Retrofit Plan
for CCR Surface Impoundments

Clover Power Station
Clover, Virginia

May 2016

Prepared For
Virginia Electric and Power Company

R. Kent Nilsson, P.E.
Senior Engineer

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Project Manager

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Section 1
Introduction

Virginia Electric and Power Company d/b/a Dominion Virginia Power (Dominion) owns[1] and operates the Clover Power Station (Station). The Station currently operates two Sludge Sedimentation Basins (North and South Basins; basins), 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 Plan describes the activities associated with the retrofit of the basins to meet the requirements of 40 Code of Federal Regulations (CFR) 257.102(k)(2) in the CCR rule. This Plan was prepared for Dominion by TRC Environmental Corporation (TRC).

1.1 Regulatory Background

The basins have previously been regulated through the Station's Virginia Pollutant Discharge Elimination System (VPDES) permit. With the finalization of the USEPA's CCR Rule and Virginia's adoption into the Virginia Solid Waste Management Regulations (VSWMR), the basins are being retrofitted in accordance with 40 CFR 257.102(k) and permitted as Solid Waste Management Units (SWMUs) under the VSWMR.

1.2 Site Information

The Station is located on the Staunton River in Halifax County, Virginia near the Town of Clover at approximately latitude 36°52'11.79"N, longitude 78°42'6.47"W. The Station has two coal-fired units that produce CCRs, including flue gas desulfurization (FGD) sludge. There are currently two existing basins at the Station (North and South), which cover a total area of approximately 4 acres.

The basins are located on the eastern side of the Station and consist of earthen impoundments, with a maximum basin depth of approximately nine feet. A gravel-surfaced road extends along the top of the containment berm along the east, south and north sides of the basins, with downward-sloping ramps on the east side providing heavy equipment access to each basin's interior for removal of accumulated solids.

[1] Old Dominion Electric Cooperative owns a 50% undivided interest in the Station.

Section 2
Retrofit Plan

2.1 Retrofit Description

The current basins will be retrofitted in compliance with 40 CFR 257.102(k)(1) through the removal of the existing liner materials and subsoils, and installation of a composite liner system compliant with 40 CFR 257. 72. Retrofitting will be conducted during the 2016 and 2017 construction seasons as described below.

In 2016, CCR, including FGD sludge, will be removed from the basins as part of routine Station maintenance. Prior to retrofit activities, plant flows will be diverted to the South Basin. Construction will commence in the North Basin through removal of the existing liner system. The existing liner system is composed of, from top to bottom, protective concrete and riprap, sand, and a geomembrane liner. CCR material observed in subsoils below the geomembrane will also be removed. CCR material and subsoils will be disposed of at the Station's on-site permitted landfill. All other material will be disposed of at off-site landfills. After removal of the existing liner system and any observed CCR materials, the North Basin will be retrofitted by restoring and establishing subbase grades, and constructing the new liner system. The new liner system will be composed from top to bottom of the following elements:

- Concrete cover,
- Geotextile cushion,
- 60-mil high density polyethylene (HDPE) geomembrane,
- Geosynthetic clay (GCL) liner, and
- 8 inch-thick compacted clay layer.

The liner system for the southeast corner of the North Basin surrounding the pump station will not be constructed during 2016. A temporary dam and pump structure will be constructed to allow active use of the Basin during the 2017 construction season, and will provide a dry working area for constructing the permanent pump structure and tie-in to the North Basin.

In 2017, CCR, including FGD sludge, will be removed from the basins as part of routine Station maintenance. Prior to retrofit activities, plant flows will be diverted to the retrofitted North Basin. The South Basin will be cleaned by removing the existing liner system. The existing liner system is composed of, from top to bottom, protective concrete and riprap, sand, and a geomembrane liner. CCR material observed in subsoils below the geomembrane liner will also

be removed. After removal and the existing liner system and any observed CCR materials, the existing pump station and flow split box will be demolished. The South Basin will be retrofitted by restoring or establishing subbase grades and constructing the new liner and liner protection (concrete) systems. A new pump station and flow split box will be constructed after installation of the new liner system. During 2017, the southeastern portion of the North Basin will be lined and tied into the 2016 construction.

It is anticipated that flow will be diverted to the retrofitted South Basin in 2017, to allow removal of the temporary dam and temporary pump structure.

2.2 Schedule of Retrofit Activities

As discussed in Subsection 2.1, retrofit activities will occur during the construction seasons of 2016 and 2017 and is anticipated to be completed in 2017. A detailed schedule for completing retrofit activities is provided in Appendix A.

2.3 CCR Removal Volume and Area Estimate

The basins are normally operated in sequence and are periodically taken offline to remove accumulated solids for disposal in the Station's onsite landfill. It is estimated that a maximum of 5,000 cubic yards (CY) and 19,000 CY of CCR material will be removed from the North and South Basins, respectively, prior to and during retrofit activities. This material will be excavated from an area of approximately 3.8 acres (approximate combined footprint of the North and South Basins). In total, approximately 4.7 acres will be affected by the retrofit operation.

2.4 Notifications

In accordance with the CCR Rule (40 CFR 257.102(k)), Dominion will post an Intent to Initiate Retrofit notice to the operating record prior to initiating retrofit activities. This plan will become part of the Station's operating record. In addition, a Notification of Completion of Retrofit with an engineer's certification will be posted to the operating record within 30 days of completion of retrofit activities (40 CFR 257.102(k)). The retrofit plan and notifications will also be posted to Dominion's publicly accessible internet site.

Section 3
Certification

I, the undersigned Virginia 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 retrofit 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 (k)(2).

