

**STATE OF MINNESOTA
MINNESOTA POLLUTION CONTROL AGENCY**

**In the Matter of the Decision
on the Need for an Environmental
Impact Statement for the Proposed
Northern States Power/NRG Becker Ash
Disposal Facility Expansion**

**FINDINGS OF FACT
AND CONCLUSIONS**

Northern States Power (NSP)/NRG is proposing to expand the Becker Ash Disposal Facility (herein after referred to as Facility) in the city of Becker, Sherburne County. Pursuant to Minn. R. 4410.1000 - 4410.1600, Minnesota Pollution Control Agency (MPCA) staff has prepared an Environmental Assessment Worksheet (EAW) for the project. Based on the EAW and comments or information received during the EAW comment period, the MPCA hereby makes the following Findings of Fact and Conclusions.

FINDINGS OF FACT

I. PROJECT DESCRIPTION

A. Project Proposal.

The proposal is for expansion of the Facility's final three ash disposal cells to meet projected refuse derived fuel (RDF) ash disposal needs for the duration of a contract (through 2009) with five Minnesota counties (Anoka, Benton, Hennepin, Sherburne, and Stearns) and Great River Energy in Elk River. The Facility, within the city of Becker, has been used for RDF ash disposal since 1991. Based on current annual ash disposal rates (76,400 cubic yards) and future projections, the Facility will reach its permitted capacity between 2005 and 2007. The expansion would allow the Facility, presently permitted to accept a maximum of 1,286,316 cubic yards of RDF ash, to accept an additional 315,000 cubic yards of ash (a 24 percent increase). The proposal includes a Type P double-composite liner system, leachate collection and leak detection systems, an environmental monitoring system and engineered final covers.

B. Project Site.

The proposed expansion is located on a 41.3-acre parcel in the southern part of Becker, Minnesota, within the Sherburne County Industrial Power Generation Zoning District. The currently permitted Facility covers approximately 17.2 acres of the parcel, of which an approximate 11.6 acres have been developed. The remaining 5.6 acres are scheduled for future development, and the proposed expansion would cover an additional 2.4 acres within the 41.3-acre site. The Mississippi River is approximately 1,500 feet to the southwest of the site. Trunk Highway 10 is located one mile to the north. The land immediately surrounding the site is primarily agricultural. A limited number of wooded areas are located in the area, primarily along the Mississippi River. The site is adjacent to the Mississippi River Scenic and Recreational District.

C. Major Elements.

1. Background. The proposed expansion is a subsequent development of the existing Facility. The Facility, originally permitted for a total of six cells and designed for an ash generation rate of 63,800 cubic yards per year, began receiving ash in 1991. In 1989, NSP and Great River Energy (formerly United Power Association) entered into a contract with five counties in central Minnesota (Anoka, Benton, Hennepin, Sherburne, and Stearns) for a 20-year waste-to-energy project for landfill abatement. The project includes processing mixed municipal solid waste (MMSW) into RDF at the Elk River Resource Recover Facility in Elk River, Minnesota, burning the RDF for electrical generation at the Great River Energy power plant in Elk River, Minnesota, and disposing the ash produced by the combustion process at the NSP/NRG Becker Ash Disposal Facility in Becker, Minnesota.
2. Need for Expansion. The Facility was permitted and constructed in 1991, and was intended to provide ash disposal capacity for the 20-year contract period which expires in 2009. Development of the Facility has progressed by construction of new cells, as previously constructed cells were filled and capped. The Facility is currently permitted to accept a maximum of 1,286,316 cubic yards of ash. As of October 1998, 609,000 cubic yards of ash disposal capacity (48 percent of the currently permitted capacity) had been consumed, and the current ash production rate of 76,400 cubic yards (vs. the design rate of 63,800 cubic yards) per year is on an upward trend. This is due, in part, to regulatory changes that have provided monetary incentives to process more MMSW waste at the Elk River Resource Recover Facility. Three of the six ash disposal cells have been filled to their permitted capacity and have received final cover. Cell 4, constructed in 1997 and currently active, is projected to be filled by the end of the year 2000 and will be closed in 2001. Cell 5 is scheduled for construction in the year 2000.

If further improvements in fuel processing and energy conversion efficiency are achieved, the maximum amount of ash generated and disposed at the Facility is expected to be up to 92,000 cubic yards per year, due to the physical limitations of the Great River Energy conversion equipment. Assuming the current upward ash production trend continues and the maximum potential ash generation rate is realized, an estimated 315,000 cubic yard shortfall in ash disposal capacity at the Facility will result, which, in turn, would jeopardize the longevity of the overall waste-to-energy project (intended to continue into 2009).

