions under which the proposed facility will operate.

Though a great quantity of technical input has been needed to review this proposed project, the MPCA has carefully documented its review processes. During the public comment period for the draft EAW and draft permits, the public was given access to many key documents, including the Technical Support Document (TSD) for the Air Emission Permit, the Fact Sheet for the NPDES/SDS Permit and the Air Risk Analysis Summary sheet. These items were available for review at the MPCA St. Paul and Duluth offices, at the Silver Bay, Two Harbors and Duluth Public libraries or by accessing the documents electronically on the internet. Further, staff contact information was included on everything mailed or published and citizens were encouraged to contact the MPCA with any questions. The public information meeting held by the MPCA on June 7, 2005, in Silver Bay also provided an opportunity for questions. Lastly, the public can view MPCA files in person if they call staff and make an appointment.

Allowing RGUs to have additional time to review technical documents is not one of the factors to be considered when determining whether a project has the potential for significant environmental effects and so this would not be a valid reason for requiring an EIS.

Comment 56-10: The commenter believes that reactivation of the concentrator sections to produce concentrate for the proposed Mesabi Nugget project is an indication of the direct relationship of this project with other phases.

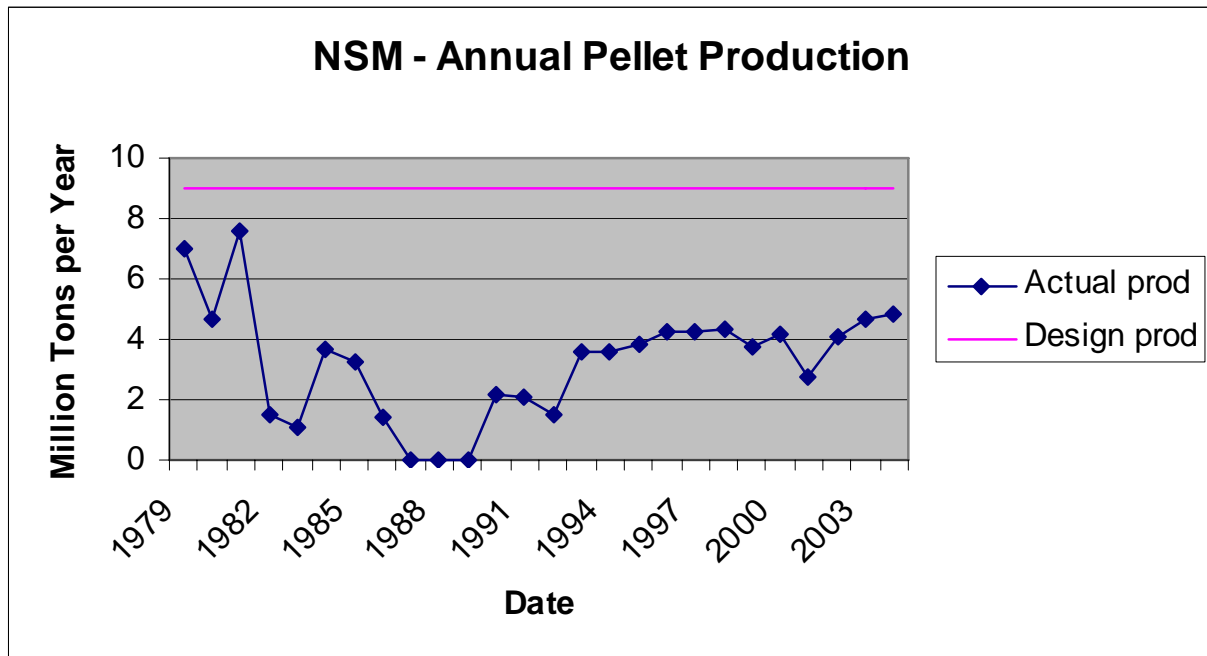
Response: The proposed Mesabi Nugget project was exempted from environmental review under legislation passed in 2004 (Laws of Minnesota Chapter 220). It is the MPCA's understanding that the concentrate can be (and has been previously) sold for a variety of purposes. The list of other potential buyers of NMC's concentrate includes:

- other Cliffs-managed mines in North America;
- other taconite producers in North America;
- steel producers in North America who use concentrate as sinter feed;

- the coal industry for utilization in its coal washing process (NMC currently sells concentrate to two coal supply companies for this purpose); and
- the cement industry for production of high density concrete.

Comment 56-11: The commenter does not understand how low production of taconite pellets is related to NMC’s failure to remove adequate wastewater from the basin in the past 25 years and he states that increasing pollution to reduce pollution is not an acceptable strategy since impacts are cumulative.

Response: The consumption of water in the industrial process is directly correlated with production levels. Therefore, as production increases, the volume of water consumed in the process increases. The Mile Post 7 tailings basin was designed for full production (9.0 million tons of pellets per year). At 65 percent of full production (approximately 6 million tons per year), NMC has estimated that the taconite process consumes water at rates equal to the flow into the basin (process water plus precipitation). At production levels below 65 percent, water consumption becomes appreciably lower than the flow rates into the basin. Reduced production levels also reduce the volume of tailings available for ongoing construction of the required dams and dikes. The WWTP was designed to remove between 4.0 and 5.0 million gallons per day (MGD) of water from the basin. At the time of the design, it was believed that these discharge flow rates would maintain basin water levels, taking into account precipitation and estimated production levels. Below is a graph of the annual pellet production from 1979 through 2004, compared to the design, or full, production rate.



As can be seen in the graph, annual production each year has been below full production, and more importantly, has been below the 65 percent production value for all but two years during this time period. This time period also includes three years of no production. Therefore, there has been significant accumulation occurring within the basin that the current WWTP simply cannot remove under current conditions. Assuming production increases as proposed and remains at the proposed levels, the future

accumulation of precipitation will be reduced based on the water balance, but the need to remove existing accumulated water will continue. It should also be noted that the discharge volume from the tailings basin is in accordance with federal regulations, specifically 40 CFR 440.14(c)(2), for this industry type.

Comment 56-12: The commenter believes that an alternative strategy to remove accumulated water from the Mile Post 7 tailings basin should be part of an EIS.

Response: The comment is noted. Please refer to the response given to Comment 56-2.

Comment 56-13: The commenter believes that amphibole fiber discharge into Lake Superior needs to be reduced rather than increased for protection of public health.

Response: Please see the response to Comment 50-2 for information on potential impacts to public health.

Comment 56-14: The commenter believes that the effect of increased emission of amphibole asbestos fibers from the Furnace 5 stack on the fiber levels measured in the ambient air of surrounding communities must be established. The commenter further states that the USEPA has warned of the danger of exposure of children to amphibole fibers in a recent study in El Dorado Hills, California, and believes that the ferroactinolite fibers emitted at NMC's Silver Bay, Minnesota, plant are likely more potent as a cancer causing agent than the tremolite fibers identified there.

Response: See Responses to Comments 64-11, 64-13, and 64-21.

Comment 56-15: The commenter notes that there is a need for extra capacity at the WWTP as a result of accumulated precipitation in the basin. This problem should be corrected with or without the proposed reactivation of equipment at the Silver Bay plant and the combined effects of the reactivation and what action to take with regards to the excess water in the tailing basin should be evaluated in an EIS.

Response: Since the two components have been proposed in one application, they are being considered together at this time. Please refer to the response to Comment 56-2 for more information on the how a decision on the need for an EIS will be made.

Comment 56-16: The commenter states that increasing the discharge of hazardous pollutants into a protected OIRW is not a desired outcome of this project.

Response: The commenter is not specific with regard to which parameters are of concern. Please refer to the responses given to Comments 56-13 and 56-19 for information on the most commonly referenced parameters.

Comment 56-17: The commenter believes the impact of the discharges is cumulative with respect to public drinking water.

Response: Please refer to the responses given to Comments 56-13 and 56-19 for information on the most commonly referenced parameters. The MPCA has determined that the Permittee will comply or will undertake the schedules of compliance to achieve compliance with all applicable primary and secondary drinking water standards in the receiving water.

Comment 56-18: The commenter states that the MPCA’s argument for nondegradation review with respect to mercury makes the case that a deactivated furnace constitutes existing production capability. Since the furnace is currently incapable of production without major repairs, once it is repaired it should be classified as a new source and should trigger a nondegradation review.

Response: For this situation, the re-start of Furnace 5 and the concentrator sections represents existing equipment that is within the facility production capacity listed in the current NPDES/SDS Permit. The MPCA believes the increased rate of production associated with the existing equipment covered by the current permit is an appropriate interpretation and application of Minn. R. 7052.0310, subp.5, which exempts a nondegradation demonstration in this situation. Contrary to the commenter’s statement, no changes from a wastewater standpoint are required in order to re-start the idled equipment.

Comment 56-19: The commenter states that the amount of fibers, mercury and fluoride flowing into Lake Superior will increase as a result of the proposed project regardless of results of numerical manipulation in the EAW. The commenter notes that these are hazardous substances and the project should be reviewed independently in an EIS since the discharges will have a significant effect on children’s health as they age.

Response: Please see the response to Comment 50-1 regarding the discharge of fibers. On a mass basis, mercury and fluoride will increase as compared to current discharge volumes, but the overall mass loading is below the previously allowed mass loading based on the nondegradation flow of 8.64 mgd. On a concentration basis, mercury is expected to remain the same and to not increase with the increased discharge rate. It should also be noted that mercury concentrations in the discharge have been well below the Great Lakes Initiative water quality standard of 1.3 ng/L. The fluoride concentration will actually decrease over time due to the installation of the fluoride pretreatment system prior to the tailings basin. MPCA staff believes the health impacts to all persons, including children, as a primary consideration are reflected in the drafting of the NPDES/SDS Permit and subsequent effluent limits.

Comment 56-20: The commenter believes that the existing fiber effluent limit of 1 MF/L should remain in effect until an unbiased scientific study shows that current and future cumulative emissions will not be harmful to human health.

Response: Please refer to the response to Comment 50-2.

Comment 56-21: The commenter believes that the WWTP capacity could be expanded to reduce fiber discharge levels with the application of greater levels of existing BAT.

Response: Please refer to the response given to Comment 56-8.

Comment 56-22: The commenter believes that the assumptions, exceptions and methodology used in the statistical analysis to arrive at the 6.8 MF/L need to be analyzed independently in an EIS.

Response: The statistical analysis used in the fiber limit determination was completed in accordance with USEPA’s *Technical Support Document for Water-Quality-Based Effluent Control (EPA/505/2-90-001)* and in consultation with USEPA Region 5 staff. Further discussion surrounding the statistical analysis can be found in the responses to Comments 12-1 through 12-6.

Comment 56-23: The commenter believes that increasing the effluent fiber limit could easily be considered backsliding.

Response: The MPCA staff believes its determination that exception E under Section 402(o)(2) of the Clean Water Act, as referenced in the state anti-backsliding rules (Minn. R. 7050.0212, subp.3) is applicable to the effluent fiber limit at the discharge of Mile Post 7 WWTP.

Comment 56-24: The commenter notes that the fiber discharge into the Beaver River has not been rigorously correlated with turbidity data that is proposed for a monitoring surrogate. The EIS should be used to establish this correlation. If the correlation were non-linear, more frequent monitoring would be required.

Response: It is true that there has not been an established correlation between effluent turbidity and fiber levels. The revised effluent fiber limit is based on past performance of the WWTP that operates within the established BAT limits for turbidity, which correlates to the best solids removal that the existing filtration technology can accomplish. The variability of the fiber levels that occur within the BAT operational turbidity limits has been accounted for in the revised limit. Since there is no available real-time process control equipment for fibers, the MPCA staff believes that controlling and monitoring solids (turbidity) is a reasonable and practical approach to providing a real-time process feedback loop to assist in maximizing fiber removal.

The monitoring frequency for fibers is consistent with the current NPDES/SDS Permit. The Permit states that noncompliance with the turbidity operational limits (0.1 to 0.4 NTU) may be just cause for additional fiber monitoring. The MPCA staff has determined that NMC has been in compliance with the turbidity operational limits. The MPCA staff also believes that the current monitoring frequency is adequate to verify compliance. Therefore, increased fiber monitoring is not justified at this time. It should be noted that the MPCA has the authority to request more frequent fiber monitoring, if it is deemed necessary.

Comment 56-25: The commenter believes that expanding the illegal discharge of fluoride into Lake Superior in order to achieve legal discharges in 25 years is a good subject for an EIS. The commenter also feels that the emission impacts are cumulative.

Response: Compliance with the primary drinking water standard is required within 5 years from the date of permit modification. It is estimated that the facility will be in compliance with the secondary drinking water standard within 13-15 years, based on the designed operation of the fluoride pretreatment system (as discussed in the response to Comment 61-17), and increasing the design capacity of the Mile Post 7 WWTP. The existing compliance schedule for meeting the secondary drinking water standard for fluoride was not changed during this permit modification. Per Minn. R. 7001.0190, it is not open for comment at this time.

Comment 56-26: The commenter states that amphibole fibers, particularly ferroactinolite fibers, have been shown to be hazardous to human health when inhaled. EPA scientists at the EPA Research Laboratory in Duluth, Minnesota, have published many papers with the results of scientific investigation that proves this point. The proposed project would increase the number of fibers in the air and the surrounding community despite the manipulation of numbers to show that it would not. Unbiased research to establish risks involved would be much preferred to expensive public relations. The level of BAT is the issue.

Response: While the MDH and MPCA (agencies) recognize that exposure to asbestiform fibers of all types imparts a risk to humans, the MPCA staff disagrees with the commenter's assertion that the proposed project would increase the number of fibers in the air and surrounding community. The Facility

will be required under the proposed permit to implement upgrades of emission controls (i.e., BACT) that will assure no net increase in fiber emissions – even with the expanded taconite production that will result with the reactivation of Furnace 5.

The MPCA staff is unsure what the commenter means by “manipulation of the numbers”, but fiber emissions calculations done by MPCA staff showed that the installation of the additional control equipment will achieve the goal of no net increase in current fiber emissions.

To properly account for the amphibole fiber emission change for the Furnace 5 Project, the MPCA staff evaluated the current situation (Case A, in Attachment 4 of the air permit technical support document), the ultimate situation (Case B), and the transition until 12/31/2006 (Case C). In Case C, idled units are to be added into production operation and a number of multiclones are to be replaced by cartridge filters, resulting in 32 percent reduction in stack emission of amphibole fibers. Ultimately (Case B), a reduction of 84 percent in stack emission of amphibole fibers is expected when all multiclones will be replaced by cartridge filters, as shown in the cited Attachment 4. While the number of stacks involved in production increases from Case A to Case C to Case B, stack emissions of amphibole fibers decrease. In addition, a Case D, in which only two concentrators are reactivated, was assessed, and a reduction of approximately 17 percent was calculated.

Comment 56-27: The commenter notes that the proposed mercury Total Maximum Daily Load (TMDL) study for Minnesota indicates a 93 percent reduction in mercury emission from the taconite industry. An EIS is required to establish how this will be accomplished at NMC, both with and without this project.

Response: There are no state or federal air standards for mercury emissions for the mining sector at this time. The proposed statewide mercury TMDL is in draft form at this time and has completed a public notice period. Proposed reductions would be required statewide, not just for the taconite industry. The MPCA held public information meetings for the TMDL as well. There will be an extensive implementation planning effort that will occur as soon as the mercury TMDL is approved by USEPA. Since the TMDL process is designed to establish how needed reductions will be made, it is most appropriate to address the commenter’s concern through that regulatory process once the TMDL has been finalized. Please contact Howard Markus of the MPCA at (651) 296-7295 for the status of the mercury TMDL.

Comment 56-28: The commenter believes that the cumulative impacts of pollutants from the proposed project and from the other taconite plants on the Iron Range must be evaluated as part of an EIS due to the risk to public health across the region. This proposed project is tied directly to expansions of four other operations. The other taconite plants emit similar pollutants so the connection is obvious.

Response: The fact that several projects proposed for northeastern Minnesota may emit similar pollutants does not meet the criteria of a connected action as defined in Minn. R. 4410.0020, subp. 9b.

Item 29 of the EAW considers, in a quantitative and qualitative manner, the potential cumulative impacts that the project may have on air, water, traffic and on visual impacts on city, county, and regional scales. With regard to cumulative impacts between the proposed project and other mining projects proposed for northeastern Minnesota, concerns of regulatory authorities have centered on long-range transport of pollutants that may cause acid deposition or visibility impairments in the national parks and wilderness areas in the vicinity of the Silver Bay taconite processing facility. As described in Items 23 and 29 of the EAW, the model-generated atmospheric concentrations of SO₂, nitrogen dioxide (NO₂) and PM₁₀, from the proposed Facility are below the applicable Significant Impact Levels (SILs) and below the Deposition

Analysis Thresholds for four nearby Class I areas: the BWCAW, the Rainbow Lakes Wilderness, Voyageurs National Park, and Isle Royale National Park. These results indicate there is reasonable assurance that cumulative impacts will not be a concern and that emissions associated with the proposed project are not expected to result in cumulative acid deposition impacts.

The proposed project has undergone a visibility analysis as described in Item 23 of the EAW. For decision-making purposes, the FLMs have identified the visibility thresholds of five and ten percent as a screening threshold with regard to a project's modeled potential impact. When the modeled visibility results were compared to existing background conditions, there were no exceedences of the five or ten percent visibility thresholds.

The proposed project will add a small amount (a maximum of 1.5 additional pounds per year) of mercury to the air through the reactivation of the Furnace 5 pelletizer. Many lakes and streams in northeastern Minnesota are designated as impaired for mercury (i.e. there are fish consumption advisories due to mercury contamination), and the MPCA has developed a statewide mercury TMDL that, when implemented, is intended to reduce air sources of mercury by 93 percent from 1990 levels. The issue of regional mercury impacts, then, will be addressed through this process. Please refer to the response for Comment 56-27 for more information.

The commenter specifies concerns about potential cumulative impacts from a public health perspective. This can be interpreted to mean a concern about the potential accumulation of fibers in the air and water. Production at the Babbitt mines will increase, but the crusher at the mine is equipped with a fabric filter, so actual air emissions from coarse crushing will be minor. Most of the fiber emissions are believed to be released during fine crushing and grinding, which takes place at the Silver Bay plant. Potential fiber emissions at the Silver Bay plant are expected to decrease. See response to Comment 56-26.

The reader is encouraged to review Items 18 (water), 23 (air) and 29 (cumulative impacts) for more detailed information on potential cumulative impacts. Based on what is known of the proposed project and a comparison of the modeled air emissions to various screening thresholds, there is no indication that the project will result in significant cumulative impacts. The MPCA has relied on input from other authorities, such as the DNR, the MDH, the USFS, and the NPS. None of these entities has indicated a concern regarding cumulative impacts from this proposed project or has requested a more detailed cumulative impact analysis.

Completion of an EIS will be required for three of the other mining projects proposed for northeastern Minnesota: PolyMet, Minnesota Steel Industries, and Ispat Inland. The scoping EAWs for the PolyMet and Minnesota Steel Industries projects each include a comprehensive cumulative impact analysis. Should these analyses identify potential for significant cumulative impact the matter will be evaluated and managed through the EIS process for those projects.

57. Comments by Lorie Skudstad on behalf of David J. McMillan, Minnesota Power Company. E-mail received June 22, 2005.

Comment 57-1: The commenter supports the proposed project.

Response: The comment is noted.

Comment 57-2: The commenter notes that air emissions from the proposed facility will be controlled using BACT and will result in an overall decrease in plant-wide air emissions. The commenter also states that the MPCA's air toxics risk evaluation determined that the proposed permit limits are acceptable.

Response: Please refer to the response given for Comment 28-2.

Comment 57-3: The commenter believes that the effluent discharge to the Beaver River will not degrade water quality in the Beaver River or in Lake Superior. The commenter also notes that the MPCA has said that the 6.8 MF/L fiber effluent limit is not likely to have any adverse impact on the public's health.

Response: Please refer to the response given to Comment 3-2.

Comment 57-4: The comment believes that the proposed project represents a significant economic development opportunity for northeastern Minnesota while providing appropriate emission controls and upgrades. The commenter urges the MPCA to issue the permits necessary to implement the proposed project.

Response: These comments are noted. Please refer to the response for Comment 1-1.

