Final

Supplemental Environmental Impact Statement

In-Pit Tailings Disposal Project
Ispat Inland Mining company
Virginia, Minnesota

MINNESOTA DEPARTMENT OF NATURAL RESOURCES

January 2000

Final Supplemental Environmental Impact Statement for In-Pit Tailings Disposal Ispat Inland Mining Company Virginia, Minnesota

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Responsible Governmental Unit

Minnesota Department of Natural Resources

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Abstract

This document responds to public comments on the Draft Supplemental EIS. This document and the Draft Supplemental EIS comprise the Final Supplemental EIS for the project. The Draft Supplemental EIS describes potential impacts associated with depositing taconite tailings into the depleted Minorca pit taconite mine, and recommends monitoring and mitigation as warranted. Issues include potential surface and ground water impacts, dam safety, wetlands, and economic effects.

Certification of Responsible Governmental Unit

I hereby certify that the information contained in this document is true and complete to the best of my knowledge and that copies of the completed Final SEIS have been made available to all persons and parties on the official EQB distribution list.

Thomas W. Balcom 1/3/00

Thomas W. Balcom, Supervisor
Environmental Review Section
Office of Management & Budget Services

Date

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Section One

1.0 Introduction

Ispat Inland proposes a change to its original mining and processing plan. When permitted in 1974, Ispat Inland (then Inland Steel) Mining Company planned to enlarge its present tailings basin as it filled to capacity. As an alternative to expanding its tailings basin, Ispat Inland proposes to deposit both fine and coarse tailings in the depleted Minorca pit, which once held taconite ore. In-pit disposal would reduce tailings basin construction costs and avoid wetland impacts associated with tailings basin expansion.

The Department of Natural Resources (DNR) prepared and distributed a Draft SEIS for public review and comment. The public comment period began on November 15, 1999, when the Draft SEIS notice of availability was published in the EQB *Monitor*. The public meeting on the Draft SEIS was held on December 1, 1999 in Virginia, Minnesota, and the public comment period concluded on December 15, 1999. The DNR received one written comment letter on the Draft SEIS, as well as oral comments during the public information meeting.

The Minnesota Environmental Review Rules require the Final SEIS to respond to timely substantive comments on the Draft SEIS consistent with the scoping decision and to include any necessary changes in the Draft SEIS. The DNR has determined no revisions to the Draft SEIS are necessary. This Final SEIS responds to timely substantive comments received.

Section 2 of the Final SEIS responds to public comments on the Draft SEIS. Section 2.1 addresses written comments, and Section 2.2 addresses comments received at the public meeting.

The DNR will receive public comments on the adequacy of the SEIS until January 24, 2000. The Minnesota Environmental Review Rules indicate the SEIS shall be found adequate if it:

A. *addresses the potentially significant issues and alternatives raised in scoping so that all significant issues for which information can be reasonably obtained have been analyzed;*

B. *provides responses to the substantive comments received during the draft SEIS review concerning issues raised in scoping; and*

C. *was prepared in compliance with the procedures of the Act (Minnesota Environmental Policy Act) and Minnesota Rules parts 4410.0200 to 4410.6500 (the Environmental Review Rules).*

Section Two

2.0 Responses to Comments

The Draft SEIS public review and comment period began November 15, 1999 and concluded December 15, 1999. The public meeting on the Draft SEIS was held on December 1, 1999 in Virginia, Minnesota. A transcript of the meeting is available for review at :

Minnesota Department of Natural Resources
Office of Management & Budget Services
500 Lafayette Road
St. Paul, MN 55155-4010
(651) 297-3355

Copies of the transcript may be purchased from:

Braden, Undeland & Everson
Virginia, MN 55792
(218) 741-7624

Comments on the Draft SEIS were received at the public meeting and during the public comment period. All timely and substantive comments on the Draft SEIS, and the Department's responses, are included in this section.

2.1 Responses to Written Comments

The Department of Natural Resources received one comment letter, from the Minnesota Pollution Control Agency (MPCA), during the public comment period.

The letter, reproduced on the following page, requires no response. The DNR thanks the MPCA for its assistance in completion of this review.

Minnesota Pollution Control Agency

December 15, 1999

Ms. Rebecca Wooden
Minnesota Department of Natural Resources
Office of Management and Budget Services
500 Lafayette Road
St. Paul, Minnesota 55155-4010

RE: Ispat Inland Mining Company In-Pit Tailings Disposal

Dear Ms. Wooden:

The draft Supplemental Environmental Impact Statement (SEIS) for the proposal by Ispat Inland Mining Company to deposit taconite tailings in the Minorca Pit taconite mine near Virginia, Minnesota, has been reviewed by Minnesota Pollution Control Agency (MPCA) staff. As mentioned in the SEIS, the proposal and supporting documentation, including a health risk assessment prepared by the Minnesota Department of Health, have undergone extensive review by the MPCA during the process leading to the completion of the draft SEIS. Comments previously provided by the MPCA appear to have been addressed during this process and we have no additional comment at this time.

