

# SOUTHERN ENVIRONMENTAL LAW CENTER

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January 25, 2016

## VIA E-MAIL (HARD COPY TO FOLLOW BY U.S. MAIL)

Virginia Department of Environmental Quality  
David K. Paylor  
James Golden  
629 E. Main Street  
Richmond, VA 23219

### Re: **Dominion Chesterfield Power Station**

Dear Messrs. Paylor and Golden,

On behalf of the James River Association (“JRA”), we write to provide the Virginia Department of Environmental Quality (“DEQ”) with new results from additional water and sediment sampling performed at Chesterfield Power Station.<sup>1</sup> As with the previous testing results shared with DEQ on September 7<sup>th</sup>, 2016, these results confirm that harmful pollutants are leaking from the coal ash ponds into the popular Dutch Gap Conservation Area—into the water and sediment where people hike, fish, boat, and swim.

We urge DEQ to take appropriate action to ensure this pollution is stopped, pursuant to its statutory authority.<sup>2</sup> These ongoing leaks are unpermitted, and a violation of Dominion’s VPDES Permit No. VA0004146 and the State Water Control Law.<sup>3</sup> Moreover, the presence of leaks at multiple locations around these ash ponds further documents the insufficiency of Dominion’s preferred closure plan, to leave the coal ash buried in place with a composite liner system placed on top.<sup>4</sup>

Both the Lower and Upper Ash Ponds sit in low-lying swampland, adjacent to large bodies of water and the James River. In fact, as shown in the enclosed historical map,<sup>5</sup> the

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<sup>1</sup> Attachment 1, Pace Analytical, Report of Laboratory Analysis (Jan. 20, 2017).

<sup>2</sup> See, e.g., Va. Code § 62.1-44.15(5), (5b), (8a), (8c), (8d).

<sup>3</sup> See Va. Code § 62.1-44.5.

<sup>4</sup> See, e.g., Virginia Electric and Power Company, Chesterfield Power Station, Part B Permit Application, Notice of Intent – Closure of Upper (East) Pond (Jan. 8, 2016); Virginia Electric and Power Company, Coal Combustion Residuals (CCR) Closure Plan, Chesterfield Power Station, Lower Ash Pond (Oct. 2016); Virginia Electric and Power Company, Coal Combustion Residuals Closure Plan, Chesterfield Power Station, Upper (East) Pond (Oct. 2016).

<sup>5</sup> Attachment 2, Chesterfield Coal Ash Ponds and the Historic Route of the James River.

southern portion of the Lower Ash Pond sits in the original channel of the James River. This ill-suited location does not appear to meet siting criteria applicable to the ponds under EPA regulations.<sup>6</sup> As “existing CCR surface impoundments,”<sup>7</sup> Dominion must demonstrate—among many other siting requirements—that the base of the coal ash in the ponds is at least five feet above the “upper limit of the uppermost aquifer, or . . . that there will not be an intermittent, recurring, or sustained hydraulic connection between any portion of the base of the CCR and the uppermost aquifer due to normal fluctuations in groundwater elevations (including the seasonal high water table).”<sup>8</sup>

But based on Dominion’s own documents, groundwater appears to permeate the ponds. For example, according to Dominion’s estimates, the bulk of the coal ash in the Lower Ash Pond ranges from 0 feet above mean sea level (“ft msl”) to approximately 18-20 ft msl.<sup>9</sup> The groundwater in this same pond reaches nearly as high as the coal ash, ranging from 4.25 ft msl to as high as 16.21 ft msl.<sup>10</sup> In other words, groundwater saturates most of the coal ash in the Lower Ash Pond. Dominion’s disclosures also show that at least five to ten feet of coal ash in the Upper Ash Pond is in contact with groundwater,<sup>11</sup> and likely much more.<sup>12</sup>

Given that coal ash in both ponds sits in groundwater, pollutants from the coal ash are leaching into the groundwater, which then carries these pollutants outward into the original channel of the James River, the surrounding wetlands, and the tidal lagoon.<sup>13</sup> Again, these leaks are not occurring in a remote area, inaccessible by the public. These leaks are flowing into a heavily-used recreation area located on the main stem of the James River.