58. Comments by Scott Gischia, Northshore Mining Company. E-mail received June 22, 2005.

Comment 58-1: On Page A-24 of the modified Air Emission Permit, the third box in Section C requires opacity testing on one stack in Group 015. Group 015 is comprised of four wet dust collectors and the plumes from these stacks have inherently high moisture levels. Opacity measurements are not possible where stacks have a visible steam plume. In the Air Emission Permit issued to NMC in February 2004, opacity measurements were not required for Group 015 for this reason. NMC requests that the opacity performance test requirement cited for Group 015 in the modified Air Emission Permit be removed.

Response: The commenter is correct. The requested change has been made in the modified Air Emission Permit.

59. Comments by Donna Dargontina, Northshore Mining Company. E-mail received June 22, 2005.

Comment 59-1: The commenter is in favor of the proposed project.

Response: The comment is noted.

Comment 59-2: The commenter believes the project is a safe endeavor and is beneficial to people in the state of Minnesota.

Response: The comment is noted.

60. Comments by Nancy Viola, Northshore Mining Company. E-mail received June 22, 2005.

Comment 60-1: The commenter is in support of the proposed project.

Response: The comment is noted.

Comment 60-2: The commenter believes that NMC is an environmentally responsible corporate citizen and notes that the proposed project will require the installation of new air pollution control equipment which will reduce plant air emissions.

Response: The comment is noted. Please see the response for Comment 26-2.

Comment 60-3: The commenter also notes that the proposed project will boost the local economy and create new jobs directly and indirectly.

Response: The comment is noted. Please refer to the response for Comment 1-1.

61. Comments by LeRoger Lind, Two Harbors, Minnesota. E-mail received June 22, 2005.

Comment 61-1: The commenter is a resident in Lake County and Board Member of the Save Lake Superior Association (SLSA). The commenter believes that the design of the equipment for the proposed project has influenced the emission levels being proposed in the NPDES/SDS Permit. Each analysis is based upon exceptions and assumptions that lead to emission standards that fit the design and economics of the project. The commenter believes that revisions of the effluent fiber and fluoride limits are two examples of the NPDES/SDS Permit fitting the project rather than the project fitting the standards.

Response: A possible revision to the existing fiber limit was a potential situation that was addressed in prior permits. The initial NPDES/SDS permit that addressed the WWTP at Milepost 7, and all subsequent reissuances and modifications have included a provision addressing the potential for a limit modification of the total amphibole fiber limit if the MPCA determines that limit exceedences have not been the result of failure by the Permittee to operate or maintain the treatment system. MPCA staff made the determination that the Permittee was operating and maintaining the treatment system adequately and could not consistently meet the current 1 MF/L limit. The current 1 MF/L limit was based on the application of BAT at drinking water plants, not specifically on actual performance of the Milepost 7 WWTP. The revised limit is based on actual operating data of BAT at Milepost 7. This process that MPCA went through to establish the revised limit is consistent with the process for establishing technology-based limits throughout the regulated community.

Fluoride limits were determined in accordance with Minn. R. ch. 7050.0221. Limits based on the secondary drinking water standard for fluoride are included consistent with the current NPDES/SDS Permit. The secondary drinking water standard for fluoride is for the protection of cosmetic effects (tooth discoloration). The modified permit includes limits based on the primary drinking water standard for fluoride. The primary drinking water standard provides protection of human health (skeletal fluorosis). Although the length of the compliance schedule may seem excessive, this is a very unique situation. The tailings basin contains many billions of gallons of water that are currently above the permitted fluoride effluent limits. The Permittee has installed a fluoride pretreatment system to remove the majority of the fluoride prior to the tailings basin. Fluoride treatment at the “end-of-pipe” prior to discharge from the basin is not feasible due to the relatively low fluoride concentrations of around 12 milligrams per liter (mg/L). A review of USEPA’s *NRMRL Treatability Database* shows that there is no available full-scale treatment technology capable of meeting the effluent fluoride limits given an influent concentration of 12 mg/L.

Comment 61-2: The commenter states that development of alternatives in the design of equipment that would reduce pollutant discharges rather than increase them have not been presented or made part of the NPDES/SDS Permit requirements.

Response: The Facility modifications do not trigger a nondegradation demonstration, therefore alternatives were not considered during this permit modification. Alternatives have been incorporated in previous NPDES/SDS Permit actions. Examples of alternatives that have been implemented include the installation of processes and equipment to obtain compliance with the fluoride limits, the determination of BAT for the removal of suspended solids (and ultimately fibers), and the addition chemical flocculant for turbidity reduction prior to the wastewater treatment plant.

Comment 61-3: The commenter notes that there is no requirement for a cumulative impact analysis in the NPDES/SDS Permit and believes that there should be. The commenter believes that permitting the ever-increasing discharge of these pollutants will pose a serious long-term public health danger to residents and visitors consuming the water of Lake Superior.

Response: Please refer to the responses given to Comments 50-2 and 56-19 for information on the most commonly referenced parameters.

Comment 61-4: The commenter notes that the water intake for the city of Duluth, Minnesota has been analyzed and shows evidence of fibers. The commenter believes the NPDES/SDS Permit should contain provisions for the analysis of the drinking water in the cities of Silver Bay, Beaver Bay, Two Harbors, and other cities along the north shore of Lake Superior on a regular basis for a long term period of time. The commenter also believes that local schools should be added to the list of sites monitored.

Response: The MPCA staff contacted the MDH regarding historical fiber analysis completed at drinking water facilities in Duluth, Two Harbors, and Silver Bay. The MDH staff indicated that fiber analysis at these drinking water plants was discontinued in the early 1990's due to consistently low fiber results. While there will be an increase in the "total count" of fibers released to the Beaver River, and ultimately to Lake Superior, the MPCA staff does not expect the concentration of fibers in the discharge to increase from current levels. Although the revised fiber limit is higher than current limit, the revised limit is based on past fiber concentrations in the effluent. Statistically, there is no difference between past effluent concentrations and the revised daily maximum limit of 6.8 MF/L. Therefore, the MPCA staff sees no reason to request additional monitoring, beyond the monitoring currently required by MDH, of drinking water in the cities of Silver Bay, Beaver Bay, Two Harbors, and other cities along the north shore of Lake Superior.

Comment 61-5: The commenter references a study by Philip M. Cook, Ph.D. at the USEPA Research Laboratory in Duluth from 1983 indicates that some ingested amphibole asbestos fiber penetrate the gastrointestinal lining and lodge there indefinitely. The commenter notes that further research is needed to determine if this would cause stomach cancer and questions why the NPDES/SDS Permit does not contain provisions requiring research to determine the risk associated with ingesting fibers.

Response: The study referenced above does state that there is a small fraction of fibers that can penetrate the gastrointestinal lining, but there was no measurements taken to support or deny the notion that those fibers lodge there indefinitely. Although further research may be needed on this subject, the NPDES/SDS Permit is not the proper tool for providing this research.

Comment 61-6: The commenter feels that the MPCA is uninterested in the use of precautionary measures as a public health policy and states that SLSA does not share this view. The commenter believes that irreversible health damage, especially to young children unable to afford bottled and filtered water, is a good reason for precautionary measures. The commenter also feels that this is also good reason for further unbiased scientific research by the MDH and the taconite mining industry.

Response: The MPCA staff believes that a sound technical approach was used in the determination of the revised effluent fiber limit, which is based on the application of BAT. The MDH has concluded that the revised limit and the proposed increased rate of discharge will not significantly increase risk to human health (see response to Comment 3-2).

Comment 61-7: The commenter questions why the Mesabi Nugget Pilot Plant is being discussed in the NPDES/SDS Permit application. The commenter wonders if that equipment will be removed from the NMC Silver Bay plant.

Response: To clarify, the Iron Nugget Pilot Demonstration Research and Development Plant referenced in the EAW and modified Air Emission and NPDES/SDS Permits is located at NMC's Silver Bay plant and was developed to test nugget technology; the proposed Mesabi Nugget plant will be located in Hoyt Lakes, Minnesota, and will produce nugget for sale.

In order to demonstrate modeled compliance with air quality standards, the Iron Nugget Pilot Demonstration Research and Development Plant must be rendered inoperable to accommodate the proposed project. However, the permits do not require that the equipment be removed from the site. If the equipment is ever removed from the site, all references to it will be eliminated from the NPDES/SDS Permit at the permit reissuance or modification following equipment removal.

Comment 61-8: The commenter asserts that accumulated net precipitation from years 1985-2004 is being used as an excuse for illegal discharge of tailings basin effluent into Lake Superior. The commenter believes that NMC both inherited and compounded the problem by not increasing the WWTP discharge capacity long ago. The commenter questions why the NPDES/SDS Permit doesn't require the reduction of hazardous water pollutants rather than allowing the increase of these pollutants. The commenter states that the technology and equipment are available.

Response: The discharge volume from Mile Post 7 is permitted in accordance with 40 CFR 440.14 (c)(2). In addition, EPA staff determined that the discharge of accumulated precipitation is allowed according to 40 CFR 440.14 (c)(2). The limits and monitoring requirements in the NPDES/SDS Permit are in accordance with state and federal regulations for the discharge location and industry type.

Comment 61-9: The commenter believes that increasing illegal discharge to attain legal discharge is a recurring theme in recent permit applications from the taconite mining industry. The commenter states that reduction in pollutants should be part of the permitting process in this surge of economic activity and that turning more clean water into dirty water should not be an outcome.

Response: We attribute the commenter's statements to the MPCA staff approach to fibers and fluoride in the discharge. The MPCA staff believes that a sound technical approach was used in the determination of the effluent fiber limit, which is based on the application of BAT. The MDH has concluded that the revised effluent fiber limit and the proposed increased rate of discharge would not significantly increase

risk to human health. Reductions in the concentration of fluoride in the discharge will occur due to the installation of a fluoride pretreatment system on the blowdown water from the Furnace 5 pellizer air emission control equipment. Please refer to the response to Comment 56-19 for more information.

Comment 61-10: The commenter states that the fibers of concern for this permitting activity are amphibole asbestos fibers, particularly the ferroactinolite type. They are generated by the taconite mining operation at the Peter Mitchell Mine in Babbitt, Minnesota, among other locations on the Iron Range. Chrysotile fibers are associated with industrial and automotive applications and come from a different geographical location. This definition should be changed or clarified.

Response: The definition for fibers (page 48 of draft NPDES/SDS Permit) states that fibers “are chrysotile and amphibole mineral particles with 3-to-1 or greater aspect ratios”. This definition is consistent with fiber analysis and reporting requirements listed in the limits and monitoring section of the draft NPDES/SDS permit. Effluent limits are included for the amphibole fibers, but the fiber analysis provides results for all fiber types meeting the appropriate aspect ratios. The MPCA staff believes the definition for fibers is appropriate.

Comment 61-11: The commenter asks the MPCA to explain the probability of having two of three measured values of fibers above intervention limits in one test sequence. A single high value should be sufficient and more than three samples should be required.

Response: Please note that the portion of the NPDES/SDS Permit related to intervention limits was not a provision that was proposed for revision or modified as part of this permit action. Per Minn. R. 7001.0190, it is not open for public comment at this time. It will be open to public comment once the entire NPDES/SDS Permit has expired and is in need of reissuance. The current NPDES/SDS Permit is set to expire on September 30, 2008.

Comment 61-12: The commenter also believes that the timing between the samples should be noted and compared with the variability of turbidity.

Response: Please refer to the response given to Comment 61-11.

Comment 61-13: The commenter asks how long it takes to have the samples analyzed by TEM methods and wonders how this is correlated with corrective action.

Response: Please refer to the response given to Comment 61-11.

Comment 61-14: The commenter states that water sampling data from the Mile Post 7 WWTP discharge shows that ferroactinolite fibers are 20 to 30 percent or more of the total amphibole fibers measured. In many cases these levels are higher than those of the cummingtonite-grunerite that is referred to as the fiber predominantly associated with the Permittee’s tailings. The commenter believes that total amphibole fiber levels must be used in comparisons with the 3.3 MF/L at these and other monitoring stations. The commenter states that these are dangerous fibers and their discharge must be controlled and reduced.

Response: Please refer to the response given to Comment 61-11.

Comment 61-15: The commenter notes that nugget equipment is to be removed from NMC’s Silver Bay plant and he believes that this demonstrates that the proposed Mesabi Nugget plant is to replace this Iron Nugget Pilot Demonstration Research and Development Plant equipment.

Response: In order to demonstrate modeled compliance with air quality standards, the Iron Nugget Pilot Demonstration Research and Development Plant must be rendered inoperable (though not necessarily removed from the site). The MPCA is unaware of any connection of this action to the proposed Mesabi nugget project. The Mesabi Nugget project is an effort to show a commercial sized demonstration of the technology that was tested at the development plant (e.g. a pilot plant).

Comment 61-16: The commenter believes that a plan for demonstrating the statistical relationship between turbidity and fiber level data should be included in this permit. Otherwise, he believes the turbidity measurements would be of little value as a surrogate for fiber levels.

Response: Although there has not been an established correlation between effluent turbidity and fiber levels, the turbidity measurements do provide value. The revised effluent fiber limit is based on past performance of the WWTP that operates within the established BAT limits for turbidity, which correlates to the best solids removal that the existing filtration technology can accomplish. The variability of the fiber levels that occur within the BAT operational turbidity limits has been accounted for in the revised limit. Since there is no available real-time process control equipment for fibers, the MPCA staff believes that controlling and monitoring solids (turbidity) is a reasonable and practical approach to providing a real-time process feedback loop to assist in maximizing fiber removal.

Comment 61-17: The commenter asks if the “end of pipe” fluoride treatments reduce the amount of fluoride loading to the tailings basin and, if so, by how much.

Response: The Permittee has not instituted “end-of-pipe” fluoride treatment (e.g. end-of-pipe reference here is associated with WWTP location) due to the reasons listed in the response to Comment 61-1. The Permittee has constructed and does operate a fluoride treatment system to treat blowdown water from the air emission controls at the pelletizing furnaces, which is the primary stream for fluoride loading to the tailings basin. The treatment system is designed to reduce the blowdown water fluoride concentrations to 20 mg/L. Given a range of influent concentrations between 200-350 mg/L and a design flow rate of 100 gallons per minute, the system is expected to remove 215 to 400 pounds of fluoride per day.

Comment 61-18: The commenter asks how much larger the Mile Post 7 WWTP would need to be to begin reducing the fluoride output from the WWTP.

Response: The current technology employed at the WWTP does not provide fluoride treatment. The treatment technology is designed for the removal of suspended solids, including fibers. As noted in Comment 61-17, a separate fluoride treatment system exists.

Comment 61-19: The commenter believes that fiber monitoring should be maintained or increased from the monthly schedule listed in the NPDES/SDS Permit. The commenter also believes that a statistical study of the relationship between turbidity and fiber level should be used to determine monitoring frequency. The commenter feels that a nonlinear correlation would suggest more frequent monitoring.

Response: The draft NPDES/SDS Permit modification requires bimonthly fiber monitoring, which is consistent with the current permit. The monitoring frequency was established in previous permit actions and was not modified as part of this draft permit. The draft permit does state that noncompliance with the

turbidity operational limits (0.1 to 0.4 NTU) may be just cause for additional fiber monitoring, regardless of whether a statistical relationship between turbidity and fiber levels has been demonstrated. The MPCA staff has determined that NMC has been in compliance with the turbidity operational limits. The MPCA staff also believes that the current monitoring frequency is adequate to verify compliance. Therefore, increased fiber monitoring is not justified at this time. It should be noted that the MPCA has the authority to request more frequent fiber monitoring if it is deemed necessary.

Comment 61-20: The commenter believes that the NPDES/SDS Permit should require the size and efficiency of the Mile Post 7 WWTP to be increased to reduce the discharged fiber concentration to the court-ordered 1 MF/L. The commenter believes that the current fiber effluent limit should remain in place until NMC can demonstrate with unbiased scientific evidence that the ingestion of the current levels of fiber and the expected cumulative increase in fibers are not harmful to public health, especially that of children who will be carrying these fibers throughout their lives.

Response: The current treatment plant efficiency for fiber removal is consistently greater than 99 percent. In fact, efficiencies are routinely above 99.9 percent, which exceeds the efficiencies estimated in the BAT review completed in 1984 by Black and Veatch Engineers. Increasing the size of the current WWTP would increase the hydraulic capacity of the plant, but would not necessarily increase the efficiency due to the nature of filtration. As discussed in Attachment 4 to the NPDES/SDS Permit Fact Sheet, MPCA staff has determined that the current WWTP is unable to meet the 1 MF/L limit. Therefore, in accordance with the permit language and state anti-backsliding rules, the fiber effluent limit was proposed for revision. Although further study may be needed with regard to potential health impacts from amphibole fibers, the MPCA staff believes the NPDES/SDS permit is not the proper tool for providing this research. Finally, the MPCA determined to apply the 1 MF/L in the permit; the limit was not a court-order limit.

Comment 61-21: The commenter believes that the anti-backsliding analysis is fraught with assumptions, exceptions and methods that lead to the 6.8 MF/L effluent fiber limit, which the commenter notes is akin to the concentrations currently discharged from the Mile Post 7 WWTP. The commenter states that this is a public health issue, not a statistical exercise and advocates using the NPDES/SDS Permit to begin to establish a public health database before allowing further irreversible change in the water quality of Lake Superior.

Response: The 6.8 MF/L limit is based on past performance data in accordance with Minn. R. 7050.0212, Subp. 3(B)(1) and MPCA's further evaluations of the BAT issues. For a discussion on public health, please see the response to Comment 50-2.

Comment 61-22: The commenter notes that compliance responsibility for 1 MF/L effluent fiber limit rests with the Permittee and feels that NMC is responsible for failing to comply with this limit by choosing to not increase the size or efficiency of its present WWTP to reduce fiber emissions to date. The commenter believes that NMC's past inaction does not constitute the correct application of BAT and that relaxing the effluent fiber limit based upon failure to comply is unacceptable.

Response: Please see the response to Comment 61-20 for a discussion of the size and efficiency of the WWTP. The Permittee has tested various flocculant chemicals and polymers in order to improve the filtration efficiency, and most importantly, has committed to continuous addition of chemical flocculant at the filter dike bypass weir. The addition of chemical flocculant at the bypass weir provides additional flocculation and settling of particles, including fibers, prior to the WWTP. The trigger for a revision to the fiber limit is not solely a function of the Permittee's inability to comply with the current limit. The

Permittee must also demonstrate that the proper treatment system has been installed, operated, and maintained properly. Therefore, the revised fiber limit is based, in part, on the actual performance of properly operated and maintained BAT.

Comment 61-23: The commenter states that the effluent fiber discharges cause irreversible degradation to the water quality of Lake Superior and that the discharge of fibers should be decreased not increased.

Response: Please see the responses to Comments 50-1, 50-2 and 56-13.

Comment 61-24: The commenter states that the MPCA should be concerned about the upper 95% confidence level of the actual fiber count as an indicator of how serious the problem may be.

Response: The use of percentiles in the development of effluent limits is well-established within the NPDES/SDS program. This statistical approach estimates a reasonable maximum limit given the appropriate data set, and the inherent variability within that data set.

62. Comments by Maria Strand, Northshore Mining Company. E-mail received June 22, 2005.

Comment 62-1: The commenter is in support of the proposed project.

Response: The comment is noted.

Comment 62-2: The commenter is an employee of NMC and states that she has seen firsthand what an environmentally conscious company NMC is. The commenter believes that NMC has shown a very ethical and responsible behavior towards the environment and models this philosophy in its workforce.

Response: These comments are noted.

Comment 62-3: The commenter notes that NMC will control environmental impacts by using state-of-the-art technology with air pollution control equipment. All employees are educated yearly to monitor possible negative environmental conditions, such as stormwater runoff and dust monitoring, and immediately report these conditions to the company's Environmental Department.

Response: These comments are noted, although it should be clarified that only certain pieces of air pollution control equipment will be upgraded.

Comment 62-4: The commenter also notes that the Mile Post7 WWTP will use BAT. The commenter does not believe that the discharge from the WWTP will degrade the water quality of the Beaver River or Lake Superior.

Response: These comments are noted.

Comment 62-5: The commenter thinks it's ironic that the fiber content discharged from the Mile Post7 WWTP is lower than drinking water standard fiber limits, and considerably lower than water flowing naturally through Beaver River.

Response: Please see the response to Comment 54-4.

Comment 62-6: Since the commenter does not believe there will be any negative environmental impacts from implementing the proposed project, she envisions only positive results by increasing pellet production. The commenter notes that the proposed project is expected to create an additional 30 full-time jobs and will boost the local economy.

