January 4, 2023

Xcel Energy, Inc.
Sherburne County Generating Station
13999 Industrial Blvd.
Becker, MN, 55308

Re: 2022 Annual Inspection of Scrubber Solids Pond No. 3

The Scrubber Solids Pond No. 3 (Pond 3) inspection was conducted on November 11, 2022, by Daniel J. Riggs, a professional engineer licensed in the State of Minnesota. This was the eighth inspection done in accordance with the EPA's published Coal Combustion Residual (CCR) Rules under section 257.83. Prior inspections were conducted in 2008, 2009, 2013 by the Minnesota Department of Natural Resources (DNR); in August 2009 by the EPA; annually from 2010 to 2014 by Qualified Professional Engineers in accordance with the DNR and Minnesota Pollution Control Agency (MPCA) inspection requirements; and annually since 2015 by a Qualified Professional Engineer in accordance with EPA CCR Rules.

The following items were evaluated as a part of the Section 257.83 Inspection:

i) Any changes in geometry of the impounding structure since the previous inspection

Annual topographic surveys have been conducted on Pond 3 since initial construction in 2004. During that time, no changes in pond geometry or embankment alignment have been observed.

ii) The location and type of existing instrumentation and the maximum recorded readings of each instrument since the previous annual inspection

The only instrumentation on Pond 3 is a staff gauge used to determine water surface elevation in the north half of Pond 3, located on the west side of the discharge structure. The recordings of the staff gauge are discussed in Section iii. No instrumentation is needed for dike stability.

iii) The approximate minimum, maximum, and present depth and elevation of the impounded water and CCR since the previous annual inspection

The Pond water level varied throughout the year ranging from a minimum elevation of 996.5 feet mean sea level (MSL) to a maximum elevation of 1003.6 feet MSL. The water level was at an elevation of 1001.8 feet MSL during the 2022 inspection.

The lowest elevation of the Pond 3 liner is 938 feet MSL; therefore, the minimum depth of water was 58.5 feet, the maximum depth was 65.6 feet and the depth during the inspection was 63.8 feet.

Two forms of CCR are placed in Pond 3. Solid CCR is excavated and hauled from a separate facility to Pond 3 and used as structural fill, while scrubber solids are sluiced from the Sherburne County Generating Station to Pond 3.

The maximum elevation of CCR is the interior dike located inside of the main perimeter dike in the south half of Pond 3, which has a crest elevation of 1022 feet MSL. This equates to a depth of 84 feet measured from the Pond 3 base liner. The interior dike crest is approximately 90 feet away from the main perimeter dike to provide a hydraulic break ensuring water ponded inside the interior dike cannot overtop the main dike.

The maximum elevation of scrubber solids in Pond 3 is 1014 feet MSL, which equates depth of 76 feet. The minimum elevation of CCR observed during the last bathymetric survey (August 2022) was 953 feet MSL, which equates to a depth of 15 feet.

iv) The storage capacity of the impounding structure at the time of the inspection

The remaining capacity of Pond 3 to elevation 1010 feet MSL (top of currently constructed clay liner) is:

- 2.6 million cubic yards (1,611 acre-feet) from the surface of CCR.
- 630,700 cubic yards (391 acre-feet) from top of water, elevation 1001.8 feet MSL.

v) The approximate volume of the impounded water and CCR at the time of the inspection

There was approximately 2.0 million cubic yards (1240 acre-feet) of impounded free water and 5.5 million cubic yards (3,409 acre-feet) of CCR in the Pond at the time of inspection.

vi) Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit and appurtenant structures

The exterior of the Pond was inspected for structural weakness in the form of seepage by walking a traverse at the base, mid-slope, and top of the embankment. Signs of seepage would include saturated areas, patches of grass more lush than the surrounding area or flowing "springs". There were no signs that seepage had previously or is presently occurring on Pond 3.

The discharge pipe corridor was inspected for signs of a leakage, such as saturated areas or sinkholes. No signs of leakage were observed along the pipe corridor or in the vault located north of Pond 3.

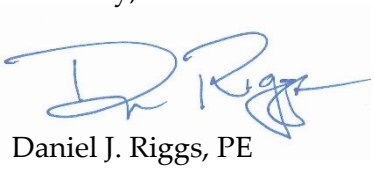
The water level in Pond 3 has varied from 996.5 feet to 1003.6 feet MSL throughout the past year. Decreases can be attributed to a late summer and fall with little to no precipitation.

vii) Any other changes(s) which may have affected the stability or operation of the impounding structure since the previous annual inspection

There have not been any changes that have affected the stability of the pond.

I have reviewed the CCR Unit Design and Construction information and have observed no deviations from those documents.

Sincerely,



Daniel J. Riggs, PE
License No. 49559
Senior Engineer
Carlson McCain, Inc.

Pond 3 Annual Inspection - 2022

Photo 1 11/11/2022	Outer slope of south embankment, looking east

Photo 2 11/11/2022	Outer slope of south embankment and southeast corner of pond, looking west

Photo 3 11/11/2022	South end of east embankment, looking northwest.

Photo 4 11/11/2022	Mid-slope of east embankment, looking north

Photo 5 11/11/2022	East embankment, looking south

Photo 6 11/11/2022	Mid-slope of east embankment, looking north.

Photo 7 11/11/2022	East embankment, looking south.

Photo 8 11/11/2022	Exterior of north end of east embankment, looking northwest.

Photo 9	Top of northern access ramp on east embankment, looking south.
11/11/2022	

Photo 10	Northern end of east embankment, looking north.
11/11/2022	

Photo 11 11/11/2022	North embankment, looking west.

Photo 12 10/24/2019	Outer slope of north embankment, looking east.

Photo 13 11/11/2022	Pond 3 discharge pipe alignment, looking northwest

Photo 14 11/11/2022	Pond 3 discharge pipe corridor, looking southeast.

Photo 15 11/11/2022	Pond 3 staff guage, reading an elevation of 1001.8 feet (mean sea level).

Photo 16 11/11/2022	Interior of west embankment, looking south.

Photo 17 11/11/2022	Interior of north embankment, looking east.

Photo 18 11/11/2022	Top of outer slope of north embankment, looking west.

Photo 19 11/11/2022	Interior of east embankment, looking south.

Photo 20 11/11/2022	Top of east embankment, looking north.

Photo 21 11/11/2022	Top of east embankment, looking south.

Photo 22 11/11/2022	Interior of east embankment, looking north.

Photo 23 11/11/2022	Left: CCR interior dike. Right: Interior of east embankment, looking north.

Photo 24 11/11/2022	Left: Interior of south embankment. Right: CCR interior dike, looking west.

Photo 25 11/21/2022	Interior of west embankment, looking north.

Photo 26 11/11/2022	Interior pond dike, looking west.