



May 9, 2018

The Honorable James Richard Perry  
Secretary of the Energy  
United States Department of Energy  
1000 Independence Ave, SW  
Washington, DC 20585

**Re: Report on Yorktown Units 1 and 2 Operations Pursuant to Order No. 202-18-3**

Dear Secretary Perry:

Pursuant to Order No. 202-18-3 issued on March 13, 2018 (the “Order”) by the Secretary of Energy (“Secretary”), PJM Interconnection, L.L.C. (“PJM”) and Virginia Electric and Power Company (“Dominion Energy Virginia”) respectfully submit the attached air emissions report regarding PJM’s dispatch of Yorktown Units 1 and 2 from May 2 through May 5, 2018, including the periods needed to startup and ramp down the units. This report is submitted in accordance with the Secretary’s directive that every two weeks PJM and Dominion are to “report all dates between March 13, 2018 and June 11, 2018, on which Yorktown Units 1 and/or 2 are operated, and the associated air emissions and water usage data for those dates.”<sup>1</sup>

In the Order, the Secretary determined “that an emergency continues to exist in the North Hampton Roads area of Virginia due to a shortage of electric energy and a shortage of facilities for the generation of electric energy.” The Secretary found that the issuance of this Order will meet the emergency and serve the public interest as required by Federal Power Act Section 202(c)<sup>2</sup> In doing so, the Secretary directed Dominion Energy Virginia to operate Yorktown Units 1 and/or 2 as directed by PJM only as needed to ensure grid reliability for a 90-day period March 13, 2018 through June 11, 2018.<sup>3</sup>

On May 1 at approximately 08 hundred hours, PJM directed Dominion Energy Virginia to have Yorktown Unit 2 available the next day, and Dominion Energy Virginia began the startup process and the unit was on line and generating power on May 2 at 18 hundred hours. On May 2 at approximately 05

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<sup>1</sup> Order at page 2.

<sup>2</sup> Order at page 1.

<sup>3</sup> Order at page 2.

hundred hours, PJM directed Dominion Energy Virginia to have Yorktown Unit 1 available the next day, and Dominion Energy Virginia began the startup process and Unit 1 was on line and generating power on May 3 at 15 hundred hours. PJM dispatched both units off line at approximately 00 hundred hours on May 5, and Dominion Energy Virginia took the units offline at about 02 hundred hours on May 5.

Attachment 1 to this report is the Yorktown Power Station Bi-Weekly Mass Emissions for April 23 through May 6 that shows the actual runtime and air emissions data. This spreadsheet includes hourly runtime data for Yorktown Unit 2, hourly gross Megawatt (MW) outputs, and raw and calculated data showing air emissions data associated with operations of Yorktown Unit 2.<sup>4</sup>

The information in Attachment 1 reports Yorktown Unit 2 hourly emissions of PM-10 and SO<sub>2</sub> in pounds per hour and pounds per million BTU, and mercury in pounds per hour and pounds per trillion BTU (Mercury and Air Toxics Standards (MATS) format) for the operating period beginning December 6, 2017 through January 8, 2018. Additionally, Attachment 1 provides Unit 2 hourly emissions of NO<sub>x</sub> in pounds per hour, greenhouse gases (as CO<sub>2</sub>) in tons per hour, lead in pounds per hour, HCl in pounds per hour, HF in pounds per hour, and CO in pounds per hour. NO<sub>x</sub> and SO<sub>2</sub> emissions are based on valid hours of Continuous Emissions Monitoring System (CEMS) data for the period. PM-10 emissions are based on the emission factor derived from the July 21, 2017 stack test (0.0168 lbs/mmBtu corrected to 0.1143 lbs/mmBtu calculated for PM-10 filterable plus condensable). CO<sub>2</sub> emissions are based on valid CEMS hours for the operating period. All other emissions were calculated using emission factors from AP-42, Fifth Edition, Volume 1, Chapter 1: External Combustion Sources and calculated hourly coal consumption in tons.<sup>5</sup>

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<sup>4</sup> The Yorktown units can emit pollution while not generating MWs (*e.g.* during standby, startup and shutdown sequences). Thus, Attachment 1 shows the MW output during the period Yorktown Units 1 and 2 provided power to the grid including startup and shutdown processes and it shows the emissions data for operations of the Units including times when the unit was not generating power.

<sup>5</sup> Mercury and lead emissions were calculated using AP-42, Table 1.1-18. CO emissions were calculated using emission factors from AP-42, Table 1.1-3. Total HAP metals and individual HAP metals are not provided because MATS Table 2 (40 CFR 63, Subpart UUUUU) provides for compliance with either the PM limit or total non-mercury HAP metals limits or individual HAP metals. Dominion Energy Virginia is providing PM-10 emissions for the purposes of MATS. HCl and HF emissions were calculated using emission factors from AP-42, Table 1.1-15.

Attachment 2 to this report is the Yorktown May 2-5 Circulating Water Usage report for the Yorktown Units 1 and 2 operations required by the Order. Operation of cooling water pumps extends over a period of time longer than unit operation to facilitate cooling of plant components that support the boiler and turbine. As a general rule cooling water will continue to be pumped until the turbine metal temperature is less than 300 °F. However, sometimes additional cooling water is necessary to complete proper cool down of auxiliary equipment and lubrication fluids after the turbine metal reaches 300 °F, as was the case with the Yorktown Units 1 and 2 operations in May. As shown in Attachment 2, water continued to be circulated through Unit 1 until approximately 21 hundred hours on May 6, and until approximately 15 hundred hours on May 8 for Unit 2.

PJM and Dominion Energy Virginia respectfully submits the information in this report be accepted by the Secretary as compliant with the Order’s directives to report all dates on which Yorktown Units 1 and/or 2 are operated between March 13 and June 11, 2018 as well as the associated air emissions and water usage associated with their operations.

Respectfully submitted,

/s/Michael C. Regulinski

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