Please feel free to contact me at (651) 296-7796 if you have any questions concerning our review or during preparation of the final SEIS.

Sincerely,

Craig N. Affeldt
Environmental Planner
Operations/Planning Unit
North District

CNA:lkk

cc: Beth Lockwood, MPCA, North District, Operations & Planning
Dick Clark, MPCA, North District, Operations & Planning
Doug Hall, MPCA, North District, Operations & Planning
Tom Estabrooks, MPCA, North District, Duluth Subdistrict Office
Ann Foss, MPCA, North District, Operations & Planning

2.2 Responses to Comments at the December 1, 1999 Public Meeting

This section of the Final SEIS includes substantive comments or questions from the December 1, 1999 public information meeting on the Draft SEIS, and the Department's responses to those comments. The comments are summarized and organized by Draft SEIS topic area.

2.2.1 Project Description *(Draft SEIS Section 3.2)*

Issue/Question: *What are the expected project life and future company plans?*

Response: The existing tailings basin and the Minorca pit will accommodate all tailings generated during Laurentian pit mining. Ispat Inland estimates Laurentian pit life at 13 or 14 years, after which the company does not have definitive plans. Expansion of Ispat Inland's mining operation, or opening a pit in a new location would require additional environmental review at the time the expansion was proposed.

2.2.2 Hydrogeology *(Draft SEIS Section 4.3.3)*

Issue/Question: *If present, underground mine workings could create a direct connection between the Minorca and Mesabi Mountain pits, increasing the potential for tailings pore waters to migrate to the Mesabi Mountain pit.*

Response: The Health Department and the DNR investigated this issue and found no evidence of underground mine workings in the project vicinity. However, the "worst case" scenario, used to predict tailings pore water migration, assumed a direct connection between the two pits, irrespective of whether underground mine workings exist.

2.2.3 Ground Water *(Draft SEIS Sections 4.3)*

Issue/Question: *Will manganese levels in tailings pore water entering the Mesabi Mountain pit exceed the secondary drinking water standard?*

Response: Under the worst case scenario, it is possible manganese levels in tailings pore water leaving the Minorca pit will exceed the secondary drinking water standard (0.05 mg/l).

However, manganese forms a precipitate in the presence of oxygen. When the pore water enters the Mesabi Mountain pit, it will react with oxygen in the pit water and drop out of solution. Within 14 weeks of entering the Mesabi Mountain pit, manganese introduced via pore waters will be virtually eliminated.

Issue/Question: *The health-based standard established by the Department of Health is 1.3 milligrams per liter; how does the standard compare to the state standard for drinking water?*
Response: The current drinking water standard for manganese is 0.1 milligrams per liter. The U.S. Environmental Protection Agency has recommended a more liberal standard, recognizing its importance to human health. The Department expects the standard will be increased to 1.3 milligrams per liter, and used this value in evaluating potential health risk.

Issue/Question: *What happens to the chemicals used in Ispat Inland's processing?*
Response: This issue is addressed in the Health Risk Assessment prepared by the Minnesota Department of Health, included in the Draft SEIS Appendix. Ispat Inland adds organic chemicals during taconite processing. By nature, the chemicals are biodegradable and break down quickly in the environment. No residual process chemicals were identified during extensive tailings water analysis.

Issue/Question: *At the public meeting, a citizen stated that "thermolites" in the Virginia area weren't discussed. When asked for additional clarification, "thermolites" was further described as silica and asbestos.*
Response: "Thermolite" is a trade name (DuPont) for a synthetic fiber clothing insulator manufactured by DuPont. The DNR assumes this product is not of concern. In an Internet search, the DNR found reference to a pipe covering insulation called "Thermalite", which was manufactured and used between 1950 and 1964, but assumes discussion of this product also is not germane to the proposed project.

For purposes of this response, the DNR assumes the issue is asbesti-form fibers such as those found in mines at the eastern end of Minnesota's iron range. Fiber-containing minerals are formed as a result of contact metamorphism, a complex geologic process. On the eastern end of the iron range, as magma moved toward the surface, it caused high temperatures and pressures, altering the mineralogy and creating fiber-bearing minerals. This did not occur in the central and western portions of the range. Minerals associated with fiber formation do not occur in the ore mined by Ispat Inland; consequently, asbesti-form fibers are not present.

In identifying which elements and compounds to analyze in the Health Risk Assessment, the Department of Health gave special consideration to asbesti-form fibers in response to citizen concerns. After determining fibers were not present at Ispat Inland's facility, the Department removed them from the list of ECCs (elements or compounds of concerns).

2.2.4 Mitigation *(Draft SEIS Section 4.7)*

Issue/Question: *Where will the City obtain potable water if the proposed project contaminates the Mesabi Mountain pit?*

Response: The "worst case" scenario was used in all aspects of analyzing potential project impacts. Under this scenario, it was assumed all process water discharged to the Minorca pit would eventually reach the Mesabi Mountain pit. In the worst case scenario, water quality in the Mesabi Mountain pit will meet or exceed primary and secondary drinking water standards. An alternative water source will not be required as a result of the proposed project.