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<sup>6</sup> See, e.g., Standards for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments, 40 C.F.R. § 257.60.

<sup>7</sup> See Virginia Electric and Power Company, Chesterfield Power Station, Upper (East) Pond, Coal Combustion Residuals Unit, History of Construction (Oct. 2016) at § 1.0; Virginia Electric and Power Company, Chesterfield Power Station, Lower Ash pond, Coal Combustion Residuals, History of Construction (Oct. 2016) at § 2.

<sup>8</sup> See, e.g., Standards for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments, 40 C.F.R. § 257.60.

<sup>9</sup> Virginia Electric and Power Company, Chesterfield Power Station, Lower Ash Pond, Coal Combustion Residuals, History of Construction (Oct. 2016) at Drawing No. 2 (Site Cross-Sections). Some peaks on the northern side of the pond rise above 20 ft msl.

<sup>10</sup> Revised Groundwater Quality and Risk Assessment Report, Chesterfield Power Station – Old Ash Pond (Mar. 22, 2012) at p. 4.

<sup>11</sup> Virginia Electric and Power Company, Chesterfield Power Station, Upper (East) Pond, Coal Combustion Residuals Unit, History of Construction (Oct. 2016) at Drawing 2 (Cross Sections). These cross-sections indicate an “approximate groundwater elevation,” which shows approximately five to ten feet of coal ash below that elevation.

<sup>12</sup> While the “History of Construction” for the Upper Ash Pond indicates an approximate groundwater elevation of about 3 ft msl, the groundwater monitoring plan for this same pond states that the groundwater elevation is as high as “15 feet [msl] where the [Upper Ash Pond] abuts the Lower Ash Pond . . . .” Groundwater Monitoring Plan, Chesterfield Power Station, Upper Ash Pond (Feb. 2016) at p. 7. This higher groundwater elevation means that much more ash is in contact with groundwater on the western side of the Upper Ash Pond, than is depicted in the pond cross section.

<sup>13</sup> See, e.g., Revised Groundwater Quality and Risk Assessment Report, Chesterfield Power Station – Old Ash Pond (Mar. 22, 2012) at 4 (“Review of the [potentiometric] figure indicates that groundwater exhibits radial flow away from the Old Ash Pond toward the north, south, east, and west.”), 14 (describing groundwater flow as “radial” from the Lower (Old) Ash Pond), 25 (same). The second map, which shows the locations where each sample was collected, also illustrates Dominion’s own assessment of how the groundwater flows through the ponds.

The attached map demonstrates the immediate proximity of Dominion's leaking coal ash ponds to these public areas.<sup>14</sup> Visitors to Dutch Gap Conservation Area hike along trails next to the Chesterfield coal ash ponds. Our sampling found elevated levels of boron, cobalt, hexavalent chromium, arsenic, nickel, selenium, strontium, and other pollutants in a cove surrounded by a hiking trail and overlooked by a scenic bench.<sup>15</sup> Similarly, people fish from Horse Tail Dock, near where we found elevated levels of aluminum, arsenic, chromium, cobalt, copper, lead, nickel, selenium, strontium, vanadium, and other pollutants.<sup>16</sup> People also fish near Outfall 004 since that water remains warm even in winter due to its proximity to the cooling water discharge channel.

Pollution in the sediment also raises concerns about public safety and indicates that this pollution has likely been occurring for years or decades. For example, the arsenic in the sediment below the Lagoon View Bench<sup>17</sup> is extremely high when compared to the risk assessment criteria EPA uses at Superfund sites. Under those criteria, if this was a residential location, the arsenic levels would be more than 400 times greater than the level generally considered safe,<sup>18</sup> and nearly 100 times greater than the level for an industrial site. This cove is accessible to anglers, as well as hikers using the adjacent trail, since its bottom is fully exposed during low tide.

Along with the leaks that we have documented, we understand that DEQ identified a suspected leak near Outfall 004 during a site visit in February 2016 and instructed Dominion to complete a full geotechnical investigation of the leak. Please provide us with the status and outcome of that investigation, including any documentation provided to DEQ by Dominion and surrounding communications.