3. Proposed Expansion. The needed additional capacity will be provided within the existing site boundary through a horizontal and slope expansion of currently permitted Cells 4, 5, and 6. The proposal consists of increasing the size of the currently permitted Facility footprint on the east side of Cells 4, 5, and 6, an approximate 202 feet by 513 feet (2.4 acres) horizontal expansion, while maintaining the 200-foot set-back requirement from the existing site boundary. The proposed slope expansion consists of constructing perimeter berms to a higher elevation and placing additional ash on the slope areas of Cells 4, 5, and 6. The currently permitted Facility footprint would remain unchanged on the west and south sides of the Facility. The peak elevation of the Facility would also remain unchanged. The closed portion of the Facility (Cells 1, 2, and 3) would not be disturbed.

4. Construction. Construction would occur in three stages for each of the two remaining cells (Cells 5 and 6). Stage 1 includes construction of the Facility liner, leachate collection system, and perimeter berm. Stage 2 includes extension of the perimeter berm to a higher elevation and construction of a portion of the final cover. Stage 3 includes construction of remaining final cover and surface water controls. The proposal incorporates liner design and several additional features to comply with MPCA requirements (detailed within the EAW).

II. PROJECT HISTORY

- A. The project involves expansion of a MMSW energy recovery facility ash landfill receiving ash from an incinerator that burns refuse-derived fuel or MMSW. The preparation of an EAW by the MPCA was mandatory pursuant to Minn. R. 4410.4300, subp. 17G.
- B. An EAW was prepared on the proposed project and distributed to the Environmental Quality Board (EQB) mailing list and other interested parties on December 23, 1999.
- C. A press release containing the notice of availability of the EAW for public review was provided to media serving the project area on December 23, 1999.
- D. The public comment period for the EAW began on December 27, 1999, and ended on January 27, 2000. Comment letters were received from the Minnesota Department of Natural Resources and the Minnesota Historical Society during the 30-day comment period. Copies of these letters and the responses have been prepared by MPCA staff and are hereby incorporated by reference.

III. CRITERIA FOR DETERMINING THE POTENTIAL FOR SIGNIFICANT ENVIRONMENTAL EFFECTS

In deciding whether a project has the potential for significant environmental effects, the MPCA must consider the four factors set out in Minn. R. 4410.1700, subp. 7.A. 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 Environmental Impact Statements (EISs). The MPCA findings with respect to each of these issues are set forth below.

A. TYPE, EXTENT, AND REVERSIBILITY OF ENVIRONMENTAL EFFECTS

The first factor that the MPCA must consider is the "type, extent, and reversibility of environmental effects," Minn. R. 4410.1700, subp. 7.A. The MPCA findings with respect to each of these issues are set forth below.

1. Site Utilization. The proposed expansion is located on a 41.3-acre parcel in the southern part of the city of Becker. The site resides within the Sherburne County Industrial Power Generation Zoning District. Since the expansion would occur at a location previously disturbed at the Facility site where an active soil stockpile resides, the proposed expansion would not change the land use at the site or on adjacent lands. The proposed expansion in this area would not affect fish, wildlife, or habitat resources. No rare plant or animal species or other significant natural features are known to occur on or near the area. The proposed expansion would cover an additional 2.4 acres within the 41.3-acre Facility site. The Mississippi River is approximately 1,500 feet to the southwest of the site; however, the proposal does not encroach upon the

Mississippi River Scenic and Recreational District. The land immediately surrounding the site is primarily agricultural. At closure, the ash disposal facility will become revegetated grassland. There are no past or current land use conflicts involving environmental matters/hazards, and, since the Facility already exists, the proposed expansion will be compatible with adjacent land uses. The MPCA finds that the proposed landfill expansion will not result in significant environment impacts from a site utilization standpoint.

