

EMERGENCY ACTION PLAN BOTTOM ASH POND

**Sherburne County (Sherco) Generating Plant
Northern States Power Company (dba Xcel Energy, Inc.)
Becker, Minnesota**

Prepared for:



Xcel Energy, Inc.

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**Emergency Action Plan
Bottom Ash Pond
Sherburne County Generating Plant**

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Certification

I hereby certify under penalty of law that this report was prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based upon my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment.


Daniel J. Riggs, RE

April 14, 2017

Date

License No. 49559

Emergency Action Plan Bottom Ash Pond Sherburne County Generating Plant

1.1 Statement of Purpose

This plan defines responsibilities and provides procedures to identify unusual and unlikely conditions which may endanger the Sherco Bottom Ash Pond and/or notify area residents and the appropriate public officials in time to take preventative measures.

1.2 Importance of the Emergency Action Plan

Because of the potential for significant consequences to property in the event of a dam failure, this Emergency Action Plan (EAP) should be followed carefully and regularly updated as per the requirements of the Minnesota Department of Natural Resources and the federal Final Coal Combustion Residuals Rule.

This EAP defines two potential dam safety emergency situations and outlines Xcel Energy's notification process and corresponding emergency operating procedures.

1.3 Introduction

The Bottom Ash Pond (BAP) is an existing coal combustion residual (CCR) surface impoundment at the Sherburne County Generating Plant (Sherco) in Becker, Minnesota (see Figure 1). The BAP holds bottom ash and ash transport water generated by the operation of Sherco Units 1, 2 and 3, and is regulated under NPDES Permit No. MN0002186, State of Minnesota Dam Safety Permit No. 83-3022, and 40 CFR Part 257. This EAP:

- Describes events and circumstances involving the Sherco BAP that will constitute a safety emergency,
- Lists the actions to be taken in the event of a safety emergency, and
- Identifies the authorities to be contacted in an effort to minimize the loss of life and property damage.

1.4 Identified Events or Circumstances

40 CFR 257.73(a)(3)(i)(A) Define the events or circumstances involving the CCR unit that represent a safety emergency, along with a description of the procedures that will be followed to detect a safety emergency in a timely manner;

There are two potential scenarios involving the BAP that would constitute a safety emergency as defined by the final CCR rule.

- 1) The first scenario relates to ash transport water overtopping the BAP perimeter dikes. The crest of the BAP perimeter dikes is at elevation 1000 feet MSL. The operating water level in the BAP is generally held between elevations 962 and 978 feet MSL by the use of stop logs placed in the BAP outlet structure. Except for short periods of time following the addition

or removal of stop logs, the rate of water exiting the BAP essentially equals the rate of water being added to the BAP and the water level in the BAP does not exhibit rapid change.

The BAP is inspected daily as part of routine shift rounds and weekly as part of routine CCR inspections. Any unusual increase in water level in the BAP caused by a plugging or failure of the outlet structure would be observed within 24 hours, making it extremely unlikely that the water level in the BAP could approach the crest of the perimeter dikes without advance notice.

- 2) The second scenario is the catastrophic release or potential release of BAP ash and/or ash transport water due to a structural failure of the BAP perimeter dikes. As described more fully in the October 17, 2016 *Initial Structural Stability Assessment* for the BAP, the BAP was designed and constructed, and is operated and maintained, in accordance with recognized and generally accepted good engineering practices for the maximum volume of CCR and CCR wastewater which can be impounded in the BAP.

The BAP is inspected daily as part of routine shift rounds and weekly as part of routine CCR inspections. These inspections are intended to note the presence of uncontrolled erosion, animal burrowing, and other changes that may negatively affect the long-term structural integrity of the BAP dikes. Any deficiencies noted are prioritized for corrective action. A structural failure due to a chronic problem with the dike integrity is therefore unlikely. In the event of an acute event (earthquake, record precipitation, vandalism), the BAP will be inspected as soon as conditions are safe and practicable to look for any unusual change in dike geometry (e.g. slumping, bulging, wasting).

1.5 General Responsibilities

40 CFR 257.73(a)(3)(i)(B) Define responsible persons, their respective responsibilities, and notification procedures in the event of a safety emergency involving the CCR unit;

Initial Employee that Observes the Emergency or Incident

- Check scene for safety and hazards. If not safe, move to a safe area immediately and keep others from entering the hazardous area.
- Contact the Sherco Emergency Line from a facility telephone or from a cell phone. Provide a description of the location and nature of the emergency or incident, and whether there are any injuries or other immediate hazards.
- Begin administering first aid as appropriate.
- Refer all outside media inquiries regarding the emergency or incident to senior management or Xcel Energy Media Relations.

