

**STATE OF MINNESOTA
MINNESOTA POLLUTION CONTROL AGENCY**

**IN THE MATTER OF THE DECISION
ON THE NEED FOR AN ENVIRONMENTAL
IMPACT STATEMENT FOR THE PROPOSED
RED WING RDF ASH DISPOSAL FACILITY, SW-307
GOODHUE COUNTY
RED WING, MINNESOTA**

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

FINDINGS OF FACT

Pursuant to Minn. R. 4410.1000 - 4410.1600 (2001), the Minnesota Pollution Control Agency (MPCA) staff has 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

Northern States Power Company (NSP), doing business as Xcel Energy, operates a refuse derived fuel (RDF) ash disposal facility (Ash Landfill) near Red Wing, Minnesota. NSP is re-permitting the Ash Landfill, and at the same time, designing an expansion to the east cell of the existing landfill of approximately two acres or 232,100 cubic yards of airspace volume. This expansion would provide approximately three additional years of site life at current fill rates.

Permitting History

NSP received a solid waste permit for the construction and operation of the Ash Landfill from the MPCA on July 28, 1987. Ash Landfill development under this permit included a west disposal cell, with a permitted capacity of 592,000 cubic yards. The MPCA certified the Ash Landfill for operation in April 1988, and the operation of the site began in May 1988.

NSP submitted an application for permit reissuance in 1992 and an EAW was prepared for the expansion of the west cell. The MPCA permit was issued on June 8, 1993, which expired on June 7, 1998. This permit approved horizontal and vertical expansion of the existing Ash Landfill, which resulted in expanding the life of the existing west cell until the year 2000 (based on the ash production rates experienced through 1996). The west cell was closed in 2000 and contains 592,000 cubic yards of waste and cover materials.

An EAW was prepared in 1998 for the expansion of the Ash Landfill's east cell. The cell was divided into three construction phases; Phases 1A, 1B, Phases 2A, 2B, and Phases 3A, 3B. Phase 1A, was constructed in 1999. Phase 2A was constructed in 2001 and is currently in operation.

Compliance/Enforcement History

The MPCA has nothing on file regarding any compliance problems at this site.

PROPOSED PROJECT DESCRIPTION

Proposed Modification

Site Description

The Ash Landfill is located approximately 1.5 miles south of U.S. Highway 61 on Goodhue County Road 1. The Ash Landfill is located on property adjacent to the city of Red Wing's (City) municipal solid waste and waste combustor ash landfills. The area for the east cell expansion lies in a steep, "amphitheater-like" valley sidewall, separated from the existing site by a ridge. The site is situated at the head of a small, intermittent stream, which flows eastward approximately one-half mile to join Hay Creek.

The ash produced from the Red Wing Generating Plant is combined RDF ash, which is a mixture of fly ash, bottom ash, and lime scrubber solids resulting from the combustion of RDF. NSP's Ash Landfill only accepts ash and ash contaminated material, such as dust masks, shop rages, and other material that has come into contact with the ash, from NSP's Red Wing Generating Plant.

Liner Design

For the base, a Type O liner, which exceeds MPCA requirements for a landfill with the leachate characteristics of the Ash Landfill, has been installed on Phase 1A and 2A and will be installed on Phases (1B, 2B, 3A, and 3B). An alternative liner is proposed for the sideslopes of the remaining Phases (1B, 2B, 3A, and 3B).

Leachate Collection System

The Ash Landfill produces leachate, consisting predominantly of rain and snowmelt, which infiltrates through the ash to the leachate collection system. Leachate from the east cell is pumped to the existing leachate tank for the west cell by means of a double-wall, solid high-density polyethylene (HDPE) forcemain, buried to a depth to prevent freezing. These tanks are periodically emptied into tank trucks, which haul the leachate off-site for treatment. No other wastewater is produced or treated at the site.

Final Cover Placement

The cover soils will consist of 18 inches of on-site soil or topsoil. The upper six inches will be topsoil capable of sustaining vegetation. The final cover topsoil layer will be mulched and seeded with shallow-rooted, drought-tolerant grasses. In addition to the MPCA criteria, vegetation on the east cell final cover will also comply with Minnesota Department of Natural Resources criteria for non-invasive native species.

