MEMORANDUM

SUBJECT: EPA Comments on “Assessment of Dam Safety of Coal Combustion Surface Impoundments: GenOn/NRG Cheswick Power Station, Springdale, PA”

DATE: November 8, 2013

1. On page 8, Section 3.1.2, add a period at the end of the first paragraph.
2. On page 13, Section 5, under Emergency Pond 203, please remove the second “Minor deficiencies include the following:” as this statement appears in the previous paragraph.
3. Remove blank page prior to Appendix C (page 54 of 121).
Dear Mr. Hoffman and Ms. Englander,

As requested, NRG has reviewed and is providing the following comments on the Draft Report for Cheswick Generating Station:

- The station owner and operator is NRG Power Midwest LP (NRG), a subsidiary of NRG Energy, Inc. and should replace “GenOn” or “GenOn Energy” throughout the report. The GenOn name changed for this station in May of 2013.

- Page 2, Note that the pond names are “Bottom Ash Recycle Pond” and “Emergency Ash Pond.” The numbers 303 and 203 are Internal Monitoring Points (IMPs) for each pond under the NPDES permit (e.g., IMP 303). Please remove “303 and 203” after the names of the ponds throughout the report.

- Page 3, Section 2.1 (2nd to last sentence is inaccurate). Note that bottom ash is sluiced from the ash hopper under the boiler to the hydrobins. Heavy ash particles settle in the hydrobins. The water with suspended ash particles overflows from the hydrobins to the bottom ash ponds for additional settling. A polymer is added to the hydrobin overflow water to facilitate settling in the ponds. The water is drained (decanted) from the hydrobins a few days per week to dewater the ash in the hydrobins prior to shipment to the landfill.

- Page 3, Section 2.1.1 (Note the ponds do not receive “sluiced” bottom ash flows. The ponds receive the ash transport water overflow from the hydrobins after settling of the heavy ash particles.)

From the stilling basin, decant water is either pumped back to the plant for re-use or discharged to the Allegheny River to the south of the impoundment via a pipe along Tawney Run and over Pittsburgh Street. The discharge is authorized by Pennsylvania National Pollutant Discharge Elimination System (PA NPDES) Permit No. PA0001627 at Internal Monitoring Point (IMP) 303 via Outfall No. 003. The Recycle Pond 303—previously discharged to Tawney Run.

(Note: The Bottom Ash “Recycle” Pond name is a misnomer from
the original design.)

- Page 3 & 4, Section 2.1.2

Decant water flows through an effluent trough along the south side of the impoundment. From there, it enters a 24-inch Corrugated Metal Pipe (CMP) and flows along the west side of the Emergency Pond into the Stilling Basin. From the Stilling Basin, water is discharged to the Allegheny River to the south of the impoundment. The 24-inch CMP runs along Tawney Run and over Pittsburgh Street. The discharge is authorized by Pennsylvania National Pollutant Discharge Elimination System (PA NPDES) Permit No. PA0001627 at IMP 203 via Outfall No. 003.

- Page 5, Section 2.2.1. The hazard potential rating of SIGNIFICANT is not warranted. As defined in Appendix A, NRG believes a LOW hazard potential is appropriate for the following reasons:

  a. The ponds are relatively small compared to most other ash ponds in the industry. The Bottom Ash Recycle Pond has a maximum capacity of approximately 1,025,579 gallons. The Bottom Ash Emergency Pond has a maximum capacity of approximately 936,187 gallons. Only one pond is in service at a time. Both ponds are interconnected by two 14 inch diameter overflow pipes providing additional capacity from the out of service pond. The Recycle Pond is also equipped with an emergency overflow riser that discharges to Tawney Run minimizing the potential for over topping the embankments. Therefore, in the unlikely case of a release, the quantity of water released would be limited.

  b. Because heavier ash particles are removed from the transport water before entering the ponds, the water contains substantially less ash than the sluiced transport water entering the hydrobins. Therefore, in the unlikely case of a release from the ponds, the water would contain less ash and cause minimal environmental losses to Tawney Run.

  c. The Emergency Pond and Recycle Ponds are located more than 750 and 1,000 feet, respectively, from Pittsburgh Street. As depicted on the attached aerial map overlaid with topographic elevations and the final grade plan from a recent Erosion and Sedimentation Control Plan, the ponds are located in a valley. The land surrounding and topographically downhill from the ponds is on NRG property and is approximately 250 feet wide at its narrowest point and is a topographically low area (i.e., ~755 ft. msl). In the unlikely
case of a catastrophic release, the water would flatten out across the area south of the ponds, enter Tawney Run, and flow through the culvert under Pittsburgh Street. Homes along Duquesne Court and North Duquesne Avenue are topographically higher (i.e., >760 ft. msl) than the flow path along Tawney Run (<755 ft. msl) and would not be impacted. In addition, the NRG property is fenced to limit public access. Therefore, a release would result in no probable loss of human life and low economic losses. All losses would be contained within the fenced area of the station.