2. Erosion and Sedimentation. The existing terrain is flat and not highly susceptible to erosion. Steeper slopes will be constructed as part of the Facility development. During construction, temporary drainage ditches, diversion berms, and silt fences will be used, as necessary, to minimize erosion and route surface water into the existing sedimentation pond. Constructed features of the Facility will be protected using temporary and permanent erosion control measures. Temporary measures include hay bales, silt fence, berms, and ditches. Permanent erosion controls include side slope berms and ditches on Facility slopes, turf establishment on all topsoil-covered areas, erosion blankets in ditch bottoms, and riprap at storm water pipe outlets. Surface runoff from all constructed features is routed to the on-site sedimentation/infiltration pond. MPCA finds that the project does not have the potential for significant environmental effects related to the quantity and quality of surface runoff generated during the construction and operation of the proposed expansion.
3. Ground Water Quality. The hydrogeologic investigation determined that the average horizontal ground water flow is from northeast to southwest, towards the Mississippi River, which is approximately 1,500 feet to the southwest of the site. The average horizontal flow velocities range from 0.22 feet per day to 0.35 feet per day across the site. There are no known downgradient water supply wells. The compliance boundary defines the point at which environmental monitoring is conducted to demonstrate compliance with limits or standards established to protect the environment (e.g., ground water quality). The existing and proposed ash disposal cells include leachate collection and composite linings to ensure protection of ground water quality. A ground water monitoring program has been established at the site and the proposed permit will require corrective action to be followed, as does the current permit, if monitoring shows ground water quality intervention limits are exceeded. The existing environmental monitoring systems (ground water monitor wells and sump lysimeters) will continue to be used for the proposed expansion area. To date, intervention limits have not been exceeded for any parameter. The need for additional monitoring facilities for the expansion area will be reviewed as part of the process for modification of the Facility's MPCA solid waste permit; however, since the expansion area is located on the upgradient side (with respect to ground water flow direction) of the Facility, the existing monitoring systems may be determined to provide the required coverage. The MPCA finds that the project does not have the potential for significant environmental effects related to ground water quality.
4. Leachate Treatment and Disposal. Wastewater generated at the Facility consists of water that comes into contact with the RDF ash, and is referred to as leachate. Leachate is collected by the Facility's leachate collection system, pumped through a double-wall force main, and temporarily stored in double-wall tanks prior to disposal. The proposed expansion will utilize the existing leachate collection, transmission, and storage system. Historically, monthly leachate generation rates at the Facility have ranged from below 50,000 gallons upward to approximately 460,000 gallons. Future leachate generation rates are not anticipated to vary significantly from the historical data, due to the expansion, as this is a function of precipitation and open area. Under the provisions of the existing MPCA solid waste permit, leachate produced at the Facility is used at the site for dust control within lined areas of the Facility, transported to and recycled at the Great River Energy power plant in Elk River, and transported to and discharged for treatment at the MCES waste water treatment plant in Saint Paul, Minnesota.

Wastewater generated at the Facility office is treated on-site via an individual sewage treatment system (ISTS) that was installed in 1991 in accordance to applicable rules. The MPCA finds that the project does not have the potential for significant environmental effects related to leachate disposal.

5. Air Quality. The proposed expansion is not anticipated to cause any additional significant fugitive dust emissions, the potential of which could be caused by Facility operation, including vehicle traffic, placing and spreading ash, and wind erosion. Fugitive dust emissions were evaluated qualitatively in the 1991 EAW for the Facility, which concluded that fugitive dust emissions do not present a significant potential for environmental impact, and the actual operation of the Facility has demonstrated the same. This is due, in large part, to the moisture content of the ash (approximately 27 percent) when it is delivered to the site. Dust generated during the expansion construction stages will be controlled by the use of water. There are no nearby receptors of either noise or dust.

There have been no significant ash or leachate odors associated with routine operations of the site, and this is not anticipated to change as the type of ash brought to the Facility will remain the same. There are no other air quality related impacts anticipated by the proposed expansion. The MPCA finds that the project does not have the potential for significant effects related to air quality.

6. Active Facility Operations. During active Facility operations, previously placed ash is covered with fresh ash at least every 48 hours. Significant drying of the ash generally does not occur prior to placement of a fresh lift. During especially hot, dry and windy periods, water is applied to ash surfaces as needed to suppress potential dust emissions. Leachate is managed in a contained closed system, which prevents the hydrogen sulfide odor from escaping the Facility site. The MPCA finds that the project does not have the potential for significant effects related to active Facility operations.
7. MPCA Findings. The MPCA finds that the proposed expansion of the NSP/NRG Becker Ash Disposal Facility, as it is proposed, does not have the potential for significant environmental effects.

B. CUMULATIVE POTENTIAL EFFECTS OF RELATED OR ANTICIPATED FUTURE PROJECTS

The second factor that the MPCA must consider is the "cumulative potential effects of related or anticipated future projects," Minn. R. 4410.1700, subp. 7.B. The MPCA findings with respect to this factor are set forth below.

1. The proposed project is intended to provide NSP/NRG with additional capacity at the Facility's final three cells to meet projected RDF ash disposal needs for the duration of a contract (through 2009) with five Minnesota counties (Anoka, Benton, Hennepin, Sherburne, and Stearns) and Great River Energy in Elk River.

2. The site has been used for RDF ash disposal since 1991, as one element of an overall waste to energy project. Consistent with state mandates, the project helps reduce the overall volume of unprocessed municipal solid waste that would otherwise need to be landfilled in a MPCA permitted municipal solid waste landfill.
3. No other waste will be disposed of at the Facility, other than the RDF ash identified in the EAW. In preparation of the expiration of the contract between NSP, Great River Energy and the five counties, it is reasonable to anticipate that, should those parties wish to renew a similar contract to process MMSW using the same waste-to-energy method, future landfill disposal cells would have to be constructed to accept ash after 2009. Future landfill development, including environmental review, would then need to be completed in conjunction with leachate collection, cell closure and environmental monitoring systems required by permit.
4. The MPCA finds that there are no related or anticipated future actions which could result in cumulative, adverse, environmental effects.