Surface-water Management

Landfill development typically increases the natural volume of runoff from the site. The final cover runoff produced at this site will be directed through sedimentation basins. The basins will manage, although not contain, the complete volume of the storm event, which is the 25-year, 24-hour Type II storm event of 5.0 inches. Sedimentation pond overflow pipes have been designed to allow for controlled discharge.

Post Closure

A series of monitoring wells have been placed around the Ash Landfill to detect any ground-water contamination throughout the proposed site life and for 30 years after the site is closed. This is consistent with current regulations. Future regulations may change this time period.

Environmental Concerns

- Soil Erosion
- Surface-water Runoff
- Leachate Treatment

Additional Concerns Described in Comment Letters

None

Community Involvement in Process

There have been two occasions for public input on the project. At the September 16, 2003, meeting, the Red Wing Planning Commission requested comments from the public. A week later, on September 25, 2003, the City Council also requested comments from the public. In both cases, there were no comments from the public. As with all projects subject to action by the City, public notices were placed in the local newspaper.

PROCEDURAL HISTORY

1. Pursuant to Minn. R. 4410.4300, subp. 4410.4300, subp. 17G, an EAW was prepared by MPCA staff on the proposed project. Pursuant to Minn. R. 4410.1500 (2001), the EAW was distributed to the Environmental Quality Board (EQB) mailing list and other interested parties on September 26, 2003.
2. The MPCA notified the public of the availability of the EAW for public comment. A news release was provided to Goodhue County, as well as, other interested parties on September 26, 2003. In addition, the EAW was published in the EQB Monitor on September 29, 2003, and made available for review on the MPCA Web site at <http://www.pca.state.mn.us/news/eaw/index.html> on September 26, 2003.
3. The public comment period for the EAW began September 29, 2003, and ended on October 29, 2003. During the 30-day comment period, the MPCA received two comment letters from government agencies and received one comment letter from the project proposer.
4. The MPCA prepared responses to all comments received during the 30-day public comment period. 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 Appendix B to these findings.

**CRITERIA FOR DETERMINING THE POTENTIAL FOR
SIGNIFICANT ENVIRONMENTAL EFFECTS**

5. Under Minn. R. 4410.1700 (2001), 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 (2001). 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

6. 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 (2001). The MPCA findings with respect to each of these factors are set forth below.
7. None identified during the environmental review process. reasonably expected environmental effects of this project to **Water Quality**:
 - A. Soil Erosion
 - B. Surface-water Runoff
 - C. Leachate Treatment
8. The extent of any potential water quality effects that are reasonably expected to occur:
 - A. Soil Erosion - Soils adjacent to the Ash Landfill are susceptible to severe erosion potential, if vegetation is removed. Any soils where vegetation is disturbed or removed would be revegetated by seeding and mulching. Moderate to steep sloping terrain characterizes the drainage area at the site and upland from the site. All surfaces are currently unpaved.

Construction activities at the Ash Landfill will require preparation of an erosion control plan, and a National Pollutant Discharge Elimination System (NPDES) Construction Activity Permit will be obtained if more than one acre is disturbed. Erosion and sedimentation control measures to be employed during and after construction include mulching, rapid-growing vegetation, fabric mats, hay bales, filter barriers, and sediment traps. An expansion of the current sedimentation pond is included in the design of the Ash Landfill to accommodate additional runoff as a result of the expansion. Drainage ditches will generally be grass-lined. Where high runoff velocities are expected, ditches will be rock-lined to provide further erosion protection. Minimizing the amount of land to be graded at any one time will also control runoff erosion and sedimentation. Wind erosion during construction will be minimized by the use of water, as necessary.