- Page 6, Section 2.3.3 Outlet Works:

Recycle Pond

Bottom Ash Recycle Pond 303 decants water through a 40-ft long weir that discharges into a 40-ft long by 18-ft wide rectangular concrete stilling basin with an open top. A floating boom and steel slide gate serve as baffles to exclude floating debris from the discharge. The pump house directs decant water for re-use in the plant discharge at Outfall 003. Additional Effluent originally discharged through an 18-inch diameter pipe to nearby Tawney Run. NPDES requirements led to the re-routing of pond outflow, not re-used in the plant, directly to the Allegheny River in the late 1970s / early 1980s based on discussions with plant personnel. The discharge is authorized by Pennsylvania National Pollutant Discharge Elimination System (PA NPDES) Permit No. PA0001627 at IMP 303 and Outfall No. 003.

Emergency Pond

The outlet works for Emergency Ash Pond 203 consist of an 80-foot long metal effluent trough with top plates forming a triangle in cross-section. The effluent trough is underlain with a 3-foot wide sand base. Effluent originally discharged through a 24-inch corrugated metal pipe to nearby Tawney Run. In the late 1970s / early 1980s, NPDES requirements led to the re-routing of pond outflow into the 40-ft long by 18-ft wide rectangular concrete stilling basin with an open top. A floating boom and steel slide gate serve as baffles to exclude floating debris from the discharge. The pump house directs decant water for re-use in the plant discharge to Outfall 003, directly to the Allegheny River in the late 1980s / early 1990s based on discussions with plant personnel. The discharge is authorized by Pennsylvania National Pollutant Discharge Elimination System (PA NPDES) Permit No. PA0001627 at IMP 203 via Outfall No. 003.
Page 8, Section 3.1.1 Stormwater Inflows:

Assuming stormwater inflows to the ponds are limited to direct precipitation and a freeboard of 2 feet is available in each pond, available storage volume is sufficient to contain a 24-hour 100-year storm, but not sufficient to contain a PMP (Probable Maximum Precipitation) event without overtopping the crest of the ponds. If pond discharge through the normal outlet and 24 inch emergency riser pipe is considered in combination with the freeboard storage, the ponds may be capable of storing/passing the PMP event; however, a complete hydrologic and hydraulic analysis along with a topographic survey of the areas surrounding the ponds is needed to evaluate the performance of the ponds in these design events. Neither the Bottom Ash Recycle Pond 303 nor the Emergency Ash Pond 203 have emergency spillways for management of possible pond overflow. However, both ponds are interconnected with two 14 inch diameter steel pipes ensuring all extra pond capacity is utilized during a PMP event prior to overflow via the 24 inch corrugated metal emergency riser pipe in the Recycle Pond to Tawney Run. (A photograph of the 14” overflow pipes is attached, and Figure 3B is marked up to depict the location of these pipes.)

Page 9, Section 3.1.3

NPDES requirements led to the re-routing of pond outflow directly to IMP 203/303 and the Allegheny River via Outfall 003 in the late 1970s / early 1980s based on discussions with plant personnel.

Page 11, Section 4.2 (Second to last bullet)

A pump house, which is used to transfer water for discharge to other plant processes, is positioned next to the concrete stilling basin at the pond’s south end.

Page 13 Conclusions

Note: NRG no longer plans to install a drag chain system and formally close the ash ponds in 2014.

Page 15, Section 6.4

Based on the additional information provided in this review, NRG does not concur with the recommendation to complete a hydrology and hydraulics analysis within one year from the date of this
assessment report.

Please do not hesitate to contact me with any questions or comments.

Thank you, Steve
DAM SAFETY ASSESSMENT OF CCW IMPOUNDMENTS
CHESWICK POWER STATION
SPRINGDALE, PENNSYLVANIA

PHOTO LOCATION MAP

LEGEND

PIPE
ASH POND/IMPOUNDMENT
OTHER POND/IMPOUNDMENT
TAWNEY RUN
PHOTO LOCATION/DIRECTION

203 EMERGENCY BOTTOM ASH POND PHOTO LOCATION MAP

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