Closure Plan
for Low Volume Waste Settling Ponds

Mount Storm Power Station
Mount Storm, West Virginia

October 2016

Prepared For
Virginia Electric and Power Company

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Section 1
Introduction

Virginia Electric and Power Company d/b/a Dominion Virginia Power (Dominion) owns and operates the Mount Storm Power Station (Station). The Station operates five low volume waste settling ponds (LVWSP) (Pyrite Pond and Ponds A, B, C, and D), which meet the definition of coal combustion residual (CCR) surface impoundments under the United States Environmental Protection Agency (USEPA) Disposal of Coal Combustion Residuals From Electric Utilities Final Rule (CCR Rule). This Closure Plan (Plan) describes the activities associated with the closure of Ponds A, B, C, and D to meet the requirements of 40 Code of Federal Regulations (CFR) 257.102(b) in the CCR rule. This Plan was prepared for Dominion by TRC Environmental Corporation (TRC). The retrofit of the Pyrite Pond was addressed in the Retrofit Plan for the Pyrite Pond.

1.1 Regulatory Background

Ponds A, B, C, D, and the Pyrite Pond are regulated through the Station's West Virginia Department of Environmental Protection (DEP) National Pollutant Discharge Elimination System (NPDES) permit. Following the closure, new Ponds A and B will be reconstructed within the same footprint of the existing Ponds A, B, and C and will continue to be regulated under the existing West Virginia NPDES permit. This Plan details how the closure of Ponds A, B, C, and D and the reconstruction of new Ponds A and B will occur. The Pyrite Pond is being addressed similarly as indicated in the Pond's Retrofit Plan.

1.2 Site Information

The Station is located in Union District, Grant County, West Virginia. The station is located at approximate latitude 39°12'2"N, longitude 79°15'47"W. The area surrounding the LVWSP is approximately 9 acres with ground surface elevations ranging from 3300 feet North American Vertical Datum 1988 (NAVD88) to 3245 feet NAVD88. The topography is high on the northwest side of the LVWSP sloping down toward Mount Storm Lake to the east and south. The berm elevations of the LVWSP range from 3254 feet NAVD88 to 3274 feet NAVD88. The normal water elevation for Mount Storm Lake is approximately 3245 feet NAVD88 with a maximum elevation of 3248.3 feet NAVD88.

Section 2
Closure Plan

2.1 Closure Description

Existing Ponds A, B, C, and D will be closed in accordance with 40 CFR 257.102(c) through the removal of CCR such that no residual materials remain visible and decontamination of the area by over-excavation of approximately 6-inches of subsoils and monitoring of the groundwater monitoring network. Certification of the closure will be provided by a registered professional engineer. The reconstructed (new) Ponds A and B will be built in the footprint of existing Ponds A, B, and C and will include a groundwater gradient control system and a composite liner system compliant with 40 CFR 257.72. Existing Pond D will be completely backfilled. Closure and reconstruction will commence in the construction season of 2017 and be completed at the end of 2018 as described below.

In 2017, flow will be diverted to existing Pond A. Existing Ponds B and C will be dewatered and closed through the removal of CCR materials. Visibly-impacted subsoils will be removed until the area is decontaminated. CCR and visibly-impacted subsoils will be disposed at the Station's on-site permitted landfill. The excavation of existing Ponds B and C will be advanced below the designed subbase grades for the reconstructed ponds to the bottom of the gradient control system grades. The accessible portion of the gradient control system will be installed below the reconstructed (new) Pond B footprint. The gradient control lift station will be constructed as part of this portion of the gradient control system. General fill will be placed and compacted above the gradient control system to subbase grades for the reconstructed Pond B. The new Pond B liner system, liner protection system, outlet structure, and new piping will then be constructed. New piping for the outlet system will also be installed during 2017. The new liner system will be composed from top to bottom of the following elements:

- 10-inch thick concrete cover on the base and riprap on the sideslopes,
- Geotextile cushion,
- 60-mil high density polyethylene (HDPE) geomembrane,
- Geosynthetic clay liner (GCL), and
- 8-inch thick compacted soil layer.

Liner equivalency calculations were performed to verify the alternative liner system meets hydraulic conductivity equivalent to 2 feet of compacted clay. Calculation results showed that a GCL with a maximum hydraulic conductivity of 1.2×10^{-9} cm/s performs equivalent to a 2 foot

thick compacted clay layer with a maximum hydraulic conductivity of 1 x 10^{-7} cm/s. A GCL product that meets the required hydraulic conductivity requirement will be specified and approved for construction.

In 2018, flow will be diverted to the reconstructed (new) Pond B. The existing Ponds A and D will be dewatered and closed through the removal of CCR materials. CCR materials will be removed to a point where they are no longer visibly present. Once the removal of CCRs is verified by a registered professional engineer subsoils will be removed to approximately six inches. CCR and subsoils will be disposed at the Station's on-site permitted landfill. Pond D will be completely backfilled with structural fill and graded to encourage water runoff. The excavation of existing Pond A will be advanced below the subbase grades to the bottom of the gradient control system grades. The remainder of the gradient control system will be installed below the reconstructed (new) Pond A footprint. General fill will be placed and compacted above the gradient control system to subbase grades for the reconstructed (new) Pond A. The new Pond A liner system, liner protection system, outlet structure, and new piping will then be constructed. The new liner system will be composed from top to bottom of the following elements:

- 10-inch thick concrete cover on the base and riprap on the sideslopes,
- Geotextile cushion,
- 60-mil high density polyethylene (HDPE) geomembrane,
- Geosynthetic clay liner (GCL), and
- 8-inch thick compacted soil layer.