Response: The comment is noted. Please refer to the response for Comment 1-1.

63. Comments by Mary Hartin on behalf of Grant J. Merritt, Kalina, Willis, Gisvold & Clark, PLLP. E-mail received June 22, 2005.

Comment 63-1: The commenter states that when Mr. Merritt heard that taconite production at NMC's Silver Bay plant was going to be increasing from approximately 4.5 to 6.0 million tons of pellets per year, he was encouraged believing that this increase would achieve a water balance, thus eliminating a discharge to the Beaver River. The commenter states that such a water balance would result in the company resuming compliance with the Federal Court Orders for on-land disposal.

The commenter further states that he understands that such a water balance may not be achievable at this time, due to the accumulation of precipitation within the basin. The commenter still believes that after some excess water is discharged and once taconite production increases, that such a water balance should be achievable quite soon.

Response: It is true that the consumption of water is directly proportional to the production levels, but the amount of precipitation received by the basin directly and from runoff within the basin's watershed is an important variable that could make such a water balance difficult to achieve.

Comment 63-2: The commenter believes that a water balance analysis should be a requirement of the NPDES/SDS Permit.

Response: The comment is noted. On an annual basis, the Permittee is required to submit a report on the status of the tailings basin, which includes water elevations, net precipitation, and total discharge volumes. The Permittee is also required to submit 5-year operating plans for the basin.

Comment 63-3: The commenter feels that the MPCA should have considered possible alternatives that would serve to avoid further discharges, such as a larger filtration plant on the Beaver River or an altered basin size. Since alternatives are not considered during completion of a mandatory EAW and are considered when completing an EIS, he is requesting an EIS.

Response: The comment is noted. Please see the response to Comment 56-2.

Comment 63-4: Whether an EIS is completed for the proposed project or not, the commenter believes that an annual water balance should be conducted for the next several years until the excess water within the Mile Post 7 tailings basin has been released and the discharge has been reduced to current levels.

Response: Please see response to Comment 63-2.

Comment 63-5: The commenter requests that the MPCA hold a second public information meeting, this time in the Twin Cities Metropolitan Area to address all of the issues related to the NPDES/SDS and Air Emission Permits. The commenter does not feel that holding one public information meeting in Silver Bay, the same city in which NMC operates, is giving the general public a fair opportunity to voice their views on the proposed project.

The commenter notes that proceedings during the 1970s to require Reserve Mining Company (the original owner of the taconite processing plant in Silver Bay) to cease depositing tailings into Lake Superior shows the importance of this plant to all Minnesotans and feels that the Twin Cities is home to many Minnesotans interested in preserving and protecting Lake Superior. They are entitled to a convenient location to express their opinions and ideas.

Response: The project proposal has been widely announced and has been the object of frequent media attention. In addition, NMC held an open house on May 16, 2005, and the MPCA held a public information meeting on June 7, 2005, (both in Silver Bay, Minnesota) to discuss the project proposal. The mailing list announcing the availability for public review of the EAW included over 400 recipients.

The proposal will appear before the MPCA Citizens' Board in the MPCA's office at 520 Lafayette Road N, St. Paul, Minnesota. The meeting will be open to the public and will provide additional opportunity for citizen participation. All individuals who received the draft EAW and the draft Air Emission and NPDES/SDS Permits and citizens who have provided comment on these documents will be notified of this upcoming meeting. The MPCA believes that ample opportunity for public input has been given and does not believe that a second public information meeting is warranted.

Comment 63-6: The commenter states that he supports the proposed project so that there will be more jobs and a cleaner environment at Silver Bay and he looks forward to this happening soon.

Response: The comment is noted.

64. Comments by LeRoger Lind, Two Harbors, Minnesota. Letter received June 22, 2005.

Comment 64-1: The commenter is a resident in Lake County and Board Member of the SLSA and he believes that the thousands of tons of air pollutants being emitted from the NMC Silver Bay plant each year are cause for great concern for water and air quality in Lake Superior and in the surrounding watershed.

Response: The comment is noted.

Comment 64-2: The commenter notes that the cumulative impact of existing and proposed emissions from the Silver Bay plant, those from the proposed Mesabi Nugget project and those from the associated Taconite Harbor Power plant has not been addressed in the modified Air Emission Permit.

Response: Please refer to the responses given for Comments 56-4 and 56-28.

Comment 64-3: The commenter believes that the level of emissions from the original facility, which was built in the 1950s, should not be used as a measure of emissions from existing plant expansions.

Response: The MPCA’s assessment of air emissions compared potential emissions of the existing facility to potential emissions of the proposed facility. Please refer to the response given for Comment 64-7 for more information.

Comment 64-4: The commenter believes that setting BACT at capabilities of currently available air pollution control equipment does not begin to address the reduction in emissions required to make production of taconite pellets on the shores of Lake Superior environmentally sustainable.

Response: Please refer to the response to Comment 56-1.

Comment 64-5: The commenter believes that the public health issue involved with the emission of fibers has not been addressed with the steps required to reduce the ambient levels in the surrounding communities to acceptable levels.

Response: Please see the response to Comment 3-1.

Comment 64-6: The commenter states that research by the USEPA has shown the relative toxicity of fibers such as ferroactinolite is as high as that of serpentine asbestos.

Response: The MDH and MPCA do not disagree with the commenter’s summary characterization of the EPA research. The risk of exposure to amphibole fibers has been well documented by research, including that done by scientists at the USEPA regional laboratory in Duluth. The MDH and MPCA have adopted the position that any type of asbestos or asbestos-like fiber (i.e., chrysotile and amphibole) is capable of presenting a risk, making discussion of the relative potencies of different fibers unnecessary at this time. The MDH and MPCA’s position that these types of fibers are not free from risk is consistent with prior court decisions.

There is limited information with which to conduct a quantitative assessment of risk for asbestos and asbestos-like materials, but as with all toxic materials, it is the level of exposure that determines whether a threat to human health exists. The agencies have chosen to minimize the degree of environmental exposures by requiring that NMC take the necessary steps to ensure that there will be no net increase in fiber emissions as a result of the Furnace 5 Project.

Comment 64-7: The commenter believes that the reduction of potential emissions from outdated equipment included in this project proposal is unrelated to the reactivation of Furnace 5 and shouldn’t be used to offset the emissions from Furnace 5.

Response: The MPCA’s assessment of air emissions compares potential emissions of the existing facility to potential emissions of the proposed Facility. There is no regulatory requirement to consider where product will be sold or shipped. In this case, then, where the excess concentrate to be produced will be sold was not factored into the MPCA’s calculations.

The emission rates reflected in the modified Air Emission Permit for all equipment (including equipment currently in operation and that planned for reactivation) were used in the modeling and other analyses. As shown in Table 2 of the TSD, post-project emissions are expected to increase by the amounts indicated. With respect to fibers, as demonstrated in Attachment 4 to the TSD, total fiber emissions are expected to decrease.

Comment 64-8: The commenter notes that Attachment 4 of the TSD to the Air Emission Permit is used to demonstrate that the proposed project will result in a decrease in fiber emissions. The commenter wishes to know how many fiber emissions are attributable to the Furnace 5 pelletizer itself.

Response: As reflected in the cited Attachment 4, upon implementation of the reactivation project and control upgrades, the number of fibers emitted facility-wide are expected to decrease by about 84 percent. The fiber emission rate from the Furnace 5 pelletizer is calculated to be 6.5E+12 per hour, or about 10 percent of the facility total. See also Response to Comment 56-26.

Comment 64-9: The commenter states that the addition of fabric filters and other pollution control devices to equipment to be used for the production of concentrate for proposed Mesabi Nugget project and other production not related to proposed project cannot be counted as emission reductions for the proposed project. The commenter believes that this project itself would cause emissions to increase above the current levels.

Response: Please refer to the response given for Comment 64-7.

Comment 64-10: The commenter states that the air quality standards with respect to amphibole fibers in the ambient air at the facility boundaries and in the surrounding communities are to be maintained below the equivalent levels in a control city such as St. Paul, Minnesota and says that the 8th Circuit District Court established this comparison standard in the Reserve Mining Case in the 1970s.

Response: The comment is noted. The federal court-established standard is reflected in the permit condition on page A-3 of the revised Air Emission Permit.

Comment 64-11: The commenter notes that the modified Air Emission Permit does not include a requirement to establish a different standard with scientific and medical precision. The commenter continues by stating that such a requirement could be included since scientific and medical information is available that might introduce some precision into the process and wonders why the MPCA, MDH, and the Minnesota State Legislature have chosen not to pursue this information on an unbiased basis.

Response: It would not be reasonable at this time to require a single regulated party to produce a risk-based standard under a permit condition. The agencies were hoping that acceptable industry-wide information would be produced upon which regulatory agencies could propose an industry-wide standard from the "Health Hazard Evaluation of Fibrous Particles Associated with Taconite and the Adjacent Duluth Complex." International Symposium that was held on March 30 through April 1, 2003, at the St. Paul Hotel, in St. Paul, but that did not occur. The agencies understand that development of a standard based on a quantitative analysis of currently available occupational data is problematic because, unfortunately, in these occupational studies the fibers were analyzed using phase contrast microscopy (PCM). PCM is a very different (and not directly comparable) technique than the transmission electron microscopy (TEM) that is used to characterize emissions from the Facility. The USEPA is currently attempting to reanalyze available toxicity information in such a way that a quantitative estimate of risk may be possible. The agencies will revisit the quantitative risk issue if and when such information becomes available.

Comment 64-12: The commenter states that scientific research by Cook et al. 1982 of the USEPA has shown that the amphibole fibers released at the Northshore Mining Company plant in Silver Bay include significant amounts of toxic fibers, such as ferroactinolite from the Peter Mitchell Mine in Babbitt, Minnesota.

Response: The studies referred to were conducted with PMP-1, a material obtained from a heavily weathered vein of material in the Peter Mitchell Pit. Dr. Cook’s studies indicated that ferroactinolite in the form found in PMP-1 was capable of splitting when given to animals and this production of additional thinner fibers caused what seemed to be a very high carcinogenic potency for this material.

This PMP-1 deposit was considered a local phenomenon and the fibers it contained are different from the ferroactinolite fibers currently being observed. An additional deposit of PMP-1 has been identified in the pit, but the NMC has no intention of mining the area where the vein is located.

See Responses to Comments 56-26 and 64-6.

Comment 64-13: The commenter states that chrysotile fibers were not included in the original definition of the taconite mining-related amphibole asbestos fibers, but that the mining-related fibers were identified during an investigation ordered by the federal court. Chrysotile fibers should not be used “for the purpose of the permit” in any definition of “fibers”.

Response: The MPCA included chrysotile fibers in the fiber definition to evaluate compliance with the “control city” standard that emerged from the 1975 federal court decision based on the evidence and law of the Reserve proceedings.

The commenter correctly points out that asbestos can occur in two major forms – serpentine (chrysotile) and amphibole (including the cummingtonite-grunerite series and ferroactinolite). The federal court’s decision that the citizens in the Silver Bay area should face no more risk from fiber exposure or inhalation than those in a reference or control city (e.g., St. Paul) resulted in comparisons of fibers, including chrysotile fibers from St. Paul, to fibers, including amphibole fibers, in Silver Bay. While chrysotile fibers do tend to be less persistent than amphibole fibers in the lung, there is little doubt as to their toxicity. In fact, much of the available asbestos toxicity data were collected from workers exposed to chrysotile fibers.

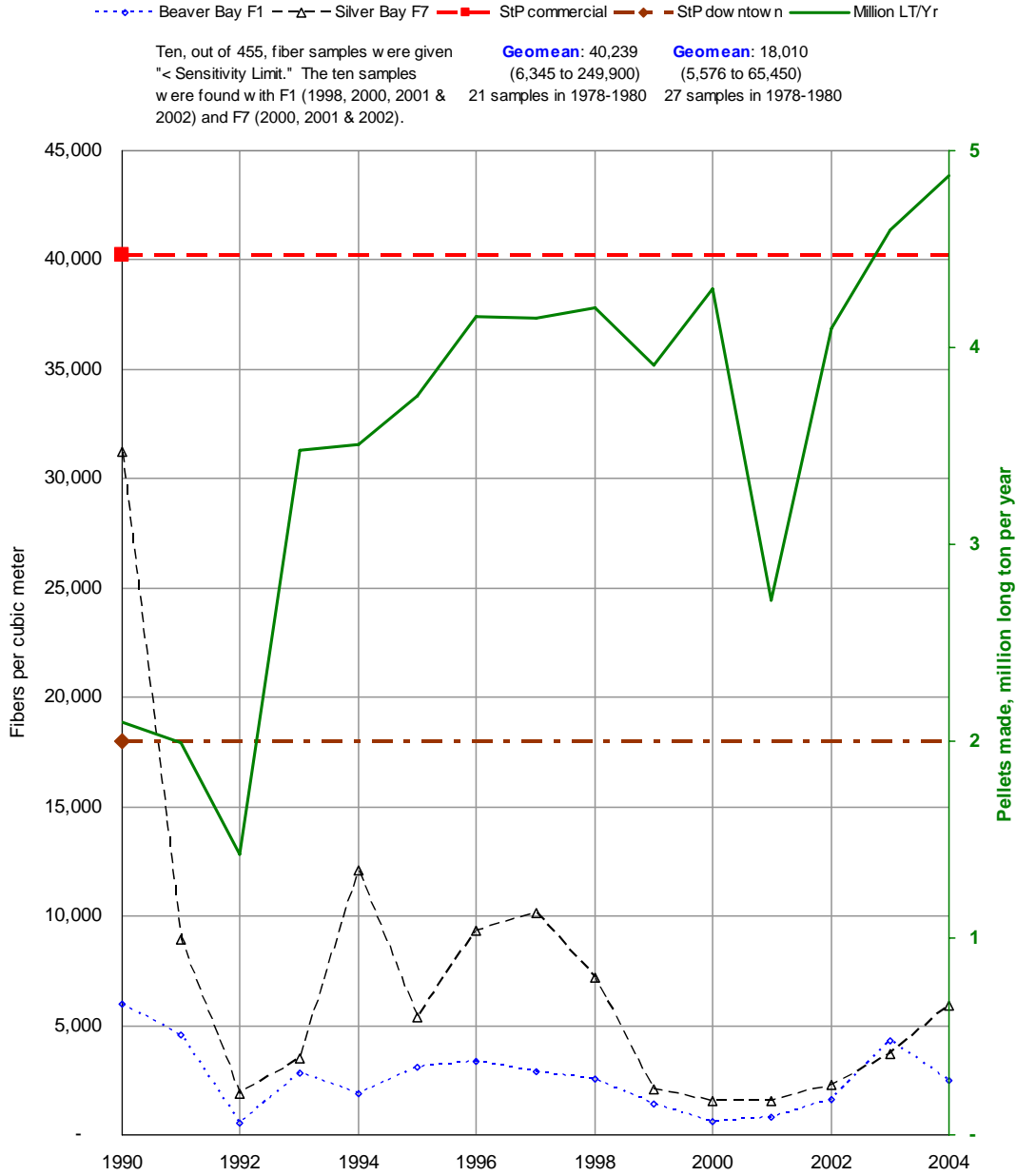
Comment 64-14: The commenter states that the amphibole asbestos fibers identified by the court and scientists are more dangerous and more persistent than chrysotile fibers. Research scientists and the USEPA laboratory in Duluth, Minnesota have proven this with valid scientific research.

Response: The commenter is correct in regard to persistency. See Responses to Comments 56-26, 64-6, and 64-13.

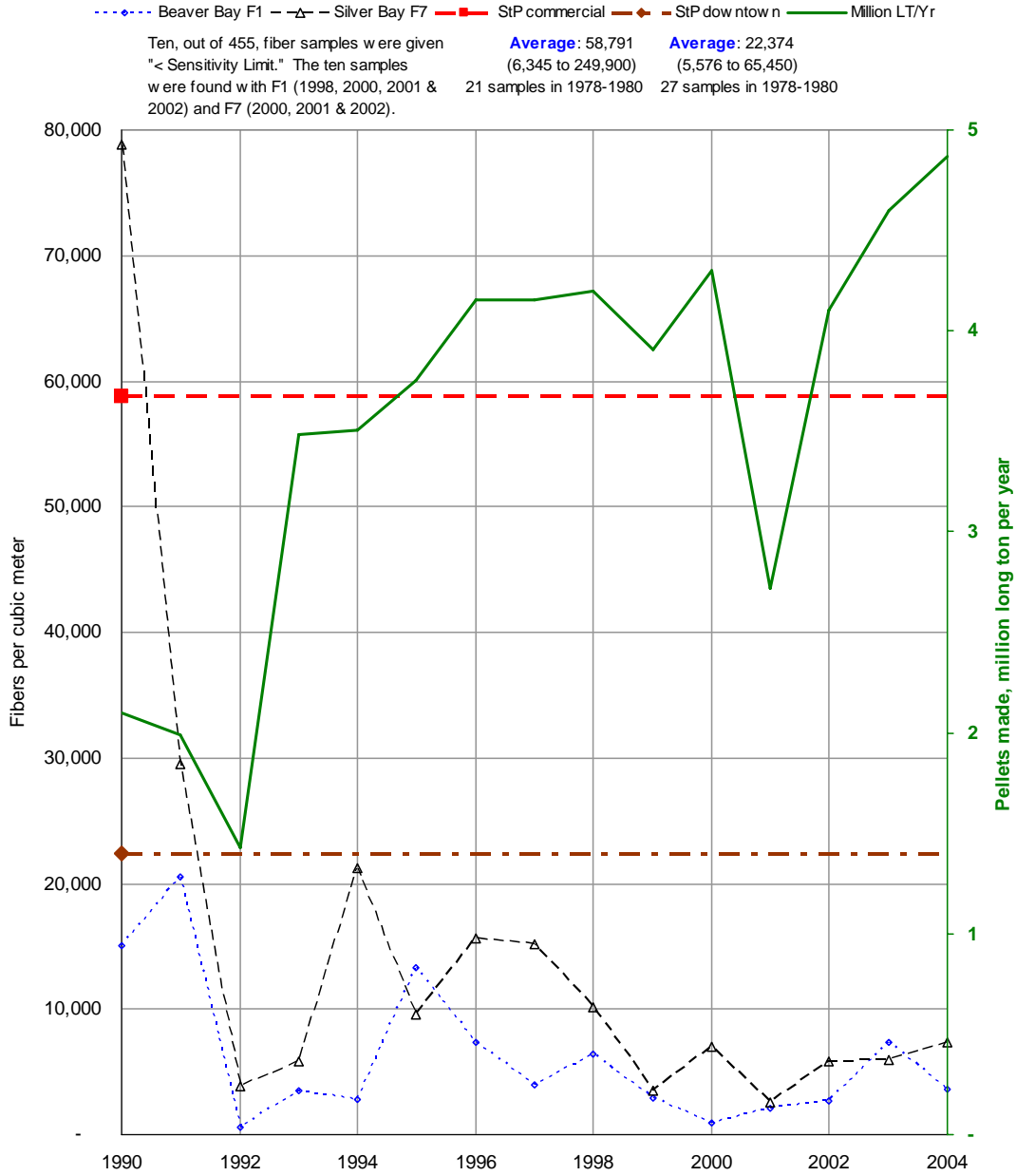
Comment 64-15: The commenter states that the original court ordered studies showed that the concentration of amphibole asbestos fibers in Silver Bay was as much as 9 times that in St. Paul in the 1970’s. A court-ordered statistical analysis by Sanford Weisberg showed that the level of mining related amphibole asbestos fibers was significantly higher at four locations in Silver Bay than those in St. Paul.

Response: The commenter is correct if only the amphibole fiber levels are compared; however, the MPCA’s fiber definition includes amphibole fibers and chrysotile fibers. Using the Sanford Weisberg results and comparing the sum of amphibole fibers and chrysotile, the current fiber levels in the Silver Bay area are below the past fiber levels (1978-1980 sampling data) in St. Paul. Below are graphs of ambient monitoring results from Silver Bay and Beaver Bay compared to two St. Paul locations (the first compares geometric means, the second compares arithmetic means). See Responses to Comments 56-26, 64-6, and 64-13.