Issue/Question: *What water quality monitoring will be required?*

Response: The MPCA, through its NPDES permit, will require monitoring of tailings discharge and ground water. Surface water quality will be monitored at the discharge point to Sauntry Creek. Ground water will be monitored at a monitoring well installed between the Minorca and Mesabi Mountain pits and at the Lincoln and Wyoming pits (*refer to Section 4.3.4 of the Draft*

SEIS for additional information).

Issue/Question: *Does the City of Virginia have a Source Water Protection Plan?*

Response: In the Health Risk Assessment, the Department of Health recommended the City develop a Source Water Protection Plan to protect Mesabi Mountain pit water quality from a variety of potential pollution sources in the pit vicinity. The DNR understands from City and Health Department staff that plan development is under discussion.

Issue/Question: *If monitoring indicates oxygen levels in the Mesabi Mountain pit are insufficient to precipitate manganese, is there a mechanism for removing excess manganese?*

Response: City of Virginia staff indicated the City's water treatment plant could be modified to aerate the intake water or add oxidants to precipitate the manganese. The manganese precipitate could then be filtered from the water.

Issue/Question: *Deposition of organic materials into the Minorca pit.*

Response: The Draft SEIS advises against introduction of organic materials into the Minorca pit. Decomposition of organic materials can remove oxygen from the water, altering pit chemistry from an oxidizing to a reducing state, and potentially changing the behavior of elements contained in tailings pore water. Consequently, the DNR recommends the Minorca pit be reclaimed with upland vegetation and that an outlet be constructed to maintain the filled pit surface in a dry, rather than wetland, condition.

2.2.5 Government Approvals *(Draft SEIS Section 5.0)*

Issue/Question: *Project permits and agency contacts.*

Response: The proposed project will require 3 state permits, as indicated in the Draft SEIS: NPDES (MPCA), Permit to Mine Amendment (DNR), and Dam Safety (DNR). Individuals interested in further information on the permitting process should contact Richard Clark

(MPCA), at 651-296-8828; or Paul Pojar (DNR) at 651-296-1049.

Issue/Question: *Is there an opportunity for City input to the NPDES permit?*

Response: The NPDES permitting process includes public notice. The City of Virginia, as well as interested groups and individuals, will have the opportunity to comment on the draft permit.

Issue/Question: *Can the City of Virginia legally require Ispat Inland to "set aside $20 million" for remediation?*

Response: The DNR is not aware of any permitting or regulatory authority held by the City of Virginia that would allow it to enforce such a request. The "worst case" analysis used by the DNR indicated the proposed project would not affect the suitability of Mesabi Mountain pit water for domestic use.

2.2.6 Other Issues

Issue/Question: *Will there be additional hearings on the Environmental Impact Statement?*

Response: The December 1, 1999 is the only public meeting associated with the Draft SEIS. There will be a comment period for the Final SEIS, but it will not include a public meeting. If requested, the MPCA may hold a public hearing during the NPDES permit comment period. MPCA staff at the public meeting also noted the five-year duration of the NPDES permit, after which the permit must be reconsidered with an additional public notice period.

Issue/Question: *Will the Mesabi Mountain pit fill with water and overflow?*

Response: The City of Virginia draws its municipal water supply from the Mesabi Mountain pit. The DNR expects future City withdrawals will prevent the pit from filling. Whether the proposed project is implemented is not expected to be a factor affecting pit water levels.

Issue/Question: *Will the tailings in the Minorca pit be impervious?*

Response: Fine tailings tend to be very hard and cement-like, while coarse tailings are more sandy. DNR studies have found that even fine tailings contain a significant amount of water, and that water will seep through both coarse and fine tailings.

Issue/Question: *Does leaching from in-pit tailings disposal differ from traditional above-ground tailings basins?*

Response: Leachate from above-ground basins generally enters surface water, while leachate from in-pit systems will generally enter ground water. The chemistry associated with surface water will differ from ground water, both in geochemical reactions and interactions with oxygen.

Issue/Question: *Is the proposed project the first case of tailings being deposited in mine pits?*

Response: Between 1964 and 1972, the Snively pit was filled with tailings as part of U.S. Steel's Pilot-Tac project, although taconite processing at the time did not include addition of chemical reagents. The tailings-filled Snively pit has since been excavated to accommodate taconite mining in the area. The DNR notes the current legislative requirement that a Risk Assessment and Environmental Impact Statement are required for any future in-pit tailings disposal proposals.

Issue/Question: *What is the DNR going to do about the dust situation of these tailings ponds?*

Response: Dust lift-off from tailings basins is a range-wide issue. DNR Mineland Reclamation Rules require mining companies to control dust by maintaining vegetative cover on inactive portions of their tailings basins. As indicated in Section 3.2 of the Draft SEIS, Ispat Inland would vegetate and maintain their existing tailings basin if the proposed project is implemented.