- B. Surface-water Runoff - Landfill development typically increases the natural volume of runoff from the site. There will be few water quality impacts since the surface-water runoff will not come into contact with the deposited waste material. The final cover runoff produced at this site will be directed through sedimentation basins. The basins will manage, although not contain, the complete volume of the design storm event, which is the 25-year, 24-hour Type II storm event of 5.0 inches. Sedimentation pond overflow pipes have been designed to allow for controlled discharge. The quality of runoff may be temporarily impacted during construction of future cells and during the placement of final cover due to unavoidable erosion. However, requirements in the NPDES Permits will address the erosion control measures that must be used during and after construction.

The receiving water for surface-water runoff is an intermittent stream that flows into Hay Creek. Hay Creek, in the reaches down stream of the Ash Landfill, is listed as a designated trout stream. The runoff from the Ash Landfill does not discharge directly to Hay Creek. Runoff discharges to an intermittent stream which flows into a drainage ditch that gets commingled with several other runoff sources before it eventually reaches Hay Creek. Hay Creek is approximately one-half mile east of the site, and ultimately discharges to the Mississippi River. Runoff quality is expected to improve because of the presence of the proposed surface-water control features at the Ash Landfill site, as discussed above.

- C. Leachate Treatment - Leachate generated at the site is not treated on-site. It is hauled off-site and discharged to the City's sewer system for treatment. NSP is permitted to discharge the leachate generated from this facility to the Red Wing Wastewater Treatment Plant (WWTP). The discharge of the leachate into the system is accomplished in accordance with the MPCA Solid Waste Permit, SW-307, the Minnesota Municipal Solid Waste Combustor Ash Rules, the MPCA approved Leachate Management and Contingency Plan, and the Red Wing Landfill Leachate Treatment Agreement. The leachate flows to the Red Wing WWTP, where it is treated with other wastewater from the City. The WWTP effluent is discharged to the Mississippi River.

A Leachate Management and Contingency Plan was adopted to provide appropriate responses to changes in leachate quality. NSP analyzes quarterly composite samples prepared from samples from all the discharge events occurring during that month. The results of the analyses

of the monthly composites are used to manage the discharge rates of the leachate into the WWTP. No WWTP improvements would be required in order to continue the proposed leachate disposal program.

9. The reversibility of any potential water quality effects that are reasonably expected to occur:

The MPCA finds that any potential effect that is reasonably likely to occur from this project would be reversible. As discussed above, the expected effects on water quality are minimal. There is no reason to believe that this project is reasonably expected to cause a significant negative effect on water quality.

10. Comments received that expressed concerns regarding potential effects to water quality:

No comments were received.

11. 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 methods to prevent these impacts have been developed.

12. 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 water emissions.

Cumulative Potential Effects of Related or Anticipated Future Projects

13. 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 (2001). The MPCA findings with respect to this criterion are set forth below.

14. 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.

15. Public comments concerning cumulative impacts:

Based on MPCA staff experience, available information on the project, including the EAW, Permit Application, and information presented by the commentors, the MPCA does not reasonably expect significant cumulative effects from this project.

16. In considering the cumulative potential effects of related or anticipated future projects, the MPCA finds that the reasonably expected effects from this project will not be significant.

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

17. 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 (2001). The MPCA findings with respect to this criterion are set forth below.
18. The following permits or approvals will be required for the project:

Unit of Government	Type of Application	Status
A. MPCA	Permit Reapplication and Expansion of Permit No. SW-307	Pending
B. MPCA	NPDES General Construction Permit	To be obtained
C. MPCA	NPDES Industrial Discharge permit	Pending
D. Goodhue County	Transport License	Obtained
E. Goodhue County	Solid Waste License	Pending outcome of EAW review
F. City of Red Wing	Conditional Use Permit	Pending
G. City of Red Wing	Leachate Treatment	Pending

The following variances have been granted and/or are pending for the Ash Landfill:

Type of Variance	Description	Status
*Property Line Setback	Variance to place ash within 200 feet of the property line.	Pending
**Alternative Liner Design	Geo-Clay Liner in lieu of 2 of the 3 feet of clay on slopes (Variance from Type N Liner requirements).	Pending
***Permeability of the Final Cover Drainage Layer	Substituting drainage layer material of 5x10-3cm/s rather than 1x10-2cm/s.	Approved in 1998 Permit Application. Pending approval in the 2003 Permit Application.
Slope of Final Cover	4H:1V final cover slope vs. 5H:1V	Approved in the 1998 Permit Application. Pending approval in the 2003 Permit Application.
Certified Operator	Site remains open for acceptance of ash on a 24-hour basis and over long holiday weekends without a certified operator on site.	Approved October 24, 1997.
Ash Sampling	Variance in ash sampling protocols.	Approved October 18, 1996.