Ambient Concentration of Fibers Defined by Federal Court: Active Sites (F1 & F7) and St. Paul Sites 1978-80



Ambient Concentration of Fibers Defined by Federal Court: Active Sites (F1 & F7) and St. Paul Sites 1978-80



Comment 64-16: The commenter states that in the 1970's, chrysotile fibers levels were higher in St. Paul than in Silver Bay due to industrial and automotive uses. These chrysotile fiber levels were erroneously added to the levels of amphibole fiber levels in St. Paul beginning some time in the mid-1980s. These incorrect sums were then used to show that "fiber" levels were higher in St. Paul than in Silver Bay. The commenter further states that this misinformation continues to be used in public relations campaigns by mining industry officials and other interested parties.

Response: Fiber levels were indeed consistently higher in St. Paul than they were in Silver Bay. The MPCA does not agree that the chrysotile fiber counts were "erroneously" added to the amphibole counts. In its 1977 permit decision involving this Facility, the MPCA concluded that it was appropriate to count both fiber types known to pose a risk. This approach was acknowledged by the Minnesota Supreme Court in its 1978 decision re-instating the MPCA's proposed permit text which included MPCA's fiber definition. Again, the overall regulatory approach has been to ensure that fiber emissions are not allowed to increase regardless of changes in the process, and to ensure compliance with other applicable requirements, such as the control city standard.

Comment 64-17: The commenter states that current data from the air monitoring stations in Silver Bay and Beaver Bay show that the levels of fibers at these stations averages about 5,000 to 10,000 fibers per cubic meter, with much higher peaks. The upper 95 percentile values are very high. These levels exceed those last measured in St. Paul by a wide margin.

Response: The comment is noted. The MPCA staff believes the most appropriate comparison is the geometric means (see graphs in response to comment 64-15). The number of fibers emitted by the total facility is expected to decline following the installation of additional pollution control equipment for the Furnace 5 Project.

Comment 64-18: The commenter believes that the Air Emission Permit should include verifiable steps showing how NMC intends to reduce the level of airborne fibers in the surrounding communities to that in a control city such as St. Paul.

Response: As noted in the response to Comment 56-26, fiber air emissions are anticipated to decrease after project implementation.

Comment 64-19: The commenter believes that a plan for measuring the fiber levels in St. Paul on a regular basis to establish a goal for reduction of fiber emissions at NMC must be established. The commenter further believes that historical fiber level data from the monitoring stations could be correlated with corresponding production rates to determine the relationship between these fibers and the unit flow rates from furnaces with existing pollution control equipment. Fiber emission goals from the plant with Line 5 reactivation might be established on this basis. However, it should be noted that the emission of amphibole asbestos fibers is not linearly related to particulate matter emissions as shown by the data from Silver Bay analyzed by the Minnesota Department of Health using TEM microscopy methods.

Response: The MPCA has determined that it is appropriate, necessary, and reasonable to implement additional control city monitoring to obtain updated control city data for future compliance determinations. As a result of this determination the MPCA has commenced implementation of fiber monitoring in St. Paul.

Comment 64-20: The commenter states that ferroactinolite emission levels vary randomly in ore that is processed. Increasing production at NMC with current technology will not solve the fiber emissions problem.

Response: While the commenter’s statement about the random distribution within the ore may be true, NMC is required to install additional pollution control equipment, and MPCA calculations indicate that this will result in no net increase in fiber emissions with the reactivation of Furnace 5 and associated equipment. See Responses to Comments 56-26, 64-6, and 64-13.

Comment 64-21: The commenter wishes to know what research and investments is NMC making to solve the fiber emissions problem and why is such research not required as part of the Air Emission Permit.

Response: Requirements in the modified Air Emission Permit related to fiber monitoring were carried forward from previous permits, including the total facility operating permit issued in February 2004. As noted in the response to Comment 56-26, fiber air emissions are anticipated to decrease after project implementation. In addition, the MPCA is undertaking control city monitoring (see Response to Comment 64-19).

Comment 64-22: The commenter believes that a monitoring station should be added at the grade school in Silver Bay to determine ambient exposure levels for children over time.

Response: The location of ambient air monitors is decided on using a number of criteria to optimize the data collected, including distance from sources, height, local meteorological conditions, ease of access, etc. In this case MPCA staff, in consultation with MDH staff, has determined that results from previous monitoring done at Silver Bay’s schools were not different from those at other sites. This is typical of observed fine particle ambient data, which is fairly uniform spatially.

Comment 64-23: The commenter believes that parameters describing ambient atmospheric conditions should be added to the database gathered at all test monitoring stations.

Response: The MPCA staff appreciates the comment and acknowledges that this would provide additional information that interested parties might use in analyzing data. However, MPCA staff’s experience indicates that atmospheric conditions, such as wind speed and direction, vary widely during the 72-hour sample collection period required for ambient fiber monitoring. This sampling duration is necessary to achieve a reasonable detection limit. Therefore, it is essentially impossible to discern meaningful trends connecting atmospheric conditions and ambient fiber concentrations.

65. Clyde G. Hanson, Sierra Club. E-mail received June 22, 2005.

Comment 65-1: The commenter writes on behalf of Sierra Club. The Sierra Club’s *Mining without Harm Campaign* has the goal of protecting the human health and the quality of Minnesota’s lakes, streams and wildlife from mining pollution.

Response: These comments are noted.

Comment 65-2: The commenter believes that the proposed expansion of taconite production by NMC has the potential for significant environmental effects and he has requested an EIS.

Response: The comment is noted. Please see the response given for Comment 56-2.

Comment 65-3: The commenter believes that the type, extent, and reversibility of environmental effects for the following items should be explored through an EIS: Haze over wilderness, state wilderness, state parks and national parks, Class I air quality value impacts, air pollution, water pollution, international impacts on the Great Lakes, toxic waste generation and traffic generation.

Response: The comment is noted.

Comment 65-4: The commenter states that fine fiber pollution of Lake Superior has proved to be irreversible in human lifetime.

Response: In previous phone conversations, Phil Cook of the Duluth U.S. EPA laboratory, suggested that the very high levels of fibers in Duluth and Silver Bay drinking water decreased rapidly when disposal of tailings in Lake Superior was discontinued. This is also supported by the fact that fiber testing at the above mentioned drinking water plants was discontinued in the early 1990s due to consistently low fiber results.

Comment 65-5: The commenter believes that the industrial and mining projects proposed for northeastern Minnesota have potential for cumulative impacts to air and water. The commenter believes that the scale of pending projects is unprecedented and is driven by high metals prices and public policy, and believes they are highly likely to move forward.

Response: Please see the response given for Comment 56-28.

Comment 65-6: The commenter believes that the effects the proposed project will have on air, water, wilderness areas and national parks, human health and wildlife, are cumulative and that cumulative impacts have not been dealt with effectively in case-by-case permitting air permits.

Response: Please refer to the response given for Comment 56-28.

Comment 65-7: The commenter does not believe that the project has been reviewed for impacts to biodiversity on land and water on-site and for the region.

Response: The proposed project has undergone a detailed review for potential impacts to air and water, as summarized in the EAW. The DNR has been involved in reviewing this project proposal. Their comment letter indicates they do not believe the project has the potential for significant environmental effects from a natural resources perspective (Letter 69).

Comment 65-8: The commenter believes that air increment modeling should allow the RGU and the public to define significant deterioration, rather than allow the air modelers to make that distinction.

Response: Since the MPCA staff has expertise with air modeling, some permitting authorities look to the MPCA staff to summarize the modeling findings. The MPCA staff have done that in the EAW and have also provided more detailed information in the modified Air Emission Permit and its TSD, to allow other permitting authorities to make their own determination, if they so choose.

Comment 65-9: The commenter states that air increment modeling is only for criteria pollutants, but environmental impacts result from other air (and water) emissions from the proposed facility that have not been analyzed during project review.

Response: The commenter does not specify the pollutants he believes should have been assessed. The PSD increment analysis included SO₂, NO₂ and PM₁₀. The ambient air quality modeling also included these criteria pollutants. The Air Risk Analysis considered pollutants potentially emitted by the taconite processing equipment that have calculable emission rates and Inhalation Health Benchmarks (IHBs). The water analysis considered parameters known to be present within the discharge from the Mile Post 7 WWTP discharge to the Beaver River and potentially of concern as a result of the proposed project. The limits and conditions within the Air Emission and NPDES/SDS Permits are intended to ensure that the Facility complies with all air and water quality standards.

Comment 65-10: The commenter states that SILs are a theory, not an analysis of a specific development scenario.

Response: SILs are used by USEPA and other regulatory agencies as benchmarks in association with PSD-related modeling to gauge when more detailed modeling may be appropriate. If a facility's emissions for an individual pollutant are shown with modeling to be below the SIL, as they have been for SO₂, PM₁₀, and NO₂ for the proposed project, then the source's air quality impact is not considered to be major for that pollutant. The use of SILs is standard practice when reviewing a project for PSD.

Comment 65-11: The commenter believes the permit analysis is inadequate to adequately inform the RGU and prevent an arbitrary and capricious decision.

Response: The comment is noted.

Comment 65-12: The commenter does not believe that environmental impacts can be mitigated by air and water permit regulatory authorities.

Response: Operations regulated by legally enforceable permits that contain permit limits and standards of operation that must be met can prevent environmental effects and this is recognized by criteria established by the Environmental Quality Board to be used to determine if an EIS is needed. One of the four criteria that must be considered when deciding whether a project has the potential for significant adverse environmental effects is the extent to which the environmental effects are subject to mitigation by ongoing regulatory authority (Minn. R. 4410.1700, subp. 7(C)).

Comment 65-13: The commenter notes that the mercury TDML has not yet been implemented and believes that it cannot be relied upon to justify allowing increase mercury deposition from this facility into the region's water bodies that are impaired.

Response: There are no state or federal air standards for mercury emissions for the mining sector at this time. Please see the response to Comment 56-27 for more information on the statewide mercury TMDL process.

Comment 65-14: The commenter states that the assertion that ongoing regulatory authorities will ensure that cumulative impacts of the region's industrial expansion will not violate the law is not the same as whether there will be post-control environmental impacts.

Response: The commenter is considering only a small part of the information presented in Item 29 of the EAW. Ensuring that individual facilities are complying with all state and federal standards is an important piece to preventing cumulative environmental impacts; the MPCA recognizes that other factors must be considered. Please refer to the response given to Comment 56-28 for more information.

Comment 65-15: The commenter is unaware of any other EIS studies planned which would inform the RGU on the cumulative impacts of the well-documented and foreseeable expansions of the taconite mining and processing and iron making, surface transportation, other industrial growth, electrical generation, and sulfide mining and processing projects.

Response: The proposed PolyMet, Minnesota Steel Industry (MSI) and Ispat Inland projects will all require the completion of an EIS. The DNR is the RGU for those projects and has prepared scoping EAWs for all three projects. As of the drafting of this document, the PolyMet scoping EAW has completed its public comment period and the DNR is now considering comments received in preparation for finalizing the scope of the EIS. The MSI and Ispat Inland scoping EAWs are currently on public notice. The PolyMet and MSI EIS' will each contain a comprehensive assessment of cumulative impacts. Once the EIS' have been drafted, they will be placed on public notice and citizens will have another opportunity to provide input. Interested parties may wish to contact the DNR to learn more.

Comment 65-16: The commenter believes that the project proposer is unlikely to conduct studies of alternative to the proposed project or in mitigations of sufficient rigor to be effective, due to the profit incentives of management and board of directors.

Response: These comments are noted.

Comment 65-17: The commenter states that the past MPCA decisions on the need for an EIS for previously proposed NMC projects does not have anything to do with whether an EIS is needed for this proposed project.

Response: Decisions on the need for an EIS on past proposed projects have not impacted the MPCA's review of this proposed project. Assessments and information used to review previously proposed projects have been incorporated into the assessment for this proposed project, where relevant and applicable to current conditions.

Comment 65-18: The commenter states that the quantity of technical information involved and the dubious assumptions made in issuing emission level standards for such things as fibers, mercury and fluorides in the permit drafts leaves uncertainty. The commenter believes that the technical information and assumptions used to determine permit limits exists and can be obtained, but it will take the resources and scope of an EIS to provide them to the RGU decision-makers.

Response: Please see the response for Comment 56-9.

Comment 65-19: The commenter believes that the proposed Mesabi Nugget project is a connected action, since NMC will be the supplier of iron concentrate for the proposed Mesabi Nugget plant. The commenter also believes that the EAW, which notes that concentrate may need to be trucked to its buyer until appropriate rail facilities can be constructed, points to Mesabi Nugget as the buyer for NMC's concentrate.

Response: Please see the response to Comment 56-10.

Comment 65-20: The commenter states that the combined impacts of the proposed project and the proposed Mesabi Nugget project on Class I and Class II increments, and the Lake Superior Watershed are significant and require combined analysis to optimize mitigation solutions. The commenter believes that the MPCA must consider the total impacts of these two projects in determining the need for an EIS.

Response: Please see the response given for Comment 56-28 for information on potential for cumulative impacts.

Comment 65-21: The commenter believes that the expansion of NMC's Babbitt mine is a connected action to the proposed project and must be part of the EIS for the proposed processing expansion. The commenter notes that without the mine expansion, the proposed project is not possible. The commenter accuses the MPCA of avoiding proper environmental review by splitting these two projects.

Response: Please see the response to Comment 56-3.

Comment 65-22: The commenter notes that the Superior Hiking Trail and Tettegouche, Split Rock, Gooseberry, and Jay Cooke State Parks are near the proposed facility and he feels they will be impacted by the proposed project. The commenter notes that there was little assessment of the impact the project might potentially have on regional biodiversity, recreation experiences and high value conservation areas.

Response: The MPCA has considered potential impacts to scenic areas that may be caused by the proposed project. The proposed project will involve the outdoors construction of two concentrate storage silos; other construction activities will occur indoors. The construction phase will be short term and is not expected to have the potential for significant noise, dust, or visual impacts. The silos will be blocked from view by other buildings already in existence at the Facility. The proposed project will not increase operating hours at the Facility beyond their current schedule, and operational changes that will incorporate the new or reactivated units are unlikely to be noticed by the general public. Impacts on natural resources in northeastern Minnesota are discussed in various items of the EAW, including Item 18 (wastewater and tailings basin), Item 23 (air) and Item 26 (visibility).

The Minnesota Department of Natural Resources (DNR) has been involved in reviewing the proposed project and has indicated that they do not believe that it has the potential for significant environmental impacts from a natural resources perspective (Letter 69). The Wisconsin DNR has submitted a comment letter stating that they have reviewed the EAW and they have no comments (Letter 79).

Comment 65-23: The commenter notes only visual impacts are mentioned in the EAW with regard to the various recreational areas located near the proposed facility. The commenter believes that deposition and haze impacts for these high value public resource areas could be real and significant and that an EIS is needed so that the RGU can be fully informed of the consequences of the proposed project.

Response: The response to Comment 56-28 summarizes the findings of the MPCA's assessment of the potential for visibility and deposition impacts resulting from the proposed project to Class I areas.

The MPCA has relied on input from other authorities, such as the DNR, the MDH, the USFS, and the NPS during the review of the project proposal. None of these entities has indicated a concern regarding deposition or haze from this proposed project or has requested a more detailed assessment for these potential impacts.

Regional haze due to the emissions of numerous sources is being addressed through implementation of the regional haze rule, a revision to which was finalized by the USEPA on June 15, 2005. State Implementation Plans that detail how each state plans on achieving required air emission reductions are due in December 2007, and the commenter is encouraged to participate in that process.

Comment 65-24: The commenter believes that the EAW improperly dismisses the off-site impacts of the additional 5-10 megawatts of power that will be needed to operate the proposed project. NMC currently sells this extra electricity to the grid, but plans on utilizing this electricity in the future. The commenter asserts that power not sold by NMC to the grid will be made up somewhere else, most likely in Minnesota and that the effects of this need to be considered in an EIS.

Response: Please see the response to Comment 56-4. There is no certainty that electricity produced by NMC for the grid will be made up elsewhere if NMC stops selling this electricity.

Comment 65-25: The commenter believes that the EAW implies that it is a public responsibility to accept more pollution (fibers in water, etc) because the tailings basin has excess water. The commenter states that the size, design and operations of the tailings system is the responsibility of NMC and believes that if there were errors in the original design or if the owners have chosen to reduce production, that this does not justify changing the NPDES/SDS Permit to allow more pollution to be discharged and to increase health risks.

Response: Please see the responses to Comments 56-11, 56-13, and 56-19.

Comment 65-26: The commenter believes that an EIS should look at alternatives such as reducing the size of the tailings ponds, dredging the ponds, and other alternatives.

Response: The comment is noted. The MPCA Citizens' Board will consider the need for an EIS for the proposed project at a Board meeting held in St. Paul, Minnesota.

Comment 65-27: The commenter believes that Item 9 of the EAW ignores the impact the proposed project would have on the people living in residential areas in Silver and Beaver Bay through air deposition and fugitive dust from the building site or rail lines. Most of Silver Bay is within a mile of the plant, yet there is little discussion of the impacts the proposed facility might have on these people from fibers, mercury and heavy metals emissions. The commenter highlights the fact that Beaver Bay residents complained about dust impacts at the public informational meeting that the MPCA held in Silver Bay on June 7, 2005.

Response: The proposed project will meet all regulatory requirements for air emissions. Furthermore, potentially emitted chemicals that have calculable emission rates and IHBs were assessed as part of an Air Risk Analysis completed by the MPCA for this project. The Air Risk Analysis concluded that the proposed project is not expected to pose unacceptable risks to the general public from the chemicals and exposure pathways assessed.

The MPCA has been responsive to citizen complaints regarding dust emissions. Please refer to the responses to Comments 10-2, 65-42, and 65-43 for additional information about how past exceedences of PM emissions requirements have been considered and have resulted in specific conditions within the modified Air Emission Permit.

Comment 65-28: The commenter notes that process wastewater and boiler blowdown water containing chemical residues are sent to Mile Post 7 tailings basin, yet is dissatisfied that the EAW does not state what these chemicals are, how they will be removed at the Mile Post 7 WWTP and what their impact may be on humans or on the environment.

Response: The chemical additives and corresponding usage rates are listed in Chapter 11, Requirement 14.3 in the modified NPDES/SDS permit. Each additive has been approved after a review of information as outlined in Chapter 11, Requirement 14.5 in the modified NPDES/SDS Permit. The MPCA is aware of what chemical components may be present in the proposed discharge and have set effluent limits and monitoring schedules as deemed appropriate based on the potential to exceed water quality standards, where they exist. The EAW describes the current situation and the anticipated change to the parameters of the greatest concern. Generally, if there is no limit or monitoring schedule for a given parameter, this is because, in part and generally, there is either no water quality standard for that parameter and MPCA has no present concern about that parameter or because the parameter is present in such small concentrations in the discharge that there is no reasonable potential that the water quality standard will be exceeded.

Comment 65-29: The commenter notes that there is no reference in the EAW to a city or county water plan for stormwater or water quality.

Response: The city of Silver Bay has a Comprehensive Plan, with a small provision mentioning stormwater, which dates back to 1993. They are in the process of drafting an updated Plan. The North Shore Management Board, a Board established by the DNR and tasked with developing shoreland management standards for the north shore of Lake Superior, is in the process of updating their North Shore Management Plan. Once this has been completed, local units of government along the north shore will be required to incorporate these, or more stringent, standards, into their local plans by no later than July 4, 2006. In light of this, the city of Silver Bay will wait to adopt a new Comprehensive Plan until the new North Shore Management standards have been finalized.

Conversations between MPCA and city staff before and after the EAW was placed on public notice indicate that the proposed project complies with the city's existing Comprehensive Plan and with the city's plans for growth and development. During the public notice period, they sent in a letter of support for the project (Letter 16).

The MPCA staff discussed the project proposal with Lake County staff prior to noticing the EAW. The MPCA understands that the proposed project will comply with County plans and regulations. The EAW was sent to Lake County staff and their comment letters (Letters 2, 6, and 17) appear to support the proposed project.

Comment 65-30: The commenter believes that an EIS is needed to develop mitigations to prevent disruption of reproduction the peregrine falcons that have nested at the Silver Bay plant for the past several years. The commenter believes that the mitigations need to meet the DNR's recommendation of no disturbance to an active nest from February 15 to August 15.

Response: Please refer to Item 11b of the EAW. DNR staff has recommended that construction activity be located at least 700 feet from an active nest and should ideally be kept as far as 1,500 feet from an active nest between February 1 and August 15; however, it should be noted that this is a recommendation and not a law.

The DNR has indicated that the proposed project does not appear to have the potential for significant environmental impacts from a natural resources perspective (Letter 69) and that, once constructed, does not appear as if it will have long-term effects on peregrine nesting in the area (Figure 6 of the EAW).