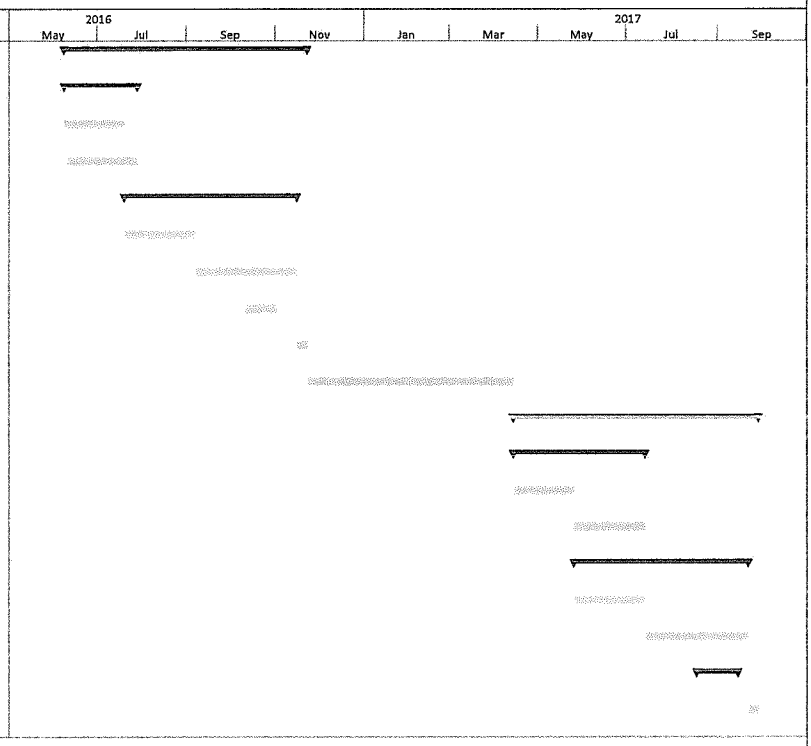
For the purpose of this document, "certify" and "certification" shall be interpreted and construed to be a "statement of professional opinion". The certification is understood and intended to be an expression of my professional opinion as a Virginia Licensed Professional Engineer, based upon knowledge, 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 retrofit activities.

R. Kent Nilsson	026477
Printed Name of Professional Engineer	Commonwealth of Virginia License Number
	May 5, 2016
Signature of Professional Engineer	Date

Appendix A
Retrofit Schedule

Clover Conceptual Retrofit Schedule

ID	Task Name	Duration	Start	Finish
1	**North Basin**	**120 days**	**Wed 6/8/16**	**Tue 11/22/16**
2	**North Basin Maintenance Cleaning**	**37 days**	**Wed 6/8/16**	**Thu 7/28/16**
3	Excavate CCR from Basin	30 days	Wed 6/8/16	Tue 7/19/16
4	Material Solidification/Load Out/T & D	35 days	Fri 6/10/16	Thu 7/28/16
5	**North Basin Retrofit**	**85 days**	**Wed 7/20/16**	**Tue 11/15/16**
6	Remove Existing Cover & Liner	35 days	Wed 7/20/16	Tue 9/6/16
20	Install New Basin Lining	50 days	Wed 9/7/16	Tue 11/15/16
30	**Infrastructure Modifications**	**15 days**	**Wed 10/12/16**	**Tue 11/1/16**
34	**Demobilization**	**5 days**	**Wed 11/16/16**	**Tue 11/22/16**
35	Winter Break	102 days	Wed 11/23/16	Thu 4/13/17
36	**South Basin**	**120 days**	**Fri 4/14/17**	**Thu 9/28/17**
37	**South Basin Maintenance Cleaning**	**65 days**	**Fri 4/14/17**	**Thu 7/13/17**
38	Excavate CCR from Basin	30 days	Fri 4/14/17	Thu 5/25/17
39	Material Solidification/Load Out/T & D	35 days	Fri 5/26/17	Thu 7/13/17
40	**South Basin Retrofit**	**85 days**	**Fri 5/26/17**	**Thu 9/21/17**
41	Remove Existing Cover & Liner	35 days	Fri 5/26/17	Thu 7/13/17
55	Install New Basin Lining	50 days	Fri 7/14/17	Thu 9/21/17
65	**Infrastructure Modifications**	**20 days**	**Fri 8/18/17**	**Thu 9/14/17**
69	**Demobilization**	**5 days**	**Fri 9/22/17**	**Thu 9/28/17**



Dominion - Clover Conceptual Retrofit Schedule Date: 5/3/16

Task Milestone Summary

Dominion Resource Services, Inc.
5000 Dominion Boulevard, Glen Allen, VA 23060
dom.com

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

May 13, 2016

Mr. David Paylor
Director
Virginia Department of Environmental Quality
629 East Main Street
PO Box 1105
Richmond, VA 23218

RE: Dominion Clover Power Station: CCR Rule Agency Notification Under 40 CFR 257.106(j)(1) and (5)

Dear Mr. Paylor:

Pursuant to 40 CFR 257.106(j)(1) and 40 CFR 257.106(j)(5) of the Federal *Disposal of Coal Combustion Residuals from Electric Utilities Final Rule*, we are submitting this letter to inform you of Dominion's intent to initiate retrofit of a CCR unit at the Clover Power Station. A written retrofit plan required under 40 CFR 257.102(k)(2) and a notification of intent to initiate retrofit of a CCR unit required under 40 CFR 257.102(k)(5) for the Clover Power Station have been placed in the facility's operating record and on Dominion's publicly available internet site at www.dom.com/ccr.

Please contact me at (804) 273-2929 if there are any questions.

Sincerely,

Cathy C. Taylor
Senior Environmental & Sustainability Advisor

ecc Justin Williams, VA DEQ [justin.williams@deq.virginia.gov]