* A variance is needed for the 66-foot setback on the north side of the site. The adjacent property is designated open space on the City future land use plan and cannot be developed.

** The liner variance requested is for the sideslopes of the Ash Landfill. A Type N liner is required by the Minnesota Rules which consists of a 60 mil HDPE liner over a three-foot compacted clay liner. The proposed alternative liner system utilizes a Geosynthetic Clay Liner (GCL) in lieu of two feet of compacted clay. Therefore, the alternative liner system consists of a 60 mil HDPE liner and a GCL overlying a one foot thick compacted clay liner.

*** The barrier layer will consist of a 40-mil, low-level density polyethylene liner, or equivalent. A 12-inch thick drainage layer, with a minimum permeability of 5×10^{-3} cm/sec, will overlie the liner. The final cover design and permeability specified for the drainage layer in the 2003 permit application is consistent with the final cover design permitted in 1998. The final cover design requires a variance since it does not meet the permeability criteria of 1×10^{-2} cm/sec specified in the Minnesota Rules for ash combustor landfills.

19.

- A. Permit Reapplication and Expansion. The project proposer is responsible for submitting engineering plans and for submitting ash-testing results with the application to determine liner requirements. The project proposer is also responsible for managing the facility in accordance to the final permit requirements which would regulate, among other things, construction, operations, leachate management, monitoring, closure, post-closure, and emergency/contingency action plans.
- B. NPDES General Construction Permit. A General NPDES Storm Water Construction Permit is required when a project disturbs five or more acres. It provides for the use of Best Management Practices, such as silt fences, bale checks, and prompt revegetation, to prevent eroded sediment from leaving the construction site. The proposer must have a sediment and erosion control plan that will provide more detail as to the specific measures to be implemented and will also address: phased construction; vehicle tracking of sediment; inspection of erosion control measures implemented; and timeframes in which erosion control measures will be implemented. The general permit also require adequate storm-water treatment capacity be provided to assure that water quality will not be impacted by runoff once the project is constructed.
- C. NPDES Industrial Discharge Permit. The NPDES/State Disposal System Industrial Storm Water Permit requires that specific conditions be adhered to for construction and operation of the facility, and for overall compliance with water quality requirements. The facility will need to prepare a Spill Response Plan and/or revise its Storm Water Pollution Prevention Plan.
- D. Goodhue County – Transportation License. For the hauling of mixed municipal solid waste incinerator ash within the county.
- E. Goodhue County – Solid Waste License. The project proposer is also responsible for managing the facility in accordance to the license requirements.

- F. City of Red Wing – Conditional Use permit. A conditional use permit is required when a use is not usually allowed within a zoning district, but may be allowed with certain conditions. A conditional use permit may be approved upon a showing by an applicant that standards and criteria stated in the City’s ordinance would be satisfied.
- G. City of Red Wing – Leachate Treatment permit. This City permit will allow an industrial discharge to the City’s wastewater treatment facility.
20. The MPCA finds that ongoing public regulatory authority will address any significant potential environmental effects that were identified as reasonably expected to occur.

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.

21. 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 (2001). The MPCA findings with respect to this criterion are set forth below.
22. The following documents were reviewed by MPCA staff as part of the potential environmental impact analysis for the proposed expansion of the Red Wing RDF Ash Landfill. 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.
- Environmental Assessment Worksheet
 - Solid Waste Disposal Permit Application
23. 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.
24. 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

25. 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 Red Wing RDF Ash Disposal Facility, SW-307 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.
26. 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.

