

EMERGENCY ACTION PLAN SCRUBBER SOLIDS POND No. 3

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

Prepared for:



Xcel Energy, Inc.

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15650 36th Ave N. Suite 110
Plymouth, MN 55446
Tel 952-346-3900
Fax 952-346-3901
www.carlsonmccain.com

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Emergency Action Plan
Scrubber Solids Pond No. 3
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, PE

License No. 49559

April 14, 2017

Date

Emergency Action Plan Scrubber Solids Pond No. 3 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 Scrubber Solids Pond #3 (Pond 3) 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

Pond 3 is an existing coal combustion residual (CCR) surface impoundment at the Sherburne County Generating Plant (Sherco) in Becker, Minnesota (see Figure 1). Pond 3 holds scrubber solids and ash transport water from the flue gas desulfurization (FGD) treatment processes of Sherco Units 1 and 2, bottom ash generated by the operation of Sherco Units 1, 2 and 3, and ash generated from Xcel's metro-area power plants. Pond 3 is regulated under NPDES Permit No. MN0002186, State of Minnesota Dam Safety Permit No. 83-3152, and 40 CFR Part 257. This EAP:

- Describes events and circumstances involving Pond 3 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 Pond 3 that would constitute a safety emergency as defined by the final CCR rule.

- 1) The first scenario relates to ash transport water overtopping the Pond 3 perimeter dikes. The crest of the north, east, and south perimeter dikes of Pond 3 are at elevation 1008 feet

Mean Sea Level (MSL). The elevation of the liner within the western perimeter dike of Pond 3 is 1010 feet MSL. The maximum allowable water level in Pond 3 under its current dike geometry is 1002 feet MSL. The water level in Pond 3 varies based upon such factors as precipitation, transfers to/from the Recycle Basin / Bottom Ash Pond loop, and the rate of water reuse back into the Unit 3 Air Quality Control System. Over time, the ongoing placement of scrubber solids in Pond 3 contributes to a gradual increase in the pond water level. As of the date of this EAP, the water level in Pond 3 is approximately 996.0 feet MSL.

Pond 3 is inspected daily as part of routine shift rounds and weekly as part of routine CCR inspections. Any unusual increase in water level in Pond 3 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 Pond 3 could approach the crest of the perimeter dikes without advance notice.

- 2) The second scenario is the catastrophic release or potential release of Pond 3 solids and/or ash transport water due to a structural failure of the Pond 3 perimeter dikes. As described more fully in the October 17, 2016 *Initial Structural Stability Assessment* for Pond 3, the pond 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 Pond 3.

Pond 3 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 Pond 3 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), Pond 3 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 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 Pond 3 emergency.
- Per the requirements of State of Minnesota Dam Safety Permit No. 83-3152, 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 Pond 3 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 Pond 3 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 Pond 3 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 Pond 3, 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

Pond 3 is approximately 115 acres in size. The pond's western dike abuts closed Pond 2, while the northern, western, and eastern dikes of Pond 3 are formed by compacted, earthen embankments. Pond 3 was constructed in two phases (north and south), and the berm that separates the two phases remains in place. A small segment of the east end of this separating dike is maintained at an elevation that allows the interior dike to serve as a weir, allowing ash to preferentially settle in the south half of the pond and ash transport water to flow toward the outlet structure located in the northwest corner of Pond 3. This separating dike also serves to limit the volume of ash and water that could be released in the event of a Pond 3 dike failure. A gravel driving surface extends around the top of the entire perimeter of Pond 3, and inclined ramps connect the perimeter road at the dike crests to the surrounding ground surface on the north and east sides of the pond (see Figure 2).

Except for several monitoring wells, there are no structures or constructed features in the areas immediately north and east of Pond 3. These areas have been used as soil borrow pits in the past and the current ground surface contours generally form one or more closed basins entirely within Xcel property. The area east of Pond 3 is separated from Sherburne Avenue by an earthen screening berm that runs continuously along the property boundary except for a gap in the immediate vicinity of Gate 20. For reference purposes, the ground elevation at the bottom of the east borrow pit is approximately 942 feet MSL, compared to the crest of the adjacent screening berm at approximately 970 feet MSL.

The maximum water elevation allowed under the currently constructed dike geometry of Pond 3 is 1002.0 feet MSL. At this maximum elevation, Pond 3 would contain approximately 9 million cubic yards of CCR solids and wastewater, generally equally split between the north and south halves of the pond.

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

- A Pond 3 dike failure to the north and east would not threaten any structures or surface waters. Pond contents would flow toward the existing borrow pit basins and be contained entirely within Xcel property.
- A Pond 3 dike failure to the south has the potential to impact non-Xcel property. Great River Energy's RDF landfill is located immediately south of Pond 3, separated from the pond dike by a gravel road that runs east-west approximately along the property boundary. The landfill administration building is a small, pre-cast concrete structure located less than three hundred feet from the toe of the slope of the south dike of Pond 3. The presence of the Becker RDF landfill would serve to direct any ash or water released via a breach in the south dike of Pond 3 to the west and/or east of the landfill to Xcel-owned property. To the east, this flow would be away from the Mississippi River toward an agricultural field. The Xcel-owned property to the west of the landfill is undeveloped and partially wooded, with a generally flat or gentling sloping surface that runs more than one-third of a mile from Pond 3 to the river.

The areas that could be at risk of inundation in the event of a catastrophic failure of the Pond 3 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 Pond 3 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			
External Resources Services Provided			
	Earth Work		
	Earth Work		
	On Water Response		
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			

Appendix C – Figures



Photo 1 - Looking South from Southeast Corner of Pond 3 to the GRE RDF Landfill Admin Building



Photo 2 - Looking at Xcel-owned Property South of Pond 3 and East of GRE RDF Landfill



Photo 3 - Looking at Xcel-owned Property South of Pond 3 and West of GRE RDF Landfill



Photo 4 - Looking Northwest from Northeast Corner of Pond 3 across Borrow Areas toward BAP and Plant



Photo 5 - Looking East from Pond 3 Embankment toward Gate 20