Sherco Shift Supervisor

- Obtain necessary information from the person reporting the emergency. (e.g., location and nature of emergency or incident, status of injuries, other associated hazards).

- Contact 8-911 for outside emergency assistance as needed. Provide the dispatcher details on the nature of the emergency. State that an emergency escort will meet the responders at the main Sherco entrance gate or an alternative gate if it provides better access.
- Assign a person to meet responders at the gate providing best access to the location of the emergency. Instruct the assigned person to contact you by radio/ cell phone once in-place. If available, send extra escorts to help direct multiple response vehicles from the gate to the incident location, to control access at the gate, and to gates responders may mistakenly go to.
- Notify Xcel Environmental Services group either directly or via its 24-hour hotline. Follow-up directly with Xcel Environmental Services Manager responsible for ash operations and compliance.
- Report the emergency to Sherco Ash/Ash Water Ponds point of contact and provide a summary of the emergency.
- Key open the designated gate or contact Security Operations Center (SOC) to request opening of the designated gate.
- If applicable, direct responders to take the injured/ ill person to the nearest hospital. Be sure to find out where they are taking the injured person.
- If applicable, non-serious injury/illness may be transported by Plant staff to hospital. For non-serious injuries/illnesses, Plant Superintendents, Managers, and/or Supervisors should take the injured/ill person to the hospital or designated clinic. If the need for medical attention is questionable, err on the conservative side and transport them to the hospital. For further instructions see Plant Management Directive (PMD) 5.1 Medical Emergencies and Incident Notification and the Sherco Injury Grab and Go Packet on the Sherco PMD web site or in Tab 5 of the Sherco Plant Emergency Action Plan.
- Refer all outside media inquiries regarding the emergency or incident to senior management or Xcel Energy Media Relations.
- Implement Emergency Operating Procedures and associated Plant EAPs.

Xcel Environmental Services

- Environmental Services staff or the Sherco Plant Environmental Analyst will contact the State of Minnesota Duty Officer immediately after being notified of the Sherco BAP emergency.
- Per the requirements of State of Minnesota Dam Safety Permit No. 83-3022, Environmental Services staff will contact the Director of the Minnesota Department of Natural Resources Division of Ecological and Water Resources immediately after being notified of the Sherco BAP emergency.
- Environmental Services staff shall orally notify the MPCA Commissioner within 24 hours of the discovery that a noncompliant condition has occurred which could endanger human health, public drinking water supplies, or the environment.

- Environmental Services staff shall submit to the MPCA Commissioner a written description of the noncompliance within five days of the discovery of the noncompliance. The written report shall include the cause of the noncompliance; the exact dates of the period of the noncompliance; if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.
- In the event a release of ash and/or ash transport water from the BAP occurs, Environmental Services staff will work with MPCA representatives, Sherco onsite staff, and others as needed to develop and implement a sampling program designed to assess the potential impacts of the emergency on human health and the environment immediately following discovery of the emergency. Sampling results shall be submitted to MPCA with the next Discharge Monitoring Report unless directed otherwise by MPCA.

MPCA Duty Officer

The Minnesota Duty Officer Program provides a single answering point for local and state agencies to request state-level assistance for emergencies, serious accidents or incidents, or for reporting hazardous materials and petroleum spills. The duty officer is available 24 hours per day, seven days per week.

The Minnesota Duty Officer informs the Minnesota Homeland Security Emergency Management Agency Regional Representative, the Corps of Engineers Emergency Manager, the Minnesota Department of Natural Resources, the Minnesota Pollution Control Agency and other appropriate agencies.

The duty officer will gather information regarding the location and nature of the emergency or incident, assess the need for additional federal, state, or local government resources to aid the Company in responding to the emergency or incident, and then make the necessary calls and notifications to those resources to request assistance.

Sherco Onsite Representative

Staff available at Sherco to assist in the assessment, monitoring, and corrective action of an emergency condition at the BAP include:

- Steve Bluhm, Sherco - Plant Engineering and Technical Services
- John Kaczmarek, Sherco – Plant Environmental Analyst
- John Hunt, Engineering & Construction – Contract Engineer

Steve Bluhm or John Hunt can also contact external contractors as needed to request specialized labor and equipment to contain and recover materials released from the BAP, or to address observed deficiencies in dike geometry that could lead to an emergency.