Comment 65-31: The commenter believes that the EAW is inadequate because it does not directly measure and report the impacts of the current facility on the Silver Bay Marina. The commenter believes that since NMC owns the property on which the marina is situated, city staff are not free to make critical comments on the project proposal. The commenter believes that a survey of the slip renters is needed to determine the impacts.

Response: The project proposal has been widely announced throughout Silver Bay and the surrounding area. The proposal has been the object of frequent media attention. In addition, NMC held an open house on May 16, 2005, and the MPCA held a public information meeting on June 7, 2005, to discuss the project proposal. The mailing list announcing the availability for public review of the draft EAW included over 400 recipients. The MPCA believes that ample opportunity for review and comment of this proposed project has been given. None of the comments received for this project indicated concern over current or anticipated future marina use.

Comment 65-32: The commenter notes that the EAW does not discuss post-closure reclamation of the tailings basin. The commenter believes this is necessary because expending their depth and life will impact their reclamation.

Response: Post-closure reclamation was not discussed because the proposed project does not include modifications to the design or capacity of the Mile Post 7 tailings basin itself. Reclamation activities will not be impacted by the proposed project.

Comment 65-33: The commenter states that pipeline failures have caused major spills into the Beaver River and notes that they are not mentioned in the EAW. The commenter believes that they must be mentioned in the EAW because the proposed project will increase the likelihood of a repeat pipe failure.

Response: The purpose of the EAW is to determine if the proposed project has the potential for significant environmental effects that are reasonably likely to occur. On October 22, 2000, an expansion joint in the above-ground pipeline that carries process wastewater to the Mile Post 7 tailings basin began leaking. Enforcement action, in the form of a Stipulation Agreement, was taken. On June 6 2005, a leak developed in the underground pipeline that carries partially-treated water back to the taconite processing plant for reuse. Investigation into the most recent incident is on-going. The MPCA staff has determined that NMC has taken adequate corrective action to address the leak.

Though pipeline leaks may have the potential for significant environmental effects, they are not believed to be reasonably likely to occur. In the case of NMC, the incidents were five years apart and the leaks occurred on separate pipelines. They have not been routine events. Further, as part of the enforcement action for the October 2000 leak, numerous measures have been undertaken to prevent a repeat event, such as identification of specific thresholds that dictate pipeline rotation, repair and replacement consistent with good engineering practices, alarm systems and response procedures to identify and respond to pipeline failures, predetermined procedures for clean-up and mitigation of adverse impacts from pipeline failures and a higher level of care for the pipeline sections within 0.25 miles on either side of the East Beaver River crossing, among others. Lastly, though more material may be moved through

the pipelines due to the proposed project, there is no reason to believe that this will increase the likelihood of a future pipeline leak. Considering all this, we do not believe that pipeline leaks will be reasonably likely to occur once the proposed project has been implemented.

Comment 65-34: The commenter notes that the Mile Post 7 WWTP does not provide treatment for calcium, magnesium, chloride, manganese, cadmium, lead, chromium, arsenic, selenium, and strontium, which are parameters that are present within the effluent. The commenter states that these are toxics that need to be significantly reduced in the final NPDES/SDS Permit.

Response: Though these parameters may be present in the discharge and absent other information indicating greater potential water quality impacts, we would only assign a monitoring requirement or a permit limit if reasonable potential existed that a parameter's water quality standard may be exceeded.

The modified NPDES/SDS Permit does contain monitoring requirements for total calcium, total magnesium and total chloride; these are the only parameters mentioned by the commenter that have water quality standards and concentrations large enough to merit continued monitoring. The MPCA will evaluate this data upon the next NPDES/SDS Permit reissuance to determine if effluent limits are needed to protect the water quality standards for those parameters. The other parameters (manganese, cadmium, lead, chromium, arsenic, selenium, and strontium) either have no applicable water quality standards or are present in such small concentrations that there is no reasonable potential that they will violate water quality standards, so neither monitoring nor a permit limit is warranted at this time based on currently available information.

If the commenter is concerned that the effluent may be toxic to aquatic life, please note that whole effluent toxicity testing of the effluent has been, and will continue to be, required by the NPDES/SDS Permit. Past test results have shown that the effluent is not toxic to aquatic life.

Comment 65-35: The commenter notes that the proposed project is expected to increase fog generated by the plant and that it will endanger drivers on US Highway 61.

Response: Under certain weather conditions, the steam plumes from the pelletizing furnace Wet-Walled Electrostatic Precipitators (WWESP) stacks can combine with fog or high moisture conditions from Lake Superior blowing across Highway 61 towards the west and create poor visibility for drivers. The proposed project will reactivate three WWESP stacks and the steam from their stacks can be expected to contribute to the occasional foggy weather effect from Lake Superior. However, the additional plumes are not expected to increase the incidence of adverse visibility conditions. When fog is present, an electronic signs warns travelers of adverse road conditions when this occurs and so it is unlikely that the proposed project will significantly increase driver endangerment.

Comment 65-36: The commenter states that a handout at the Mesabi Nugget public meetings puts the number of truck loads of binder and slag (same routes as concentrate) at over 1,000 per year and the loads of concentrate at 41 tons/truckload at 980,000 tons per year would be 23,902 one-way trips. The commenter notes that this does not include hauling coal, limestone and dolomite for Mesabi production on the same roads.

Response: Item 21 of the EAW provides information on proposed traffic impacts. NMC anticipates that if concentrate is shipped, five trucks per hour would depart from their Silver Bay facility. They estimate that this trucking activity would last approximately one year. Given this, we do not believe the project will result in significant environmental impacts and that it will add a negligible amount of traffic to the region overall.

Comment 65-37: The commenter states repeating assurances of cooperation by the project proposer is not an assessment of the impact or a mitigation plan for potential traffic impacts. The commenter believes that the air quality, infrastructure and public safety impacts of increased traffic of this need to be reviewed in an EIS and included in the air quality modeling for this project.

Response: Item 21 of the EAW does assess potential traffic impacts. Raw materials arrive primarily by rail and product is shipped by rail or ship. This will not change once the proposed project is implemented, except for the possibility that concentrate may be shipped by truck for a temporary period of time. Trucking concentrate will be so expensive that it would not be used as a permanent shipping method. The addition of mobile source air emissions or traffic to the city or the northeastern region of Minnesota from this temporary activity would be negligible. Considering this, there is no reason to believe that the proposed project will result in the potential for significant traffic-related environmental effects that are reasonably likely to occur.

Comment 65-38: The commenter notes that PM smaller than 2.5 microns in size (PM_{2.5}) has not been analyzed for the proposed project. The commenter states that these are the most harmful particulates and believes that this is a significant oversight considering the known health impact of asbestos-like fibers in the taconite that NMC processes.

Response: There are currently no EPA-approved methods to assess PM_{2.5} emissions from an individual facility and no means to estimate the ambient impact of those emissions. For these reasons, the MPCA is not currently establishing limits for PM_{2.5} in air emissions permits. However, the MPCA is currently working with EPA and other states to develop the programs for implementing the PM_{2.5} ambient standard.

Comment 65-39: The commenter states that there is no documentation in the EAW on whether or not the years selected for analysis in the air dispersion modeling are actually representative.

Response: This issue is primarily the responsibility of the FLM. They reviewed and approved the use of 1990, 1992, and 1996 meteorological data for the Class I analyses (which have also been used for other projects) and believe those years to be representative.

Comment 65-40: The commenter notes that PM₁₀ for the 24-hour standard is very close (within 0.4%) of exceeding the ambient air standard for all three scenarios modeled for the Class II increment. This is more disturbing as the preferred mitigations made little difference. The commenter believes that changes to the proposed plant design or control systems are needed to build in a safety margin so the limit is not exceeded by the proposed project. This needs to be examined in an EIS and the cause eliminated in the final air permits.

Response: The modeling reflects potential emissions, while actual emissions are expected to be much lower, as they have been in the past. As shown in Table 2 of the Air Emission Permit TSD, 2004 actual emissions of PM₁₀ were 982 tons compared to potential emissions of 1644 tons. Post-project actual

emissions of PM₁₀ are expected to increase to 1037 tons per year. Furthermore, maximum-predicted modeling results fall near the property boundary and drop off with distance from the facility (see also response to comment 83-5). Nevertheless, the MPCA staff recognizes that the modeled concentrations are close to the standards for some averaging times. Because PM₁₀ is modeled at about 5 micrograms per cubic meter under the 24-hour standard of 150 (at about 1 SIL), the latitude for future growth in emissions is constrained. Several permit conditions on pages A-1 and A-2 of the Air Emission Permit amendment address this by requiring re-modeling in the event the Permittee desires to make changes to the Facility in the future. For this Facility, unlike most, site-specific ambient monitoring is available as a method of verifying compliance. To further address this issue, an additional condition was added related to the required quarterly ambient monitoring reports, on page B-4 of the Air Emission Permit amendment. If any ambient PM₁₀ measurements are over 145 micrograms per cubic meter, the Permittee is required to evaluate the cause, take appropriate corrective actions, and discuss these instances and document actions taken in the quarterly report.

Since the SIL was not exceeded, actual emissions are expected to be lower than modeled air emissions and since measures have been incorporated into the Air Emission Permit that are intended to prevent an exceedance, the MPCA believes that there is no justification for requiring an EIS on this account.

Comment 65-41: The commenter notes that PM₁₀ for the 24-hour standard is within 2.5% of exceeding the (.006/ug/m³) USEPA SIL for the Class I increment for the Boundary Waters Canoe Area Wilderness (BWCAW, Table 8, EAW page 29). The commenter believes that changes to the proposed plant design or control systems are needed to build in a safety margin so the limit is not exceeded by the proposed project. This needs to be examined in an EIS and the cause eliminated in the final air permits.

Response: Please refer to the response given for Comment 65-40.

Comment 65-42: The commenter is concerned that the MPCA's solution to violations of ambient air quality standards in 1999, 2000, 2001, 2002, and 2003 was to remove the monitoring station that recorded the violations rather than controlling the pollution.

Response: As Item 23 of the EAW explains, one on-site monitor detecting the most violations had been placed off of U.S. Highway 61, on NMC property, and was screened from public access by a fence. Since it would be extremely unlikely for someone to remain in that area for any period of time, MPCA staff determined that monitoring data from this station was not representative of ambient air quality where public exposure would occur. In addition, since it is on company property within the fence line, it does not fit the definition of "ambient air" in federal regulations. Further improvements are needed to minimize particulate transport off property. The improved fugitive dust plan, and installation of improved air pollution controls for the fine ore bins and other emission units are expected to help resolve this problem.

Comment 65-43: The commenter believes that exceedences of ambient air quality standards in 1999, 2000, 2001, 2002, and 2003 demonstrate NMC's unwillingness to voluntarily comply with its Air Emission Permit and take action when monitoring shows they are exceeding it. The commenter believes this should be considered in the EAW and final permits.

Response: There have been past instances where ambient air standards have been exceeded. There have also been instances where some emission units have tested over their emission limits. These were considered in setting the limits in the amended Air Emission Permit, as well as the performance testing frequency required. Those units which test closer to their limits are required to be tested more

frequently. Furthermore, the improved fugitive dust plan and installation of improved air pollution controls for the fine ore bins and other emission units are expected to help reduce emissions.

Comment 65-44: The commenter believes that the company's compliance record should be part of the EAW so the public can decide if the company can be trusted.

Response: There is no specific question within the EAW (which is a standard worksheet developed by the Environmental Quality Board) that asks about a proposer's compliance record; however, the MPCA attempts to be forthcoming about compliance in their documents. The MPCA's records are open to the public and can be reviewed in person, if a citizen so wishes.

Comment 65-45: The commenter is greatly concerned about the potential visibility impacts to the BWCAW and Isle Royale National Park resulting from the proposed project. The commenter believes that the haze measure for the weather of all three historical years analyzed would result in noticeably visible impacts over the BWCAW and in 1990 and 1992 over Isle Royale.

Response: Please refer to the response given to Comment 65-23.

Comment 65-46: The EAW states that any daily extinction coefficients over 2% are visible to the eye and the commenter notes that the daily extinction coefficients for the proposed project were modeling to show results of 4.9, 7.17 and 3.04 for the BWCAW.

Response: The FLMs have reviewed the proposed project modeling protocol and the modeled results prior to the public comment period and believe that they are the best representation available of the potential impact of this project on visibility based on the FLM's current modeling requirements and understanding of the pollutants potentially to be emitted from the project. For decision making purposes, the FLMs have identified the visibility thresholds of five and ten percent as a screening threshold with regard to a project's modeled potential impact; exceedences of the five and ten percent visibility thresholds are assessed for frequency, magnitude, and duration and are used to formulate FLM comments regarding a project's emissions, BACT applicability, and the need for additional air emission controls. However, the FLMs do not identify that a modeled visibility exceedence of two percent is significant.

The modeled visibility impacts from the proposed project are not significant. Anywhere from a two percent to a ten percent change in light extinction as compared to a hypothetical pristine or natural background is generally just noticeable in most landscapes. The EAW text that accompanied Table 12 (modeled visibility impacts for pristine background conditions) stated that when the modeled visibility results were compared to *existing* background conditions there were no exceedences of the five or ten percent visibility thresholds. The visibility modeling and results are considered to represent a conservative estimate of potential impacts due to the use of potential to emit emission rates and a conservative estimate that elemental carbon (soot) makes up 1.5 percent of the proposed project particulate emissions. The proposed project emissions are unlikely to have any elemental carbon (soot) due to the combustion of natural gas and the mineral matter used in the taconite pellet process.

Due to the low frequency of the modeled impact to the BWCAW (over 5 percent for only four days in three years), low magnitude (a highest impact of 7.2 percent extinction and the impacted areas occur over a small geographical portion of the BWCAW for those days with receptors over five percent), and short duration (no consecutive days of impact and all modeled impacts greater than five percent occur during the time of the year that has low visitor use), the FLMs view these modeled impacts to visibility as minor.

Comment 65-47: The commenter states that the number of days for which the visibility impacts are identified for the BWCAW is not shown in the EAW, and that this information is needed in the final EAW.

Response: The EAW does give the number of days for which the visibility impacts are identified for the BWCAW in Item 23 (page 33): the modeled impact to the BWCAW shows over five percent extinction for four days in three years (0.3 percent of modeled days). The FLMs consider this modeled impact to be low frequency.

Comment 65-48: The commenter notes that Table 12 of the EAW shows that the proposed project will result in 4 days that will have over 5% haze for the BWCAW and contends that this is a significant impact. The commenter believes that the proposed project will have significant haze impacts and that the modified Air Emission Permit and EAW do not address them adequately. The commenter believes the facility controls must be changed so there are no visible impacts over 2%.

Response: See response to Comment 65-46.

Comment 65-49: The Air Risk Analysis indicates an exceedence of the acute (hourly) threshold that is primarily due to nitrogen dioxide (NO₂), with a hazard quotient of 1.4, and the commenter states that this is of great concern. The commenter disagrees with the MPCA's assessment that the maximum modeled hourly NO₂ concentration falls on Highway 61 where it is unlikely a person would be exposed continuously for an hour (the exposure time frame of concern). The commenter asserts that some people walk, bike and stop to take a break along US Highway 61 and that likewise there are traffic tie-ups due to the fog the plant produces, auto accidents and industrial explosions at the facility (like the gas pipeline explosion). The commenter believes that it is reasonable that people could be exposed to this high hazard level.

Response: The MPCA concluded there was enough conservatism in the calculation of the modeled concentration of NO₂ that significant health effects are not anticipated even if a person were to spend an hour at the location of the maximum modeled NO₂ concentration along Highway 61. In an effort to provide a margin of safety around the risk estimates, hourly emissions were calculated at operation capacity and annual emissions at 8760 hours per year (each reflecting control equipment), as well as worst-case fuel for each pollutant in the case of combustion sources. While the at-capacity calculations may not over-predict the total mass of emissions, assuming combustion of worst-case fuels in the power boilers (which are not being modified) in potential-to-emit calculations likely results in an over-prediction of NO_x emissions, which are higher from natural gas combustion than from coal. The power boilers typically run on coal, not natural gas. As an indication, in 2002 and 2003 total facility actual NO_x emissions were approximately 54 percent of potential emissions (and other criteria pollutants were in the same range). Furnace 5 potential NO_x emissions are 2.8 percent of the total facility potential NO_x emissions.

Comment 65-50: The commenter notes that the Air Risk Analysis does not include an assessment of mineral fibers from the estimate of lifetime cancer risk and that this makes the EAW inadequate. The commenter believes that asbestos inhalation cancer risk factors should be used to calculate the risks of the air emissions from this facility and that the lack of this information justifies an EIS.

Response: The USEPA Integrated Risk Information System (IRIS) value for asbestos carcinogenicity is based on analysis by PCM and has traditionally been associated with occupational exposure to commercial asbestos (i.e. relatively longer fibers). MDH has been monitoring and measuring the shorter, naturally occurring ambient fibers released by NMC around the NMC facility in Silver Bay using TEM. The PCM-based IRIS value is not appropriate for calculating risk from exposure to these smaller fibers. There is currently no scientifically acceptable method to convert MDH's TEM findings into PCM fiber counts. As a result, no risk estimates for current or future NMC fiber emissions can be calculated. Due, in part, to the problems associated with estimating risk from fibers, MPCA decided to address the fiber issues independently in the EAW. It should be noted that the fiber emission calculations indicate that fiber air emissions will drop after implementation of the proposed Project. See response to Comment 56-26.

Comment 65-51: The commenter believes that the air permit needs to require benchmark testing of amphibole fibers in downtown St. Paul, as required in the Reserve Mining lawsuit. The commenter believes that environmental review of the proposed project cannot be complete without such data and a careful analysis.

Response: The MPCA disagrees with the suggestion that environmental review on this project cannot be completed without new fiber monitoring data from St. Paul or another control city. The control city fiber monitoring data that the MPCA used for past compliance determinations was the result of several years of monitoring where consistent results were being obtained. That historical data was used for the purpose of past compliance determinations regarding the "control city" standard. However, the MPCA has determined that (due in part to the time that has passed) it is appropriate, necessary and reasonable to begin the fiber monitor installation and operation process that will result in new, updated control city monitoring data that can then be used for ongoing compliance determinations and as part of the MPCA's ongoing air quality regulatory program to control and mitigate fiber emissions at NMC. The MPCA has implemented a program to collect fresh data. See Responses to Comments 56-26, 64-6, 64-13, and 64-19.

Comment 65-52: The commenter finds it interesting that in the EAW, the MPCA accepts an assumption that 50% of elemental mercury will be deposited locally and that the Mesabi Nugget Air Emission Permit states that zero elemental mercury will be deposited locally and desires an explanation.

Response: Fifty percent of the mercury to be emitted is assumed to be in a divalent form, which is a form that is much more likely to be deposited locally than elemental mercury. This assumption was used for the mercury screening analysis completed for a previously proposed NMC project in 1999. While it is likely to be an overestimate, the assumption is one that has been used in other environmental reviews to ensure that the potential for local impacts is not underestimated. Since the additional amount of mercury estimated to be released from the facility due to the proposed Furnace 5 Reactivation project (1.5 pounds per year) is anticipated to be less than the estimate associated with the 1999 project (2.3 pounds per year), the 1999 analysis conclusions are still valid; it is not anticipated that there will be a detectable increase of mercury in fish tissue in nearby water bodies due to the proposed project.

The commenter may wish to contact Anne Jackson, of the MPCA, at (651) 296-7949 for information on how mercury was approached for the proposed Mesabi Nugget project.

Comment 65-53: The commenter notes that the EAW does not take into consideration the compatibility of the proposed project with the Lake Superior Basin Plan, the North Shore Management Plan, Lake and St. Louis County Water Plans, the DNR Natural Heritage Program or other efforts to improve and protect the environment.

Response: The DNR Natural Heritage Program was contacted, as mentioned in Item 11b of the EAW. There was no indication in the DNR's response, or in subsequent communications, that the proposed project is noncompliant with the DNR Natural Heritage Program. The DNR submitted a comment letter (Letter 69) indicating they do not believe the project has the potential for significant environmental impacts.

Both the MPCA and the Wisconsin DNR have Lake Superior Basin Plans. The MPCA Lake Superior basin planner was involved during the review of the proposed project and has raised no concerns that the proposed project is noncompliant with Minnesota's Lake Superior Basin Plan. The Wisconsin DNR received a copy of the EAW and submitted a comment letter (Letter 79) stating they had reviewed the EAW and had no comments to make.