27. Based on the criteria established in Minn. R. 4410.1700 (2001), there are no potential significant environmental effects reasonably expected to occur from the project.
28. An EIS is not required.
29. 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 Red Wing Ash Disposal Facility, SW 307 project and that there is no need for an Environmental Impact Statement.

IT IS SO ORDERED

Sheryl A. Corrigan, Commissioner
Minnesota Pollution Control Agency

Date

Minnesota Pollution Control Agency

Red Wing RDF Ash Disposal Facility SW-307
Environmental Assessment Worksheet (EAW)

RESPONSES TO COMMENTS ON THE EAW

1. Comments by Diane K. Anderson, Minnesota Department of Natural Resources. Letter dated October 24, 2003.

Comment 1-1: The commenter stated that the proposed project does not appear to have the potential for significant environmental effects.

Response: No response required.

2. Comments by Dale E. Maul, Minnesota Department of Transportation, District 6 (Rochester). Letter dated October 24, 2003.

Comment 2-1: The commenter stated that the Minnesota Department of Transportation has not been made aware of any significant increase in truck traffic and weight or change of hours of the facility.

Response: No response required.

3. Comments by Manuel Castillo, Xcel Energy. Letter dated October 29, 2003.

Comment 3-1: Page 3, Liner Design: A Type O liner has only been installed on the **base** of Phases 1A and 2A and is only proposed for installation on the **base** of Phase 3A. The Type N liner has only been installed on the **sideslopes** of Phases 1A and 2A.

The alternative liner is proposed for the **sideslopes** of Phases 1B,2B, and 3B only.

Response: The clarifications listed above will be made to the EAW.

Comment 3-2: Page 4, Final Cover Placement: The description of final cover should also include the drainage layer proposed which is 12" of granular drainage layer with an in-place permeability of 5×10^{-3} cm/s.

Response: The language listed above will be added to the EAW.

Comment 3-3: Page 5: The last sentence of the paragraph entitled **Leak Detection System-Lysimeter** should be changed to read that the liquid, not leachate, collected in the leak detection system is pumped to the landfill primary leachate collection system.

Response: The MPCA has decided to keep the language that is currently in the EAW.

Comment 3-4: Page 8: The footnotes to the Variance Table on Page 7 need to be changed to reflect the following:

- The liner variance requested is for the sideslopes of the landfill. A Type N liner is required by the MN Rules which consists of a 60 mil HDPE liner over a 3-foot compacted clay liner. The proposed alternative liner system utilizes a GCL in lieu of 2 feet of compacted clay. Therefore the alternative liner system consists of a 60 mil HDPE liner and a GCL overlying a 1 foot thick compacted clay liner.
- A triple asterisk should be placed at the starting of the sentence that states: “The barrier layer will consist of a 40 mil linear low density polyethylene.....” This describes the variance requested for the “Permeability of the Final Cover Drainage Layer” in the variance table and this component should reflect the triple asterisk.

Response: The above requested change to the footnote to the Variance table will be made to the EAW.

Comment 3-5: Page 11: The first sentence of the last paragraph should reflect that the maximum leachate generation is expected to occur during the operation of Phase 1B rather than Phase 3B.

Response: The EAW will be amended accordingly to reflect this change.

Comment 3-6: Page 12: The last two sentences on paragraph number 2, of section b should be changed to, “NSP collects a quarterly sample to verify compliance with the Leachate Treatment Agreement with the City of Red Wing”. The City of Red Wing and NSP amended the Leachate Treatment Agreement to eliminate the monthly composites. This was based on the data which demonstrated a consistent leachate, which complied with MPCA requirements.

Response: The last two sentences of the second paragraph on page 12 of the EAW will be changed as suggested.

Comment 3-7: Page 13, number 19: The discussion on wells should read “abandoned wells have been properly sealed”.

Response: The suggested language will be added to the EAW.

Comment 3-8: Page 7, number 8: The Conditional Use Permit was granted on September 22, 2003, and the Leachate Treatment Agreement is in effect till March 22, 04.

Response: Thank you for this clarification.