Xcel Energy Communications Department

The communications department is responsible for managing communications with the media.

1.6 Notification Procedures

40 CFR 257.73(a)(3)(i)(C) Provide contact information of emergency responders;

The top priority for this emergency response plan is the protection of human life. Staff responsible for notifications must use the notification checklist found in Appendix A. Staff implementing this checklist should be aware that the specific characteristics of the event may necessitate a deviation from the notification order identified. If a deviation should occur, it is critical that all of the parties identified are notified as needed.

Please note that a complete list of contacts, including internal and external resources, is found in Appendix B.

1.7 Maps Identifying Potentially Affected Areas

40 CFR 257.73(a)(3)(i)(D) Include a map which delineates the downstream area which would be affected in the event of a CCR unit failure and a physical description of the CCR unit; and

The BAP consists of an approximately 18-acre pond contained within compacted, earthen embankments. A gravel driving surface extends around the top of the entire perimeter of the pond dikes. At maximum operating level, the BAP can contain 1.1 million cubic yards of CCR and CCR wastewater. As shown on Figure 2, the BAP abuts the northern limit of closed scrubber solids pond number 1. The BAP is also separate from, but immediately east of, the Recycle Basin and immediately south of the Unit 1 Cooling Tower structure.

A catastrophic failure of BAP perimeter dikes in any open direction (west, north, or east) would require Sherco Units 1, 2, and 3 to be taken offline until the BAP could be repaired and placed back into service. In addition:

- A BAP dike failure to the east would not threaten any structures or surface waters, and would be contained entirely within Xcel property.
- A BAP dike failure to the north could potentially impact the Unit 1 Cooling Tower structure. Any release from the BAP to the north would be contained entirely within Xcel property.
- A BAP dike failure to the west has the potential to impact the Recycle Basin and, in extreme circumstances, the Holding Basin. Depending on the Recycle Basin water level at the time of a BAP dike failure and the rate at which the contents of the BAP entered the Recycle Basin, plant operations would be expected to pump the contents of the Recycle Basin up to scrubber solids pond number 3. In extreme cases, excess ash and water from the BAP failure could cause the Recycle Basin to overflow via gravity to the adjacent Holding Basin. The Holding Basin outlet structure has two outlet pipes that lead to the Mississippi River. One pipe can be isolated by closing a valve. The other Holding Basin outlet pipe is an emergency gravity overflow that can only be isolated by

manually blocking the inlets to the Holding Basin outlet structure with a pipe plugs, coffer dam, or some other method.

The areas that could be at risk of inundation in the event of a catastrophic failure of the BAP perimeter dikes are shown on Figure 2.

1.8 Outreach to Local Emergency Responders

40 CFR 257.73(a)(3)(i)(E) Include provisions for an annual face-to-face meeting or exercise between representatives of the owner or operator of the CCR unit and the local emergency responders.

Sherco management normally meets with representatives of the City of Becker on a monthly basis. Review and discussion of this EAP will be an annual agenda item for the April meeting.

1.9 EAP Maintenance

257.73(a)(3)(ii)(A) Amendment of the plan to incorporate changes.

This plan shall be amended, at a minimum, whenever there is a change in conditions that would substantially affect its effectiveness.

257.73(a)(3)(ii)(B) Routine evaluation of plan.

This EAP shall be evaluated, at a minimum, every five years to ensure that the information is accurate. As necessary, this EAP will be updated and revised to account for changes in operations or site conditions.

Sherco staff will also evaluate the effectiveness of this plan in the event that there is a documented release from the affected impoundments.

2.0 Emergency Operating Procedures

The two safety emergencies which may result in an uncontrolled release of CCR or CCR contact water to the environment from the Sherco BAP are the overtopping of the pond or a structural failure of the impoundment. Regardless of the cause, the following steps will be taken, as appropriate:

- A. **Pipe leak associated with CCR Unit:** In the event of a leak from a pipe that carries ash or ash contact water, the affected line will be removed from service and repaired. The scope and extent of the ash or ash contact water release will be evaluated and managed in accordance with an approved response plan as required by the CCR final rule or applicable state requirements.
- B. **High Pond Level:** In the unlikely event that the pond is overtopped or a structural failure results in uncontrolled release of CCR or contact water to environment, take actions to isolate systems that are adding additional materials to the pond and lower

pond levels to extent feasible by transferring free liquids to another onsite pond permitted to accept this material.