MPCA staff did question Lake County staff and was told that the proposed project was compliant with the County's rules, regulations and plans. The MPCA later received three letters from staff representing various Lake County departments supporting the project (Letters 2, 6 and 17).

The North Shore Management Board, a Board established by the DNR to develop shoreland management standards for the north shore of Lake Superior, is in the process of updating their North Shore Management Plan. Once this has been completed, local units of government along the north shore will be required to incorporate these, or more stringent, standards, into their local comprehensive plans by no later than July 4, 2006. The Arrowhead Regional Development Commission (ARDC) provides staff support for this Board and the ARDC did receive a copy of the EAW that was placed on public notice; they did not provide comment. Further discussions between MPCA and ARDC staff indicate that the ARDC is aware of the proposed project and they do not perceive a conflict between the project and the North Shore Management Plan.

The watershed in which NMC's Silver Bay plant is located drains southeast towards Lake Superior. Therefore, it seems unlikely that the proposed project would conflict with St. Louis County's water plan, should they have one.

Comment 65-54: The commenter indicates that he has spoken with Larry Lehtinen, president of Mesabi Nugget on June 20, 2005, and that Mr. Lehtinen stated that the NMC site in Silver Bay would be the ideal location for an iron nugget plant and that development of one there can be expected if the Mesabi Nugget project is moved to Indiana instead of Hoyt Lakes. The commenter indicates that shipping economics make the Silver Bay site attractive to iron nugget plant developers and that at current steel prices, such plants would be quickly profitable, and so development proposals are likely. The commenter states that since Class I increment and mercury issues will most likely delay the issuance of permits needed to implement the proposed Mesabi Nugget project, that an iron nugget plant at the NMC site is a reasonably foreseeable future project.

Response: According to NMC, there are no current plans for constructing a nugget plant on the Silver Bay plant site. The company feels that nugget technology is commercially unproven at this point and that there is no certainty that a plant will ever be built. NMC has stated in a letter to the MPCA that Mr. Lehtinen is not an officer or an employee of Cleveland-Cliffs Inc. and that he therefore has no insight into the business plans of the company.

Comment 65-55: The commenter notes that the EAW does not include a survey of major industrial facilities (paper mills, etc.) that may have unannounced expansion plans and so deems it incomplete.

Response: The MPCA staff followed standard practices to identify projects for the region that are expected to occur within the reasonably foreseeable future. These practices included contacting city of Silver Bay and Lake County staff and identifying other projects known to the MPCA because they are in various stages of environmental and/or permit review. We follow this same basic procedure for each EAW that we draft.

Comment 65-56: The commenter believes that the air impacts from the proposed UPA/Blandin paper mill project in Grand Rapids should be included in the air modeling and cumulative impact analysis.

Response: Please refer to the response given for Comment 65-55 and Item 29 of the EAW for a discussion on the potential for cumulative impacts.

Comment 65-57: The commenter states that cumulative impacts of proposed project's discharges into the Beaver River and Lake Superior are not addressed in the EAW.

Response: Please see the responses given for Comments 50-1, 50-2, 56-19, and for 65-28.

Comment 65-58: The commenter states that the proposed Mesabi Nugget and PolyMet projects are very likely to add dangerous fibers known to harm human health and other water pollutants to Lake Superior. The commenter believes the potential cumulative impacts from them can only be adequately covered in an EIS.

Response: Fibers were considered during the development of the Mesabi Nugget Air Emission Permit. The DNR and Minnesota Department of Transportation (MNDOT) have defined a line along the Iron Range which represents the boundary where contact metamorphic conditions associated with the emplacement of the Duluth Complex were conducive to the formation of fibrous amphibole minerals in the Biwabik Iron Formation. Any concentrate shipped to the Mesabi facility for use in the nugget process will be of sufficient moisture content to prevent release of fiber emissions. The nugget process essentially melts the concentrate, which in turns essentially melts the fibrous minerals trapping any fibers inside the nugget.

The PolyMet pits will be located east of the DNR/MNDOT prescribed line and the DNR, in preparing the scoping EAW for this proposed project, did consider the possibility that fibers are present within the ore. The Polymet deposit is located in a different geologic formation than the Biwabik Iron Formation. Initial drill cores found no fibers, but this testing is considered preliminary and will be redone as a part of the EIS for the proposed PolyMet project. Should fibers be present within the ore that PolyMet plans on processing, they will be assessed as part of the EIS. Based on what is known at this time, then, there is no reason to anticipate the potential for significant cumulative impacts due to fiber air emissions.

Comment 65-59: The commenter feels that the fact that DNR wildlife experts were not asked about cumulative impacts of development on the region's wildlife indicates that potential cumulative impacts have not been adequately addressed.

Response: DNR wildlife experts were asked for comments on the proposed project. A supervisor within the DNR's Ecological Services Division reviewed and distributed drafts of the EAW to his staff and also received a copy of the draft EAW placed on public notice. Several other DNR staff also received early drafts and the public noticed draft EAW. The DNR has indicated that they do not believe this project will have the potential for significant environmental impacts from a natural resources perspective (Letter 69).

Comment 65-60: The commenter states that the Minnesota Forest Resources Council is very concerned about forest fragmentation caused by rural housing development, road building, and industrial development as such activities could lead to cutting off wildlife migration routes, destruction of habitat for forage and denning purposes. The commenter notes that development favors forest edge species (which tend to be habitat generalists) and harms interior forest species (which tend to be threatened and are under great stress).

Response: These comments are noted. The proposed project is not expected to result in significant construction impacts, nor is the modest increase in staffing at NMC expected to result in the conversion of significant amounts of land for residential development.

Comment 65-61: The commenter believes that the loss of wetlands from the mine progression to occur at NMC’s Babbitt mine needs to be addressed in the EAW for the proposed project.

Response: Please see the response given for Comment 56-3.

Comment 65-62: The commenter believes that the EAW does not address the broader environmental threats to the region from the proposed project and related mining projects and how these projects will accelerate them.

Response: Please see the response given to Comment 56-28.

Comment 65-63: The commenter wishes to know how the MPCA is going to reduce mercury emissions by 93% from 1990 levels without requiring tighter controls on NMC as part of the proposed project.

Response: Please see the response to Comment 56-27 for more information.

The commenter agrees with concerns expressed by SLSA in two of their June 22, 2005 letters to the MPCA and has incorporated text from these two letters into his own. Comments from SLSA’s letter are identified under Letters 61 and 64 of this Appendix; the reader can refer to them for responses to those concerns. To the concerns expressed by SLSA, the commenter adds the following in his letter:

Comment 65-64: The commenter wishes to know how the Safe Drinking Water Act applies to the NPDES/SDS Permit.

Response: The Safe Drinking Water Act establishes both the primary and secondary drinking water regulations for all drinking water that is delivered to any user of a public water system. Although the discharge from the Mile Post 7 tailings basin is not a public drinking water facility, the Beaver River is classified as a Class 1B water. According to Minn. R. 7050.0221, sub.3, “The quality of Class 1B waters of the state shall be such that with approved disinfection, such as simple chlorination or its equivalent, the treated water will meet both the primary (maximum contaminant levels) and secondary drinking water standards.” MPCA staff interprets the commenter’s statements to indicate specific concern for amphibole fibers and fluoride. With respect to amphibole fibers, currently there is neither a primary or secondary drinking water standard. For fluoride, the modified NPDES/SDS permit contains a compliance schedule for attainment of both the primary and the secondary drinking water standards.

Comment 65-65: The commenter believes that the Mesabi Nugget furnace needs to be completely removed and not merely “rendered inoperative”.

Response: The equipment to be rendered inoperable is the Iron Nugget Pilot Demonstration Research and Development Plant located at NMC’s Silver Bay taconite processing plant. Once the amended Air Emission Permit has been issued, the pilot plant equipment cannot be legally operated. There is no need to have the equipment physically removed from the site.

Comment 65-66: The commenter believes that waiting 12 years for compliance with the water quality standard is a poor idea.

Response: Although the length of the compliance schedule may seem excessive, this is a very unique situation. The tailings basin contains many billions of gallons of water that are currently above the permitted effluent limits. The Permittee has installed a fluoride pretreatment system to remove the majority of the fluoride prior to the tailings basin. Fluoride treatment at the “end-of-pipe” at the Mile Post 7 WWTP location prior to discharge from the basin is not feasible due to the relatively low concentrations of around 12 mg/L. A review of USEPA’s *NRMRL Treatability Database* shows that there is no available full-scale treatment technology capable of meeting the effluent limits given an influent concentration of 12 mg/L. See response to Comment 61-17 for further discussion on the fluoride pretreatment system.

Comment 65-67: The commenter notes that the first paragraph of the Air Risk Analysis section under Item 24 of the EAW states that toxins with no IHBs were included in the quantitative analysis, but that there is no qualitative analysis of individual or the blend of chemicals and fibers. The commenter believes that a more complete AERA is needed.

Response: The Air Risk Analysis discussion is in Item 23 of the EAW and it states that only pollutants *with* IHBs were included in the quantitative analysis. The MPCA interprets the commenter’s statement to mean we did not quantitatively or qualitatively assess pollutants for which there are no IHBs and that he believes we should have done so.

The air emissions risk analysis process developed by the MPCA and MDH was intended to produce information in a timely manner to assist decision makers in understanding whether there is a potential for significant harm. At this time, the toxicity data sources routinely used by MPCA provide IHBs for the 86 potentially emitted chemicals quantitatively assessed in the Furnace 5 risk analysis. Application of various alternative quantitative or qualitative assessment techniques for the other 39 chemicals would result in additional information, but the uncertainties inherent in interpreting the results reduce the usefulness of this information for decision making. Risks from the blend of chemicals and fibers were not estimated for the reasons stated in the response to Comment 65-50.

Comment 65-68: The commenter asserts that the cumulative cancer risk of fibers and chemicals must be quantitatively estimated and reported to the public and RGU.

Response: Please refer to the response given to Comment 65-50.

Comment 65-69: The commenter believes that NMC cannot assert its compliance with the current Air Emission Permit and the proposed modified Air Emission Permit unless they measure ambient air fibers in a control city such as St. Paul, Minnesota. The commenter asserts that the Air Emission Permit says the Permittee must understand its facility and the limits.

Response: See Responses to Comments 56-26, 64-6, 64-13, 64-19, and 65-51.

Comment 65-70: The commenter formally requests that the MPCA Citizens' Board hold a hearing to address the concerns raised during the public comment period for the proposed project.

Response: The proposed project will appear before the MPCA Citizens' Board at a Board meeting. Parties that received notice that the EAW was available and citizens who have submitted comments to the EAW and to the modified Air Emission and NPDES/SDS Permits will all receive notification of the upcoming MPCA Citizens' Board meeting.

Comment 65-71: The commenter does not believe that the 30-day comment period has been sufficient to address concerns that he believes will have lasting impacts on Minnesota's environment and quality of life.

Response: The comment is noted. The minimum length of the comment period is defined in Minn. R. 4410.1600 for the EAW, in Minn. R. 7001.0100, subp. 4(G) for the modified Air Emission and NPDES/SDS Permits. Considering the project was widely announced in the media and many interested parties were anticipating the start of the notice period for the project and considering the mailing list announcing the availability for public review of the draft EAW and draft permits included over 400 recipients, the MPCA believes that a 30-day notice period was sufficient.

66. Comments by Darren Vogt, 1854 Authority. Facsimile letter received June 22, 2005.

Comment 66-1: The commenter notes that the 1854 Authority is an inter-tribal natural resource management organization governed by the Bois Forte Band and Grand Portage Band of Lake Superior Chippewa. The organization works to preserve, protect, and enhance the off-reservation treaty rights of these tribes in the 1854 Ceded Territory of northeastern Minnesota.

Response: The comment is noted.

Comment 66-2: The 1854 Authority is concerned about the proposed expanded discharge of water from the Mile Post 7 WWTP to the Beaver River and questions whether the proposed new effluent fiber limit of 6.8 MF/L will be protective of human health and the environment.

Response: Discussions on the effluent fiber limit were held with staff from the MDH, DNR, and the USEPA. Based on these discussions, MPCA staff believes the revised effluent fiber limit of 6.8 MF/L is protective of both human health and the environment. Please refer to the responses for Comments 3-2, 50-1, and 50-2 for more information.

Comment 66-3: The commenter states that water quality and health-based standards should be developed, and changes to permitted releases of fibers should be established upon these standards if they are more stringent than BAT.

Response: The comment is noted. The effluent limit for fibers is a technology-based limit. The MPCA staff believes that compliance with this limit will not significantly increase the impacts to human health or the environment.

Comment 66-4: The commenter further states that the environmental effects of an increased volume of water to be discharged and of increased loads of chemical parameters are unclear and notes that both the Beaver River and Lake Superior are on the 303(d) list of impaired waters. The commenter believes that increased releases from the tailings basin may further harm the system and related natural resources.

Response: The Beaver River is currently listed as impaired for mercury, pH, and turbidity. Water column measurements for mercury in the Beaver River are above the 1.3 ng/L water quality standard. The limited amount of mercury effluent monitoring data for the WWTP discharge to date has averaged less than 0.6 ng/L, which is well below the Great Lakes Initiative water quality standard. Monitoring for mercury will continue to be a requirement in the modified NPDES/SDS Permit in order to gather adequate data to determine if a reasonable potential exists to violate water quality standards.

Limits for pH in the current permit reflect the lower and upper bound water quality standards for the receiving water. The cause of the impairment is not from the facility since the facility is in compliance with current permit limitations for pH. The effluent limit for turbidity in the current NPDES/SDS Permit (3 nephelometric turbidity units - NTU) is lower than the water quality standard for the receiving water (10 NTU). The cause of the impairment is not from the facility since the facility is in compliance with current permit limitations for turbidity. Items 18 and 29 of the EAW contain more information.

Comment 66-5: The 1854 Authority is also concerned about air releases from the facility, particularly amphibole fibers and mercury. The commenter believes that air monitoring should be used to ensure that no increased release of amphibole fibers results from the proposed project (i.e. that actual monitoring data supports the modeled air results used to review the project proposal) and that the actual air monitoring be used as a basis for initiatives to reduce the total release of fibers from the facility.

Response: For more information on mercury, please see the response given to Comment 56-27, concerning fibers, see Responses to Comments 56-26 and 65-51.

Comment 66-6: The commenter notes that the proposed project will result in the potential release of 1.5 pounds of mercury annually above the amount already emitted from this facility. The commenter notes that there are already fish consumption advisories in effect for fish taken from waters in the area and this has an adverse effect on fisheries utilized by Tribal and non-Tribal members. Additionally, the proposed project is in direct opposition to the goal of the Lake Superior Binational Program (LaMP) of zero discharge of mercury into the Lake Superior basin. The commenter believes that continued efforts should be made to reduce mercury.

Response: As stated in Item 23 of the EAW, at maximum capacity and considering control equipment, the reactivation of the Furnace 5 pelletizer has the potential to emit up to 1.5 pounds of additional mercury to the air each year. Based on a review of the project proposal, the MPCA has concluded there will be no detectable increase in mercury in fish tissue in nearby water bodies as a result of reactivation of Furnace 5.

Though no effluent mercury limit has been incorporated into the NPDES/SDS Permit for the discharge of treated effluent from the Mile Post 7 WWTP to the Beaver River, the Facility does monitor the effluent for low-level mercury. Monitoring data from the past year show that treated effluent discharged to the Beaver River contains less than 0.6 ng/L of mercury and is well below the mercury water quality standard, which is 1.3 ng/L. The proposed project will increase the amount of water discharged from the basin. Due to research that demonstrates that mercury is strongly attached to the particles in the basin, there is no reasonable potential, at this time, that mercury concentrations will exceed the 1.3 ng/L mercury water quality standard. Monitoring for low-level mercury is, and will continue to be, required for this Facility to ensure the treated effluent does not exceed the mercury water quality standard.

The LaMP goal is voluntary and it was never the MPCA's intention to disallow all projects that would result in increased mercury emissions. Rather, the MPCA envisioned an approach that would encourage needed reductions and the installation of newer, cleaner equipment, while allowing desired economic growth. A statewide plan to address mercury contamination of fish has been proposed. Please refer to the response to Comment 56-27 for more information.

Comment 66-7: Lastly, the 1854 Authority does not oppose economic development, but believes that such development should only occur when all possible safeguards to protect the environment are implemented. Industrial operations should avoid or minimize negative impacts to natural resources. Any releases to the environment should meet established standards and regulators must ensure that these standards are being met. Industry should provide mitigation and restoration activities for any impacts caused to natural resources.

Response: These comments are noted.

67. Comments by Elli King, Finland, Minnesota. Letter received June 22, 2005.

Comment 67-1: The commenter states that there have been multiple complaints in recent years regarding loose fibers accumulating on area roadways and residential property. The commenter believes that NMC's first priority should be controlling this contamination better, before the proposed project is implemented.

Response: The comment is noted. Similar comments were expressed in previous letters. Please refer to the responses given for Comments 10-2, 65-42, and 65-43.

68. Comments by Lois Tweed, Beaver Bay, Minnesota. Letter received June 22, 2005.

Comment 68-1: The commenter owns land and a cabin in Beaver Bay Township and believes she has been negatively impacted by emissions from the Silver Bay plant in the past.

Response: The comment is noted.

Comment 68-2: The commenter is very concerned that the air pollution controls on the Furnace 5 pelletizing furnace will allow dangerous levels of carcinogens into nearby communities.

Response: Potentially emitted chemicals that have calculable emission rates and IHBs (including those associated with the Furnace 5 pelletizing furnace) were assessed as part of the Furnace 5 reactivation Air Risk Analysis. The main exposure pathways evaluated included inhalation of pollutants in the air and ingestion of pollutants from eating home-grown vegetables. The proposed project is not expected to pose unacceptable risks to the general public from the chemicals and exposure pathways assessed.

Comment 68-3: The commenter states that prevailing winds in the area follow the north shore of Lake Superior, blowing northeast or southwest much of the summer. Inland, winds from the northwest often turn at the shoreline where they carry high levels of particulates, mercury and other pollutants northeast or southwest towards Duluth, Minnesota. Consequently, she believes that the air dispersion modeling is suspect. The commenter further states that the plant's stacks are shorter than the surrounding hillsides and that this can cause a funneling effect.

Response: The air dispersion modeling used site-specific (onsite) meteorological data. In the PSD Air Quality Modeling for Northshore Mining Company, Figure 4-1 on page 37 shows a wind rose with a high frequency of northeast and southwest winds – this matches the observations of the commenter. Therefore, MPCA concludes that the near-field air dispersion modeling is not suspect due to the prevailing northeast/southwest wind directions. The high frequency of northeast and southwest winds parallel to the shoreline comports with the “funneling effect” observed by the commenter.

Comment 68-4: The commenter notes that there have been exceedences of the PM emission limit and she believes that the proposed project will greater increase the likelihood of exceedences.

Response: Please refer to the responses given for Comments 65-42 and 65-43.

Comment 68-5: The commenter believes that Appendix E, Page 17 and Attachment 2, Modeling Summaries, of the modified Air Emission Permit raises more questions than it answers.

Response: This comment is part of a broad topic regarding different modeling methods over the past several years that have resulted in increasingly complex modeling scenarios as correctly noted by the commenter. The increased complexity can sometimes be confusing, but it is necessary for increased environmental protection during interim periods (e.g., during the construction phase), and increased operating flexibility throughout the life of the Air Emission Permit.

Comment 68-6: The commenter believes that the proposed PolyMet and Mesabi nugget projects will introduce more pollutants into the airshed.

Response: Please see the response given for Comment 56-28 for a discussion on cumulative impacts with respect to the proposed project. The DNR will be assessing cumulative impacts for the PolyMet project as part of the EIS to be completed for that project.

Comment 68-7: The commenter states that the Minnesota Supreme Court determined many years ago that fiber levels in the air shall be below a medically significant level and feels that hauling concentrate to other facilities will not meet this determination.

Response: As noted in response to comment 64-10, the Air Emission Permit continues to have conditions related to this point, carried forward from previous Air Emission Permits issued to the Facility. Dust emissions from concentrate handling (including any entrained fibers) typically are not significant. This is because it is moist and does not contain a lot of fine grained fibrous material as a result of the wet separation and magnetic separation processes.

Comment 68-8: The commenter is concerned that the cumulative impact of the proposed project combined with other operations elsewhere will fail to protect human health.