C. THE EXTENT TO WHICH THE ENVIRONMENTAL EFFECTS ARE SUBJECT TO MITIGATION BY ONGOING PUBLIC REGULATORY AUTHORITY

The third factor that the MPCA must consider is "the extent to which the environmental effects are subject to mitigation by ongoing public regulatory authority," Minn. R. 4410.1700, subp. 7.C. The MPCA findings with respect to this factor are set forth below.

1. The following permits or approvals will be required for the project:

<u>Units of Government</u>	<u>Permit or Approval Required</u>	<u>Status</u>
MPCA	Solid Waste Permit Modification	Application Submitted
MPCA	NPDES Storm Water Permit Modification	To be obtained
Sherburne County	Solid Waste License Modification	To be obtained
City of Becker	Conditional Use Permit Modification	To be obtained

2. MPCA. The MPCA has received both the NSP/NRG request for solid waste permit modification (received July 15, 1999) and the application for the proposed expansion (received November 18, 1999). A draft permit will be prepared and placed on public notice for thirty days. NSP/NRG will be accountable and responsible for managing the Facility in accordance to final permit requirements which will regulate, among other things, the construction of the expansion area (in accordance to the approved plans and specifications), operations, leachate management, monitoring, closure, post-closure, and emergency/contingency action plans.
3. MPCA. NSP/NRG is required to apply for a modification to their NPDES storm water permit as new, site-specific plans need to be developed and implemented to compensate for, and adequately treat, the storm water runoff at the site.

4. Sherburne County. Pursuant to state mandates, Sherburne County administers and regulates a county license program for solid waste disposal facilities within the entire county. The proposed expansion requires NSP/NRG to make application to the county for their existing solid waste license to be modified, where it will be reviewed and acted upon accordingly.
5. City of Becker. To protect the health, welfare and safety of its citizens, the city of Becker has established a comprehensive zoning ordinance. The ordinance requires the proposed expansion to obtain a conditional use permit, involving an additional public comment period (public hearing).
6. The MPCA finds that the permits and monitoring reports required by public regulatory authority will provide additional opportunity to mitigate the environmental effects of the project, if necessary.

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 fourth factor 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. The MPCA findings with respect to this factor are set forth below.

1. An EAW was completed in 1991 as part of the original permitting process for cells 1-6. The 1991 EAW process concluded with a negative declaration for an Environmental Impact Statement. The Facility was then permitted and constructed in 1991 and was intended to provide ash disposal capacity for the 20-year contract period which expires in 2009.
2. The proposed Facility expansion has been reviewed by MPCA technical staff. The potential impacts of the proposed project have been evaluated extensively. The project is of the type frequently reviewed by the MPCA.
3. There are no elements of the project that pose the potential for significant environmental effects which cannot be addressed in the project design and permit development processes.
4. The MPCA finds that the environmental effects of the project can be anticipated and controlled as a result of environmental review, previous environmental studies, and permitting processes undertaken by the MPCA on similar projects.

CONCLUSIONS

1. The EAW, the permit development process, the facility planning process, and responses prepared by MPCA staff in response to comments on the EAW, have generated information adequate to determine whether the project has the potential for significant environmental effects.
2. Areas where the potential for significant environmental effects may have existed have been identified and appropriate mitigative measures have been incorporated into the project design and permits. The project is expected to comply with all MPCA standards.
3. Based on the criteria established in Minn. R. 4410.1700, the project does not have the potential for significant environmental effects.
4. An Environmental Impact Statement is not required.
5. Any findings that might properly be termed conclusions and any conclusions that might properly be termed findings are hereby adopted as such.

Karen A. Studders, Commissioner
Minnesota Pollution Control Agency

Date

COMMENTS AND RESPONSES TO COMMENTS

Northern States Power Company/NRG Becker Ash Disposal Facility Expansion

1. **Thomas W. Balcom, Supervisor, Minnesota Department of Natural Resources (DNR), dated January 21, 2000.**

Comment 1-1: The commenter stated that: a) based upon the information provided, the DNR has no concerns at this time; and b) this project does not require preparation of an Environmental Impact Statement.

Response: No response necessary.

2. **Britta L. Bloomberg, Deputy State Historic Preservation Officer, Minnesota Historical Society, dated, January 27, 2000.**

Comment 2-1: The commenter stated that: a) the response to question 25a. describes the results of previous archaeological surveys at the project site and; b) the Minnesota Historical Society does not believe that any further work is necessary.

Response: No response necessary.