Liner equivalency calculations were performed to verify the alternative liner system meets hydraulic conductivity equivalent to 2 feet of compacted clay. Calculation results showed that a GCL with a maximum hydraulic conductivity of 1.2 x 10-9 cm/s performs equivalent to a 2 foot thick compacted clay layer with a maximum hydraulic conductivity of 1 x 10-7 cm/s. A GCL product that meets the required hydraulic conductivity requirement will be specified and approved for construction.

As discussed above, closure activities will commence during the construction season of 2017 and are anticipated to be completed in 2018. A detailed schedule for completing closure activities for Ponds A, B, C, and D is provided in Appendix A.

2.2 CCR Removal Volume and Area Estimate

It is estimated that a maximum of 103,000 cubic yards (CY) of CCR material will be removed from Ponds A, B, C, and D during closure activities. This material will be excavated from an

area of approximately 6 acres (approximate footprint of the existing ponds). In total, approximately 7 acres will be affected by the closure operation.

2.3 Notifications

In accordance with the CCR Rule (40 CFR 257.102(g)), Dominion will add an Intent to Initiate Closure notice to the Station's operating record prior to initiating closure activities. In addition, a Notification of Completion of Closure with an engineer's certification will be posted to the operating record within 30 days of completion of closure activities (40 CFR 257.102(h)). The Plan and notifications will also be posted to Dominion's publicly accessible internet site, and notice provided to the WV Department of Environmental Protection.

Section 3
Certification

I, the undersigned WV Professional Engineer, hereby certify that I am familiar with the technical requirements of 40 CFR 257.102. I also certify that it is my professional opinion that, to the best of my knowledge, information, and belief, that the activities outlined in this closure plan are in accordance with current good and accepted engineering practice(s) and standard(s) appropriate to the nature of the project and the technical requirements of 40 CFR 257.102(c).

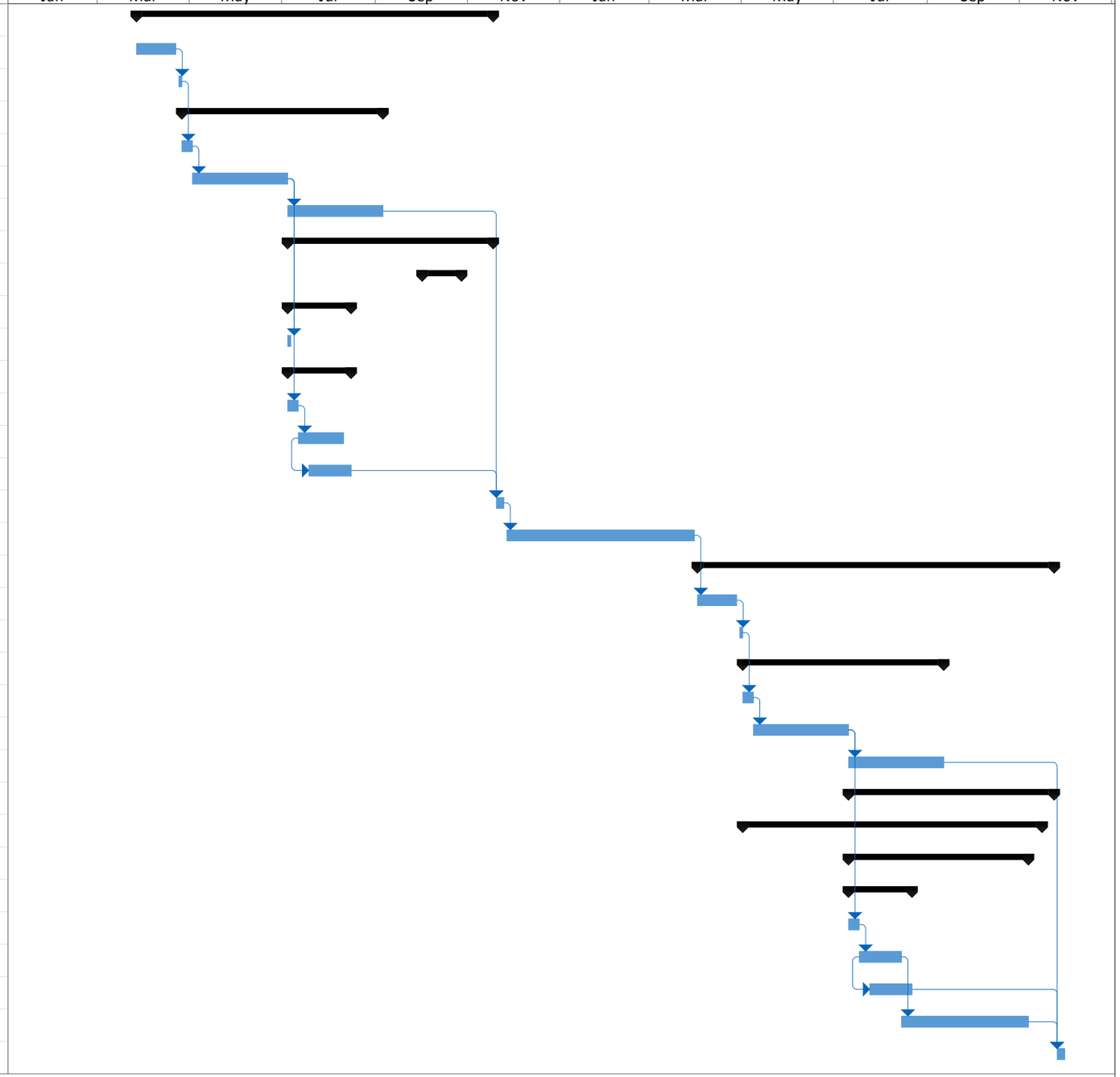
For the purpose of this document, "certify" and "certification" shall be interpreted and construed to be a "statement of professional opinion". The certification is understood and intended to be an expression of my professional opinion as a WV Registered Professional Engineer, based upon knowledge, information, and belief. The statement(s) of professional opinion are not and shall not be interpreted or construed to be a guarantee or a warranty of the closure activities.