Response: Please refer to the response given for Comment 56-28.

Comment 68-9: The commenter is dismayed that the maximum available control technology is not being required for the proposed facility, considering the presence of fibers within the ore than NMC processes. The commenter believes that the economics of the mining industry should allow them to put in state-of-the-art equipment.

Response: As highlighted by the condition on page A-2 of the modified Air Emission Permit, the facility is subject to the National Emission Standards for Hazardous Air Pollutants for Taconite Ore Processing. Those units subject to “existing source MACT (maximum achievable control technology)” must comply by October 30, 2006. As summarized on page 7 of the TSD to the Air Emission Permit, “new source

MACT” does not apply to the reactivated units, since they are not undergoing “reconstruction,” as defined in the regulations in 40 CFR pt. 63. The equipment to be reactivated, however, was evaluated as new sources under the PSD Program (40 CFR Section 52.21) and are required to have BACT.

Comment 68-10: The commenter requests an EIS to consider the cumulative impacts of the proposed project before the Air Emission Permit can be issued.

Response: The comment is noted. Please see the responses given for Comment 56-2 for information on a future MPCA Citizens’ Board meeting and to Comment 56-28 for a discussion on cumulative impacts.

69. Comments by Matt Langan, Minnesota Department of Natural Resources. Letter received June 20, 2005.

Comment 69-1: The commenter states that, from a natural resources perspective, the proposed project does not appear to have the potential for significant environmental effects, and does not require the preparation of an EIS.

Response: These comments are noted.

70. Comments by Jim Glowacki, The JPG Group. Letter received June 20, 2005.

Comment 70-1: The commenter believes the proposed project merits approval because it would result in production of additional taconite and concentrate and would provide economic benefits.

Response: The comment is noted. Please see the response given for Comment 1-1.

Comment 70-2: The commenter notes the addition of state-of-the-art BACT air pollution control equipment and BAT at the WWTP.

Response: The comment is noted.

Comment 70-3: The commenter notes that even with the increased production, the new air pollution control equipment would reduce air emissions.

Response: The comment is noted. Please refer to the response given for Comment 26-2.

Comment 70-4: The commenter notes that the fiber limit is not likely to have an adverse impact on the public’s health and that the discharge from the Mile Post 7 WWTP will not degrade the water quality of the Beaver River or of Lake Superior.

Response: These comments are noted.

Comment 70-5: The commenter notes that the MPCA’s air toxics risk evaluation concluded the limits in the proposed permits are acceptable.

Response: The comment is noted. Please refer to the response given for Comment 28-2.

Comment 70-6: The commenter notes that the environmental analyses for the BWCAW and Voyageur’s National Park indicate that air emissions will be below standards and visibility will not be significantly impaired.

Response: The comment is noted.

Comment 70-7: The commenter notes that although there is no health-based drinking water standard for fibers, the fiber limit established for the proposed discharge will be lower than the drinking water standard for asbestos.

Response: The comment is noted.

71. Comments by Robert Tisovich, Louis Leustek and Sons, Incorporated. Letter received June 20, 2005.

Comment 71-1: The commenter supports the proposed project.

Response: The comment is noted.

Comment 71-2: The commenter notes the depressed economy of northeastern Minnesota and believes that NMC is a solid firm that pays high wages with full fringe benefits.

Response: The comment is noted.

Comment 71-3: The commenter believes that people opposed to the proposed project represent a greatly biased opinion that is anti-business growth in northeastern Minnesota. The commenter does not believe their claims that the project will be harmful to the environment.

Response: These comments are noted.

Comment 71-4: The commenter believes that government should base its decisions on common sense and facts, not on the emotions of a vocal minority or on threats of lawsuits from extremist groups.

Response: The comment is noted.

Comment 71-5: The commenter states that government's purpose is not to hinder business and society.

Response: The comment is noted.

72. Comments by Ronald J. and Elizabeth Ann Harri, Ely, Minnesota. Letter received June 21, 2005.

Comment 72-1: The commenters endorse the issuances of permits necessary to implement the proposed project.

Response: The comment is noted.

Comment 72-2: The commenters state that, after hearing that the idled equipment to be reactivated is located within existing buildings and after hearing that the process will be within the present parameters, they believe the permits should be issued.

Response: These comments are noted.

73. Comments by Carol Youngberg, Silver Bay, Minnesota. Letter received June 22, 2005.

Comment 73-1: The commenter is a board member of the Lake Superior School District and fully supports the proposed project.

Response: The comment is noted.

Comment 73-2: The commenter believes that the proposed project will create much-needed jobs, which would bring in new families to the area and students to the declining student population.

Response: The comment is noted. Please refer to the response given for Comment 1-1.

74. Comments by Jeremy M. Fryberger, Hallett Dock Company. Letter received June 22, 2005.

Comment 74-1: The commenter supports the proposed project.

Response: The comment is noted.

Comment 74-2: The commenter notes that the proposed project would result in production of additional taconite and concentrate and would provide economic benefits, such as jobs.

Response: The comment is noted. Please see the response given for Comment 1-1.

Comment 74-3: The commenter notes that the discharge from the Mile Post 7 WWTP will not degrade the water quality of the Beaver River or of Lake Superior.

Response: The comment is noted.

Comment 74-4: The commenter notes that even with the increased production the new air pollution control equipment would reduce air emissions.

Response: The comment is noted. Please see the response given for Comment 26-2.

Comment 74-5: The commenter applauds the MPCA and NMC for working together to thoroughly analyze the positive and negative features of the proposed project.

Response: The comment is noted.

75. Comments by Dennis Wagner, Northshore Mining Company. Letter received June 22, 2005.

Comment 75-1: The commenter provides documentation in support of the process to modify the modified NPDES/SDS Permit to increase the discharge from the Mile Post 7 WWTP and to modify the total fiber effluent limit.

Response: The information is noted.

76. Comments by Dan Hestetune, Short, Elliot, Hendrickson Incorporated. Letter received June 23, 2005.

Comment 76-1: The commenter supports the proposed project.

Response: The comment is noted.

Comment 76-2: The commenter notes that the proposed project would result in production of additional taconite and concentrate.

Response: The comment is noted.

Comment 76-3: The commenter notes that even with the increased production the new air pollution control equipment would reduce air emissions.

Response: The comment is noted. Please see the response given for Comment 26-2.

Comment 76-4: The commenter notes that the effluent fiber limit is not likely to have an adverse impact on the public's health and that the discharge from the Mile Post 7 WWTP will not degrade the water quality of the Beaver River or of Lake Superior.

Response: These comments are noted.

Comment 76-5: The commenter notes that the MPCA's air toxics risk evaluation concluded the limits in the proposed permits are acceptable.

Response: The comment is noted. Please see the response given for Comment 28-2.

Comment 76-6: The commenter notes that the environmental analyses for the Boundary Water Canoe Area Wilderness and Voyageur's National Park indicate that air emissions will be below standards and visibility will not be significantly impaired.

Response: The comment is noted.

Comment 76-7: The commenter notes the economic benefits of the project proposal.

Response: The comment is noted. Please see the response given for Comment 1-1.

77. Comments by Elli King, Finland, Minnesota. Letter received June 23, 2005.

Comment 77-1: The commenter is concerned about fibers present in the discharge from the Mile Post 7 WWTP to the Beaver River. The commenter does not believe any research has been done on the health effects of these fibers and feels there should be before allowing increased production at the NMC's Silver Bay taconite processing plant.

Response: Please see the response to Comment 50-3.

Comment 77-2: The commenter would like information on the condition of the Mile Post 7 tailings basin and the WWTP. The commenter wishes to know how much seepage justifies a seepage recovery pond and if there are seepage points below this volume that are considered harmless and left unaddressed.

Response: The condition of the Mile Post 7 tailings basin is usually defined in terms of structural integrity of the basin dams. Those dams are regulated by the DNR's Mine Safety Program. Routine monitoring and inspections are required in order to ensure that the basin is structurally stable and safe. Currently, the basin is considered in stable and safe condition. The MPCA staff determined that the WWTP has been operated and maintained properly, as detailed in Attachment 4 to the NPDES/SDS Permit Fact Sheet. Therefore, MPCA staff considers the treatment plant to be in good condition.

Seepage recovery has been, and continues to be, a major design consideration at Mile Post 7. Due to the slight permeability of the construction materials, seepage does occur through the dams. Seepage collection is accomplished through the proper placement of both low permeability materials and drainage points. Where the dams abut bedrock, grout is used to control seepage through shallow fractures in the rock. Given these construction practices, dam seepage is controlled in a manner that minimizes the risk of uncontrolled seepage points from developing. Although the basin is located over clay soils, some seepage may occur through the base of the basin. A ground-water monitoring network is in place around the perimeter of the tailings basin to monitor potential impacts to ground water. Surface water monitoring is also included at specific locations around the tailings basin to monitor potential impacts to surface water, specifically the East Branch of the Beaver River, Beaver River, and Bear Lake.

78. Comments by Lynn LaPatka, Mountain Iron, Minnesota. Letter received June 24, 2005.

Comment 78-1: The commenter is concerned about the new air and mercury pollution the proposed project will cause. The commenter states that there is technology to prevent this kind of pollution and the commenter believes it is foolish to put money into a project that will create problems.

Response: The comment is noted. Please see the response given for Comment 56-1.

Comment 78-2: The commenter hopes that we have all learned from our experiences from the late 1970s and early 1980s in removing NMC's discharge from Lake Superior.

Response: The comment is noted.

Comment 78-3: The commenter requests an EIS.

Response: The comment is noted. Please see the response given for Comment 56-2.

79. Comments by William Gantz, Wisconsin Department of Natural Resources. Letter received June 24, 2005.

Comment 79-1: The commenter states that the Wisconsin DNR as reviewed the EAW and has no comments.

Response: The comment is noted.

80. Comments by Sandor Pitek, Silver Bay, Minnesota. Letter received June 27, 2005.

Comment 80-1: The commenter can appreciate the economic boost the proposed project would provide, but still has concerns.

Response: The comment is noted.

Comment 80-2: The commenter would like confirmation that the proposed bag filters are as effective as NMC representatives claim they are. The commenter is most concerned about fiber air particles.

Response: The proposed project entails, in part, reactivating nine concentrator sections and upgrading multiclones on all nine with fabric filters as the sections are reactivated. In addition, multiclones on all currently operating concentrator sections will be replaced with new fabric filters. The MPCA has assessed potential fiber air emissions and has found that although additional equipment will be in operation after implementation of the proposed project, fiber air emissions from the facility are expected to decline due to the more effective air pollution control equipment. Calculations regarding the expected overall decrease in fiber emissions are further discussed in response to comment 64-8. As noted, Attachment 4 of the Air Emission Permit TSD contains the major details. Note that the results from stack tests indicate that the emission rate from multiclones is on the order of 20 million fibers per dry standard cubic foot (fbrs/dscf), while that from cartridge collectors is on the order of 34 thousand fbrs/dscf.

Comment 80-3: The commenter would also like to understand the consequences of the proposed project with regards to mercury.

Response: Please see the response to Comment 66-6.

Comment 80-4: The commenter wishes to know what concentration of the fibers in the Beaver River is naturally occurring and what concentration is due to the Mile Post 7 discharge.

Response: Based on fiber sampling conducted in the Beaver River prior to permitting the discharge from the Mile Post 7 tailings basin, fibers do exist in the Beaver River upstream of the tailings basin. The background data at the time was considered naturally occurring, although it was noted that the fiber levels may have been impacted by construction activities at the basin or air emission deposition, so it is difficult to estimate the contribution of naturally occurring fibers. What can be said is that the concentration of fibers discharged to the Beaver River from the tailings basin is not expected to change from current levels. With an increase in the discharge rate, there will be an increase in the “total count” of fibers released to the Beaver River, and ultimately to Lake Superior. The MPCA staff does not expect the concentration of fibers in the discharge to increase from current levels. Although the revised fiber limit is higher than current limit, the revised limit is based on past fiber concentrations in the effluent. Fiber concentrations in the discharge from Mile Post 7, using applicable past performance data from January 2004 through March 2005, shows fiber concentrations ranging from 0 to 5.4 million fibers per liter. Statistically, there is no difference between these past effluent concentrations and the revised daily maximum limit of 6.8 MFL. It should be noted that fiber data prior to January 2004 shows fiber concentrations ranging from 0 to 20.8 million fibers per liter.

Comment 80-5: The commenter urges to MPCA to thoroughly and carefully examine the project proposal.

Response: The comment is noted. Based on the available information, the MPCA does not believe the proposed project has the potential for significant environmental effects that are reasonably likely to occur.

81. Comments by Gary Vequist, NPS. E-mail received June 27, 2005.

Comment 81-1: The commenter notes that the proposed project will be about 150 kilometers (km) southeast of Voyageurs National Park, and 160 km southwest of Isle Royale National Park, both Federal Class I air quality areas managed by the NPS.

Response: These comments are noted.

Comment 81-2: Emissions from the proposed project have triggered PSD review for PM₁₀, SO₂, and NO₂. Based on the NPS' review, the impacts of the proposed emissions on the Air Quality Related Values at Voyageurs and Isle Royale National Parks would be insignificant.

Response: The comment is noted.

Comment 81-3: The NPS is also concerned that the MPCA did not follow proper procedures regarding notification of the FLMs. Specifically, the NPS did not receive “all information relevant to the permit application...at least 60 days prior to public hearing” as required by 40CFR51.307. In fact, MPCA did not even notify the NPS of the beginning of the public comment period or provide us a copy of the draft permit or staff analysis.

Response: A copy of the EAW was sent to Don Shepherd of the NPS at the beginning of the public comment period, which included internet links to electronic copies of the modified Air Emission and NPDES/SDS Permits and the Class I Area Impact Analysis, but the commenter is correct in his claims that the NPS was inadvertently omitted from the draft Air Emission Permit mailing list. Like the U.S. Forest Service, the NPS was sent the initial air permit application package in October 2004, as well as the revised, re-certified package shortly before the public comment period in May 2005. The MPCA staff spoke with Don Shepherd of the NPS on at least two occasions during the permit drafting process and was told that the NPS did not have significant interest in the project, due to its scope and distance to the national parks relative to the BWCA. The Permittee and MPCA staff were in close communication with USFS staff, the FLM for the BWCA. USFS comments were documented in a letter during the permit drafting process, and were the subject of telephone conversations between USFS and MPCA staff. The NPS comments largely echo these earlier USFS comments.

Comment 81-4: The NPS believes that the MPCA should expand its analysis of the feasibility of reducing NO_x emissions. The USFS had previously informed MPCA that low temperature oxidation technology might represent a feasible option, yet the NPS notes that no discussion of this technology is included in the MPCA staff analysis.

Response: Low temperature oxidation was not specifically mentioned in the TSD for the Air Emission Permit; however, it was addressed in the revised BACT report in the revised air permit application package.

Comment 81-5: The NPS continues to support MPCA's determination that Selective Catalytic Reduction (SCR) is technically feasible for application to the taconite pellet indurating process and believes that NMC should conduct an analysis of the economic feasibility of applying SCR to Furnace #5.

Response: SCR control technology was ruled out in the BACT analysis, similar to other situations, due to the high cost and high energy use to re-heat the gas stream after the wet electrostatic precipitators. SCR cannot be installed upstream due to the presence of catalyst poisons, such as sulfur.

Comment 81-6: The commenter also believes that NMC should conduct analyses to determine the costs associated with re-heating the gas streams to temperatures in the 250 – 600 degrees Fahrenheit range. For example, CRI International, a subsidiary of Royal Dutch Shell, has demonstrated NO_x removals of 42 – 97.5 percent on 291 – 419 degrees Fahrenheit gas streams from ethylene cracker furnaces in Europe.

Response: These analyses have been done and the costs and energy impacts are still prohibitive even at the low end of the temperature range (see the attachment to the revised TSD). It bears mentioning that no other taconite plant has SCR at this time.

Comment 81-7: The NPS supports the proposal by USFS that either a two-tier limit (one for fuel oil, one for natural gas) or a control efficiency requirement equal to the assumed figure of 80 percent should be incorporated into the permit to control SO₂ emissions from the furnace.

Response: The revised permit application and draft Air Emission Permit contain the suggested two-tier limit for Furnace 5.

Comment 81-8: For PM, the NPS agrees with USFS that the proposed BACT limit of 0.01 grains per dry standard cubic foot (gr/dscf, filterable plus organic condensables) is too high and should be held to the new source standard in the rule of 0.006 gr/dscf (front half filterable catch only).

Response: This change suggested by the USFS was not reflected in the draft Air Emission Permit, and this has been discussed with USFS staff. As explained in the Air Emission Permit TSD, Furnace 5 is not subject to “new-source MACT” under the taconite NESHAP in 40 CFR pt. 63, subp. RRRRR, since it is not being “reconstructed,” under the rule definition. The 0.01 limit in the permit includes dry (front-half filterable catch) plus organic condensables plus inorganic condensables. The “new-source MACT” limit only includes the dry portion. Considering available stack testing data in which the front-half catch is about half the total, the 0.006 limit for front-half catch will effectively be met. The decision to use the 0.01 limit, described above, was made considering the form of similar limits in the USEPA Reasonably Available Control Technology/BACT/Lowest Achievable Emission Rate Clearinghouse and those in the facility’s existing operating permit.

82. Comments by Britta L. Bloomberg, Minnesota Historical Society. Letter received June 28, 2005.

Comment 82-1: Based on a review of the project information, the Minnesota Historical Society has concluded that there are no properties listed on the National or State Registers of Historic Places, and no known or suspected archeological properties in the area that will be affected by the proposed project.

Response: The comment is noted.

Comment 82-2: The commenter notes that the comment letter does not address the requirements of Section 106 of the National Historic Preservation Act of 1966 and 36CFR800, procedures of the Advisory Council on Historic Preservation for the protection of historic properties.

Response: The information is noted.

83. Comments by Peter J. Defoe, Fond du Lac Reservation. Letter received July 5, 2005.

Comment 83-1: The commenter notes that the Fond du Lac Band of Lake Superior Chippewa (Band) retains hunting, fishing and gathering rights on 8 million acres of territory ceded to the United States and that the proposed project is located within the Ceded Territories, meaning that any air pollutants emitted by the proposed facility may have the potential to affect the Band's treaty-protected rights.

Response: These comments are noted.

Comment 83-2: The commenter notes that the air dispersion modeling for PM₁₀ performed in the three separate modeling scenarios demonstrate that they are within 97% of the 24-hour ambient air quality standard. This allows very little leeway to account for modeling uncertainties, adverse weather patterns or excess emissions from other sources, all of which could cause the standard to be exceeded. The Band believes that this should be reduced to no more than 90% of the standard.

Response: Please see response to Comment 65-40.

Comment 83-3: The commenter notes that the Air Risk Analysis identifies a veteran's home, a high school and other sensitive populations are located near the facility. Sensitive populations may need more protection than what is currently proposed in the draft Air Emission Permit.

Response: Sensitive individuals in the general population are those who may be at greater risk for developing adverse effects following chemical exposure, including those with increased exposure (e.g., children, adults engaged in physical activity), those undergoing physiological change (e.g., children, pregnant women and their fetuses), individuals with impaired physiological conditions (e.g., elderly persons, persons with existing diseases such as lung, heart or liver disease), and individuals with lower levels of protective biological mechanisms due to genetic variability within the population. Less susceptible individuals are healthy adults without any genetic or biological predisposition that may increase sensitivity to the chemical of concern.

IHBs are concentrations in air below which adverse health effects are generally not anticipated to occur in people (including sensitive receptors) exposed to concentrations below the IHBs. However, because the full range of variability within the human population for most responses is unknown, there may be a proportion of the population for which IHBs will not be protective. For example, they may not protect hypersensitive individuals (those exhibiting idiosyncratic responses that cannot be predicted from studying the health effects of the substance). While an attempt has been made in developing the IHBs to identify specific sensitive subgroups for each substance from the literature, it has not been possible to identify all conditions predisposing toward adverse health effects following exposure to toxic substances. As more susceptible groups are defined, the intent is to adjust levels as necessary to protect such individuals.

In addition to considering the protectiveness of the health benchmarks, it is important to consider whether a sensitive population might be exposed to the levels the benchmarks represent. Because the more sensitive Silver Bay receptors do not live in the areas of maximum modeled air concentrations, and because even the maximum modeled concentrations are less than benchmarks designed to be protective of most receptors (with the exception of NO₂), the potential for significant effects to adversely impact Silver Bay residents from the pollutants quantitatively assessed in the risk analysis is low.