- C. **Uncontrolled Release of CCR or Ash Contact Water to Environment:** In the event of an uncontrolled release of CCR or ash contact water to the environment, take defensive actions to stop or reduce release. Mobilize equipment to take defensive measures as conditions merit based upon safety and incident type to reduce the potential impacts to property and the environment. Once site conditions are stabilized and it is safe to do so, initiate cleanup activities. Engage Xcel Environmental Services and emergency response contractors as appropriate to conduct limited site investigation and conduct identified remediation activities.
- D. **Uncontrolled Release of CCR to Recycle Basin or Holding Basin:** In the event that a safety emergency from a dike failure or from the overtopping of the pond results in the uncontrolled release of CCR or ash contact water to the Recycle Basin or Holding Basin, the discharge valve from the Holding Basin shall be immediately isolated so as to prevent the direct release of this material to the Mississippi River.
- E. **Release of CCR or Ash Contact Water to Surface Water:** Contact Xcel Environmental Services Management and mobilize Clean Harbors On-Water Response Unit as appropriate.

Appendix A – Notification Priority List

Name/Phone Number

1 Sherco Emergency Line ([REDACTED])

Tell them:

- Situation summary, including:
 - Nature of Incident
 - Location of incident
 - Identify potential cause of incident
 - What was impacted
 - What was released
 - Descriptions of any measures taken in response to incident
- Whether there are any injuries or other immediate hazards
- Whether assistance from local emergency responders is required
- Whether any systems or outfalls should be isolated

2 Sherburne County Emergency Response Office Dispatcher (8-911)

Tell them:

- Situation summary
- Ask them to evacuate downstream residents, if necessary
- Ask them to restrict access to impacted areas, if necessary

3 Xcel Energy Environmental Services Spill ([REDACTED])

Tell them:

- Situation summary
- Facility contact for follow up

4 Minnesota Duty Officer (800-422-0798)

Thresholds for notification of ash or ash contact water spill: greater than 400 gallons on land or greater than 5 gallons to surface water

Tell them:

- Situation summary
- Ask them to call the U.S. Homeland Security Emergency Management Representative, National Weather Service, U.S. Army Corps of Engineers, and Minnesota State Highway Patrol and inform them of the situation

5 Sherco Ash Management Staff

(Primary – [REDACTED])

(Alternate – [REDACTED])

Tell them:

- Situation summary
- Ask them to mobilize project manager to take over emergency response activities

6 Plant Management

(Primary – [REDACTED])

(Secondary – [REDACTED])

Tell them:

- Situation summary
- Ask them to contact senior management, if required
- Ask them to contact media relations, if required

7 Environmental Services Management

(Primary: [REDACTED]; Secondary: [REDACTED])

Tell them:

- Situation summary
- Ask them to mobilize environmental staff, if required

8 Xcel Energy Communications Hotline

(24 hour number: [REDACTED])

Tell them:

- Situation summary

Appendix B – Emergency Contact List

The following table presents a contact list for entities and individuals that will assist in responding in the event of a safety emergency or observation of conditions that suggest an emergency is imminent.

Organization/Name	Contact	Office	Cell
Emergency Notification			
Sherco Emergency Line			
Sherco Shift Supervisor			
Xcel Environmental Services	24-hour number		
Xcel Security Operations Center (SOC)			
Sherco Contacts			
Plant Director			
Sr. Operations Manager			
Ash/Ash Water Ponds			
Xcel Environmental Services Management			
Xcel Resources			
Media Relations Hotline			
Claims Services			
State Regulatory Contacts			
State of Minnesota Duty Officer	24-hour number		
MnDNR Division of Ecological and Water Resources	Division Director		
MPCA NPDES Permit Engineer			
MPCA SW Permit Engineer			
Local Government Contacts			
Sherburne County Solid Waste Administrator			
City of Becker, City Administrator			
External Resources			
	Earth Work		
	Earth Work		
	On Water Response		

Appendix C - Figures



Photo 1 - Looking from Northeast Corner of BAP toward Unit 1 Cooling Towers



Photo 2 - Looking from Southwest Corner of BAP across Recycle Basin toward Unit 1 Cooling Towers



Photo 3 - Looking East from BAP Embankment toward Pond 3