We urge DEQ to take appropriate action regarding these unpermitted discharges and ensure that the coal ash pond closure plans provide a long-term solution for stopping the pollution of state waters. Moving the coal ash to a fully-lined, modern landfill or recycling it into a beneficial cement or concrete product would address these concerns and is the emerging industry standard for dealing with leaking coal ash ponds in our region. Utilities in Georgia, North Carolina, and South Carolina are, or have committed to, excavating 75 million tons of coal ash and either landfilling the ash or recycling it for concrete. Excavation and recycling should be on the table for Chesterfield.

At a minimum, DEQ should require Dominion to fully identify the extent of the groundwater and surface water pollution at Chesterfield, and determine corrective actions that will restore and protect into the future both groundwater and surface water quality. Virginians deserve a permanent solution to this long-standing pollution problem. Laying a thin cover on top

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<sup>14</sup> Attachment 3, Unpermitted Discharges from Chesterfield Coal Ash Ponds near Dutch Gap Conservation Area.

<sup>15</sup> Sample No. 2 (July 6, 2016); Sample No. 2 (Dec. 1, 2016).

<sup>16</sup> Sample No. 1 (July 6, 2016); Sample Nos. 3 & 4 (Dec. 1, 2016).

<sup>17</sup> Sample No. 2 (July 6, 2016); Sample No. 2 (Dec. 1, 2016).

<sup>18</sup> Adverse effects are generally not expected where the concentration of a pollutant is measured below the regional screening level. Here, the regional screening level for arsenic in residential soil is 0.68 parts per million ("ppm") and 3 ppm for industrial soil. In stark contrast, the arsenic in the sediment at this location was measured at 292 ppm this past summer and 282 ppm most recently.

of a large coal ash pile is not a solution when groundwater is flowing through the bottom of the unlined pile. Rather than achieving a permanent solution, this “capping-in-place” strategy will put generations of Virginians at risk.

In addition to the numerous leaks at Chesterfield, we remain concerned about the unpermitted coal combustion waste that continues to be discharged through Outfall 004. As shown in the attached photographs, cenospheres routinely are found floating on the surface of public waters, coating the adjacent banks and plant life.<sup>19</sup> Moreover, the booms installed by Dominion in public waters are not an appropriate method to control this waste. Not only are these barriers ineffective at corralling all of the waste (as shown in the photographs), but the barriers also block access necessary to sample the waters that are being polluted. Such sampling is critical to assessing whether other waste products or pollutants are being discharged along with the cenospheres. We respectfully request a response regarding (i) why DEQ is allowing Dominion to continue discharging waste into state waters in violation of its VPDES Permit and State Water Control Law, (ii) why Dominion is allowed to block access to public waters, and (iii) what efforts are being made to stop the unpermitted discharges.

The conditions at Chesterfield are troubling and finding a solution to this on-going pollution must be a high priority in light of Dominion’s application to cap this waste in place. The JRA remains committed to working collaboratively with DEQ and Dominion, and reiterates the offer made during the November meeting, for a joint site visit. Our client has worked hard to identify and understand the conditions at Chesterfield, to ensure that the plans for coal ash pond closure and for future coal ash management fully protect the groundwater and surface water. We look forward to working with you to achieve these mutual goals.

Thank you for your attention to these matters.

Sincerely,



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<sup>19</sup> Attachment 4, Photographs of Unpermitted Discharges from Outfall 004.

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James River Association  
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Richmond, VA 23231  
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Enclosures:

Attachment 1, Pace Analytical, Report of Laboratory Analysis (Jan. 20, 2017).  
Attachment 2, Chesterfield Coal Ash Ponds and the Historic Route of the James River.  
Attachment 3, Unpermitted Discharges from Chesterfield Coal Ash Ponds near Dutch Gap  
Conservation Area.  
Attachment 4, Photographs of Unpermitted Discharges from Outfall 004.

cc: Senator Rosalyn Dance  
Senator Amanda Chase  
Molly Ward, Secretary of Natural Resources  
Angela Navarro, Deputy Secretary of Natural Resources  
Erik Johnston, Governor's Policy Office  
William Dupler, Deputy Chesterfield County Administrator