R. Kent Nilsson	21543
Printed Name of Professional Engineer	State of West Virginia License Number
	October 3, 2016
Signature of Professional Engineer	Date

Appendix A
Closure Schedule

Mt Storm Design and Conceptual Construction Schedule

ID	Task Name	Duration	Start	Finish
1	**Pond B**	**170 days**	**Mon 3/27/17**	**Fri 11/17/17**
2	Pre-Mobilization Planning	20 days	Mon 3/27/17	Fri 4/21/17
3	Mobilization	2 days	Mon 4/24/17	Tue 4/25/17
4	**Pond B Clean Closure**	**95 days**	**Wed 4/26/17**	**Tue 9/5/17**
5	Site Preparation	5 days	Wed 4/26/17	Tue 5/2/17
6	Excavate Pond	45 days	Wed 5/3/17	Tue 7/4/17
7	Material Solidification/Load Out/T & D	45 days	Wed 7/5/17	Tue 9/5/17
8	**Pond B Lining**	**98 days**	**Wed 7/5/17**	**Fri 11/17/17**
21	**Infrastructure Modifications**	**20 days**	**Mon 10/2/17**	**Fri 10/27/17**
25	**Pond C**	**30 days**	**Wed 7/5/17**	**Tue 8/15/17**
26	Relocate Dredge	2 days	Wed 7/5/17	Thu 7/6/17
27	**Pond C Clean Closure**	**30 days**	**Wed 7/5/17**	**Tue 8/15/17**
28	Site Preparation	5 days	Wed 7/5/17	Tue 7/11/17
29	Excavate Pond	22 days	Wed 7/12/17	Thu 8/10/17
30	Material Solidification/Load Out/T & D	20 days	Wed 7/19/17	Tue 8/15/17
31	Demobilization	5 days	Mon 11/20/17	Fri 11/24/17
32	Winter Break	90 days	Mon 11/27/17	Fri 3/30/18
33	**Pond A**	**170 days**	**Mon 4/2/18**	**Fri 11/23/18**
34	Pre-Mobilization Planning	20 days	Mon 4/2/18	Fri 4/27/18
35	Mobilization	2 days	Mon 4/30/18	Tue 5/1/18
36	**Pond A Clean Closure**	**95 days**	**Wed 5/2/18**	**Tue 9/11/18**
37	Site Preparation	5 days	Wed 5/2/18	Tue 5/8/18
38	Excavate Pond	45 days	Wed 5/9/18	Tue 7/10/18
39	Material Solidification/Load Out/T & D	45 days	Wed 7/11/18	Tue 9/11/18
40	**Pond A Lining**	**98 days**	**Wed 7/11/18**	**Fri 11/23/18**
53	**Infrastructure Modifications**	**142 days**	**Wed 5/2/18**	**Thu 11/15/18**
60	**Pond D**	**85 days**	**Wed 7/11/18**	**Tue 11/6/18**
61	**Pond D Clean Closure**	**30 days**	**Wed 7/11/18**	**Tue 8/21/18**
62	Site Preparation	5 days	Wed 7/11/18	Tue 7/17/18
63	Excavate Pond	20 days	Wed 7/18/18	Tue 8/14/18
64	Material Solidification/Load Out/T & D	20 days	Wed 7/25/18	Tue 8/21/18
65	**Pond D Backfill**	**60 days**	**Wed 8/15/18**	**Tue 11/6/18**
66	Demobilization	5 days	Mon 11/26/18	Fri 11/30/18



Dominion - Mt Storm Conceptual Construction Schedule
Date: 8/11/16

Task Milestone Summary