The only chemical evaluated in the risk analysis where the maximum modeled concentration was over the health benchmark is NO₂. Given the proximity of the sensitive receptors of Silver Bay to the areas of modeled maximum NO₂ concentrations, it is unlikely exposure would occur to high enough concentrations to trigger an adverse response. The maximum modeled hourly concentration falls on Highway 61; concentrations decrease as distance from the highway increases. Locations of modeled concentrations greater than the benchmark for the most part fall to the northeast of the facility in an area zoned industrial/commercial (see the NO₂ hourly concentration plot figure in the risk analysis at <http://www.pca.state.mn.us/hot/pubs/nsm-riskanalysis.pdf>). Additionally, the acute Reference Exposure Level (REL) for NO₂ developed by California's Office of Environmental Health Hazard Assessment is based on a study population of sensitive humans (asthmatics). It is thought to be protective against mild adverse effects in asthmatics since adverse effects were not observed in the study populations at concentrations below the acute REL. Given the potential mild impacts to a sensitive individual if exposure occurs at the NO₂ benchmark concentration and the low likelihood that a sensitive receptor will be exposed for a significant amount of time at that level, there is no indication that significant harm could occur.

Comment 83-4: The Air Risk Analysis states under Section 20 that the 3-hour modeled impact of SO₂ reaches 99% of the standard, although this does not appear to be confirmed in data found in the draft EAW. The Band is concerned that SO₂ levels in the area may be allowed to come so close to the air quality standard.

Response: It needs to be noted that the summary information in the EAW uses so-called "second high" results in the comparison (per the form of the ambient air quality standard), while the summaries in the air risk analysis use "first high," a more conservative number. The relevant ratio of modeled concentration to the ambient standard for the 3-hour standard Minnesota Ambient Air Quality Standard is more stringent than the National Ambient Air Quality Standard is 0.78, which is the highest of all averaging times. Furthermore, maximum modeled concentrations are near the property boundary and decline further away. Given this, and considering actual SO₂ emissions are less than the modeled potential emissions, MPCA staff conclude the SO₂ ambient standards are not threatened. As indicated in Table 2 of the air permit TSD, actual SO₂ emissions (the vast majority of which come from the two existing electric power boilers) in 2004 were 2797 tons, less than half of the potential emissions of 9095 tons (and post-project actual emissions are expected to increase only slightly to 2818 tons per year).

Comment 83-5: A statement on dispersion modeling in the Air Risk Analysis is startling to the commenter, "Uncertainty is moderate due to the use of a less refined reference model with poor quality stack/building coordinates and limited onsite meteorology" (Section 34(b)). If uncertainty is moderate, predicted levels should not be allowed to come so close to the National Ambient Air Quality Standards.

Response: See also Responses to Comments 65-40 related to PM₁₀, 83-4 related to SO₂. NMC used the less refined ISC model which is not overly sensitive for such errors. MPCA expects better quality stack/building coordinates together with more refined modeling would improve all and reduce most predicted concentrations (especially along Highway 61, where the highest predicted impacts occur). Other factors also contribute to the degree of assurance in making the risk management decision that the permit conditions are sufficiently protective. For example, for PM₁₀ there will continue to be ongoing ambient monitoring, and a provision was added to the permit requiring the Permittee to investigate potential causes of instances when measured PM₁₀ concentrations are within five micrograms per cubic meter of the 24-hour standard. The provision also requires taking any appropriate corrective actions, and reporting on them in the quarterly monitoring reports submitted to the MPCA. Providing additional

assurance for SO₂, and other pollutants, is the fact that the modeling is based on potential emissions assuming worst-case fuels, while actual emissions are lower. See also Responses to Comments 65-40 related to PM₁₀, 83-4 related to SO₂.

Comment 83-6: Table 8 of the draft EAW shows that the modeled maximum air concentration of PM₁₀ at the BWCAW is 0.294, just below the SIL of 0.3. The Band believes that more should be done to address air quality in the BWCAW.

Response: Please see Responses to Comments 65-46, 65-47. Like for other PSD projects where visibility modeling is done, standard practices according to FLM guidance were followed for this project. The USFS and NPS, responsible for the BWCA and other Class I areas, have concluded that visibility impacts from the project are insignificant. The commenter is encouraged to remain involved in the regional haze rule implementation process mentioned in Comment 65-46.

Regional haze due to the emissions of numerous sources is being addressed through implementation of the regional haze rule, a revision to which was finalized by the USEPA on June 15, 2005. State Implementation Plans that detail how each state plans on achieving required air emission reductions are due in December 2007, and the commenter is encouraged to participate in that process.

Comment 83-7: Modeling results in the draft EAW show that the potential exists for the project to exceed a 5% increase over pristine background extinction coefficients within the BWCAW for several days out of a modeled year. The Band disagrees with the USFS' assessment that the potential visibility impairment is minor. They believe that visibility should be protected for the sake of the land itself and because the BWCAW is as much a winter tourist destination as a summer one.

Response: Please see Responses to Comments 65-46, 65-47, and 83-6.

Comment 83-8: The commenter notes that the acute hazard index threshold was exceeded for hourly NO₂ emissions. Since the index of 1.0 indicates a level of risk of less than 1 in 100,000 excess cancers, the Band wishes to know how many excess cancers an index of 1.4 allows.

Response: NO₂ is not considered a potential cancer-causing chemical, and the threshold of 1 in 100,000 excess cancers does not apply. A hazard quotient of 1.4 was estimated for NO₂ in the air risk analysis (vs. a hazard index, which is the sum of hazard quotients developed for individual chemicals). The hazard quotient is intended to be an indication of the potential for adverse *noncancer* health effects. The NO₂ hazard quotient is the ratio of the maximum modeled hourly NO₂ concentration (estimated to be at a location along Highway 61) to the IHB concentration for NO₂ of 470 µg/m³, which is based on increased airway reactivity observed in asthmatics. The hazard quotient indicates that a modeled concentration along US Highway 61 could be approximately 1.4 times higher than the NO₂ IHB. Concentrations of NO₂ in air below this level are not anticipated to result in adverse health impacts.

Comment 83-9: The commenter disagrees with the MPCA assertion that it would be unlikely for people to spend a full hour on US Highway 61 and they assume that people do walk and bike on the highway and may live close to it. They believe this matter needs further investigation and that residents living near the facility should be notified of the finding, especially considering most of the city of Silver Bay lives within one mile of the facility.

Response: Please refer to the response to Comment 65-49.

Comment 83-10: The Air Risk Analysis states that the acute NO₂ hazard quotient does not include emergency generator emissions, meaning that the actual risk may be even higher. The power boilers, which are not being modified as a result of the proposed project, are the main contributors to the facility's high NO₂ hazard index while burning natural gas. These boilers normally burn coal rather than natural gas. The Band urges the MPCA to include conditions within the Air Emission Permit that prevent an exceedence of the hazard quotient, for example by limiting the amount of natural gas that can be burned in the boilers.

Response: As explained in the Air Risk Summary document, the MPCA risk managers concluded that the Air Emission Permit conditions as drafted are sufficiently protective.

Comment 83-12: The Air Risk Analysis states that people who fish were not assessed. The Band believes this is an oversight, as many people on northern Minnesota fish, and Indian people have a higher level of fish consumption than other groups.

Response: As noted by the commenter, risks from eating fish from nearby or distant water bodies were not calculated. The MPCA staff is currently reviewing chemical fate and transport models for the purposes of estimating concentrations in water bodies and in fish that could result from facility air emissions. Due to the dynamic nature of a large number of variables that come into play in predicting uptake of mercury into fish (e.g., watershed to water body size ratio, turnover rate of water body, permeability of watershed soils, and many other parameters), the fate and transport models under consideration have not yet been determined by MPCA staff to provide conservative estimates of fish uptake while not providing unrealistically high estimates. However, the mercury emissions analysis described in the draft EAW concluded that there would not be a detectable increase of mercury in fish tissue in nearby water bodies due to the proposed project. A statewide plan to address mercury contamination of fish has been proposed. Please refer to the response to Comment 56-27 for more information.

Comment 83-13: The draft Air Emission Permit states that actual emissions of hazardous air pollutants from this facility will total 134 tons once the project has been implemented. The draft EAW anticipates that about 12.5 pounds of mercury (2.5 pounds attributable to Furnace 5) will be emitted once the project has been implemented. The Band has been unable to locate an explicit accounting of what other toxics will be released, in what amounts, and what release will be directly attributable to this project. Though the Air Risk Analysis gives a list of chemicals, it doesn't say in what amounts they will be emitted or compare potential emissions to health-based thresholds. The band believes this should have been better explained.

Response: Emissions estimates, including for air toxics, are contained in Attachments 5 and 6 to the Air Emission Permit TSD. Chemical-by-chemical results of modeled air concentrations compared to IHBs for the maximum exposed individual concept are shown in Table 5-2 of the "Air Emissions Risk Analysis for the Furnace 5 Reactivation Project" submitted May 2, 2005, which has been added as an attachment to the Air Emission Permit's TSD. Emissions for 86 chemicals were quantitatively assessed in this manner. Consistent with the MPCA's Air Emissions Risk Analysis process, the remaining potentially emitted chemicals which do not have IHBs are noted in item 13 of the Air Risk Analysis Summary. Item 23 of the draft EAW explains that an estimated 1.5 pounds of mercury (at most) would be emitted from Furnace 5.

Comment 83-14: The commenter notes that Minnesota is a member of LaMP and that the proposed project does not meet the goal of attaining the voluntary goal of zero mercury emissions within the Lake Superior basin.

Response: The commenter is correct in its statement; however, it should be noted that the LaMP goal is voluntary and it was never the MPCA's intention to disallow all projects that would result in increased mercury emissions. Rather, the MPCA envisioned an approach that would encourage needed reductions and the installation of newer, cleaner equipment, while allowing desired economic growth. Please refer to the response to Comment 56-27 for more information on the MPCA's strategy to reduce mercury in our waters statewide.

Comment 83-15: The commenter does not believe that the cumulative impacts of the proposed project and other mining projects proposed for northeastern Minnesota have been considered.

Response: Please refer to the response given to Comment 56-28.

Comment 83-16: The commenter further notes that the United States and Canada, with cooperation from state, tribal and provincial agencies, have agreed to the Great Lakes Binational Toxics Strategy, the purpose of which is to work towards the goal of virtual elimination of persistent toxic substances resulting from human activities. The proposed project does not meet this goal.

Response: Although the MPCA has committed to reducing mercury emissions throughout the state and, specifically, in the Great Lakes basin, it did not commit to a ban on all new sources of mercury. The MPCA plans to continue its mercury reduction efforts by taking advantage of opportunities at existing sources where controls can lower mercury emissions. The state's mercury TMDL and the voluntary mercury reduction strategy are also elements of the MPCA's efforts to reduce mercury emissions.

Comment 83-17: The commenter notes that the statewide mercury TMDL proposes requiring in-state control of mercury only after other contributing sources have been controlled. The proposed project will not reduce mercury within the state nor provide protection from mercury deposition of states downwind from Minnesota.

Response: Please refer to the response given for Comment 56-27. The proposed mercury TMDL has its own process, which includes a public comment period at which time citizens may voice concerns about the proposed TMDL approach. Please contact Howard Markus of the MPCA at (651) 296-7295 for the status of the mercury TMDL.

Comment 83-18: The Band opposes the prospect of any additional mercury within its traditional hunting, fishing and gathering grounds. The Air Risk Analysis concluded that "this assessment showed no significant increases in local deposition to nearby lakes", yet very little mercury is needed to contaminate a water body.

Response: The MPCA's assessment of the proposed project determined that the proposed project would cause no measurable increases in local mercury deposition to nearby lakes. Please refer to the response given to Comment 56-27 for more information on how Minnesota intends to reduce mercury in its waters.

Comment 83-19: The MPCA needs to take a statewide approach to reducing mercury and notes that the Band has written to both the MPCA and the USEPA on numerous occasions about this issue. Band members are especially at risk from mercury contamination due to the higher level of consumption of fish.

Response: The MPCA appreciates the Band’s concerns with regards to mercury and has proposed a statewide approach to reducing mercury in the form of the statewide mercury TMDL. Please refer to the response given to Comment 56-27.

Comment 83-20: The draft EAW states that the amount of coal burned will not increase as a result of the proposed project and the Band would like to see this included as a permit condition. They would also like to see mercury deposition monitoring near the facility.

Response: The coal-burning units at the facility are not part of the proposed project, are permitted at their capacity, and were analyzed in that manner. A coal usage permit condition, therefore, is unnecessary. An ambient monitor for mercury would accumulate pollutants not only from the Facility, but also from other nearby, regional and global sources. Differentiating among the specific facilities or even the types of facilities at which a pollutant or set of pollutants was generated would be difficult (if not impossible) and the desired outcome – “proof” that the facility was clean – is likely to be unattainable.

A number of non-industry sponsored monitoring sites are located in northern Minnesota for fine particle speciation, mercury and heavy metals that could detect changes over time if the proposed project or other projects do not live up to expectations. The locations and parameters of these monitor are:

- Fernberg Road site. Parameters include: total and methyl mercury in precipitation, acid rain for cations and anions, ozone, fine particle mass, fine particle speciation which includes anion, cations, elemental carbon, organic carbon, crustal metals, and heavy metals.
- Wolf Ridge Environmental Learning Center acid rain monitoring station. Parameters include: pH, conductivity, anions, and cations.
- Virginia City Hall monitoring site. Parameters include: PM_{2.5} mass, PM₁₀ mass, TSP mass, and TSP metals. Metals include 16 crustal and heavy metals.
- Voyageurs National Park monitoring site at Ash River. Parameters include: acid rain for cations and anions, ozone, fine particle mass, fine particle speciation which includes anions, cations, elemental carbon, organic carbon, crustal metals, and heavy metals.
- USFS Marcel Experimental Forest monitoring site. Parameters include: total and methyl mercury in precipitation, acid rain for cations and anions.

These monitors would not address source questions, but could detect changes over time. All of these sites are funded by state and/or federal agencies.

Comment 83-22: The Band is disappointed with the lack of consultation with Minnesota tribes on the draft Air Emission Permit. The MPCA should have provided outreach to the Band upon receiving a completed permit application.

Response: The MPCA acknowledges that there was no pre-permit consultation with potentially affected tribes. Though not consulted during the pre-permitting stage of the project, the MPCA staff believes the Air Emission and NPDES Permits directly address the concerns raised by the affected Tribes. The MPCA is interested in ensuring a good working relationship with the tribes and has recently contacted tribal representatives in an effort to establish procedures for early communication with the tribes regarding future projects. Efforts will continue to discuss a consultation process that would meet the tribes' and MPCA's needs.

Comment 83-23: The Band encourages the MPCA to provide consultation opportunities for tribes in the future on sensitive issues, such as this one.

Response: Please see the response to Comment 83-22.

84. Comments by David Z. Skolasinski, Northshore Mining Company. Letter received August 1, 2005.

Comment 84-1: The commenter discusses the costs of fiber monitoring in the past both in the Silver Bay area and in other Minnesota Cities. The commenter suggests that these costs were covered by the company.

Response: Who paid is not germane. However, in meeting with present and past MPCA and MDH staff involved in the fiber monitoring, staff recalls that funding came from the legislature and agency budgets for St. Paul monitoring.

Comment 84-2: The commenter states that: “After gathering and comparing data from 1979 – 1983 at the approved fiber monitoring sites, MPCA concluded that the controls put in place by Reserve had met the court-ordered fiber standard. The Agency also concluded that given this showing it was no longer necessary to continue the St. Paul monitoring or the level of fiber monitoring at Silver Bay.”

Response: The MPCA staff agrees that the above-referenced historic data demonstrated that the ambient concentrations of fiber levels in the Silver Bay areas were less than those observed and monitored in St. Paul in that limited time period and that the MPCA agreed to reduce the sampling and number of analyses for fibers in the Silver Bay area. Those historic monitoring results reflected the conditions existing at that time (e.g. then existing facility equipment conditions and production levels, then existing fiber pollution control equipment and mitigation methods, Mile Post 7 operations at that time, etc.).

The St. Paul monitoring stopped for a number of reasons, including but not limited to the fact that the then-existing control city monitoring data showed fiber levels in the Silver Bay area to be lower than in St. Paul. The St. Paul monitoring also showed that significant changes in the control city monitoring results were not being observed, i.e., the data demonstrated a relatively consistent level. During this approximate time period, continued government funding for continued control city monitoring became unavailable and the then-existing relatively consistent data may have been a factor in funding decisions (i.e. no funding) for continued monitoring. In summary, the MPCA did not determine that one control city fiber monitoring data set from the late 70s/early 80s was adequate for compliance determinations with the control city standard in perpetuity. In fact, the MPCA staff was considering the restart of control city fiber monitoring at the approximate time period that the fiber health hazard symposium (see Response to Comment 64-11) was being proposed. The MPCA staff delayed that monitoring restart determination in hopes that the symposium would provide information that could be used to develop an acceptable industry-wide standard (which did not occur), which could then be factored into the fiber related decisions regarding this NMC facility.

Comment 84-3: The commenter states: “On this history, for anyone to now suggest (over 20 years and numerous permit reissuances later) that this [cessation of fiber monitoring in St. Paul] was simply an oversight or mistake needing correction is nonsense. Clearly, the Agency made the determination that Reserve had put in place the proper controls to meet the court-ordered standard. Just as clearly, all persons within and without the Agency who had been involved with the court decision would have been in a position and mentality to note and take action at such a grievous ‘mistake’. Most certainly this would specifically include USEPA, which was not only a party to the court proceedings, but would have reviewed any and all permit reissuances from 1986 to the present. That there was no such objection from

anyone clearly demonstrates that the fiber standard was neither intended nor interpreted to be some sort of floating standard that needs to be continually affirmed so that a permittee would never know from month-to-month, quarter-to-quarter or year-to-year if its air quality controls were still ‘deemed adequate.’ These numbers can go up and down for any number of reasons, and it would place a permittee in an impossible compliance position.”

Response: See Response to Comment 64-19 and 84-2. The MPCA does not assert that the cessation of fiber monitoring in the control city was the result of an oversight or mistake. The MPCA disagrees with this comment to the extent that it asserts that the control city standard is a static or stagnant standard; that is, a standard that was to be based on a limited, historic set of ambient monitoring data obtained over a limited time period to be used for compliance determinations in perpetuity, without any updating of the control city data set. The MPCA also disagrees with the NMC comment to the extent that it asserts that compliance with the control city standard was intended to be a one time compliance determination to be made only in the early 1980s. The MPCA believes the control city standard is part of ongoing regulatory compliance determinations; that is, it is a standard that is to be used to assess fiber control and mitigation efforts on an ongoing, continuing basis. Until NMC collected ambient fiber data in the metro area this year, it had been over 20 years since ambient fiber samples had been collected in St. Paul. The MPCA has determined that the collection of new, updated ambient fiber data is reasonable as part of this ongoing air quality regulatory program to control and mitigate fiber emissions. In regard to NMC’s last comments about changing data and a permittee’s compliance position, the MPCA staff has discussed with NMC representatives how the MPCA staff will analyze the newly collected control city samples and how the MPCA staff intends to use an annual geometric mean method of monitored fiber data for regulatory compliance purposes. Using an annual mean addresses the concern about data fluctuations over short time periods and such methods are consistent with other air pollutant regulatory compliance methods.

Comment 84-4: The commenter suggests that a MPCA staff proposal to require additional fiber monitoring in St. Paul may be due to: “a few recent articles in the press concerning asbestos or the belief by someone that it might prove ‘easier’ to attempt to require additional fiber monitoring.”

Response: The MPCA is not reacting to a few articles in the paper. The MPCA’s determination to implement additional control city fiber monitoring and obtain updated control city fiber data is consistent with the MPCA staff’s recent considerations (e.g., spring 2003) to restart this control city monitoring (see Response to Comment 84-2) and is based, in part, on the technical review of historic data used, as discussed in the Response to Comment 65-51. The MPCA staff reviewed past fiber data for Silver Bay and St. Paul (see Response to Comment 64-15), met with past and present staff involved in the fiber monitoring, reviewed the court proceeding history, and carefully considered all aspects of this issue. This research led to the determination that although the old control city data is valid such that current compliance can be established in relation to that data, it would be appropriate to monitor ambient fibers in the control city for purposes of updating the control city ambient fiber data at this time and such an action is not contrary to the court decisions on this issue.