



June 20, 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 & 2 Operations Pursuant to Order Nos. 202-18-3 and 202-18-4

Dear Secretary Perry:

Pursuant to Order No. 202-18-3 issued on March 13, 2018 (“March Order”) and Order No. 202-18-4 issued June 8, 2018 (“June 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 and water usage report regarding PJM’s dispatch of Yorktown Units 1 and 2 from June 5 through June 18, including the periods needed to startup and ramp down the units. This report is submitted in accordance with the Secretary’s directive in the March Order 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.”¹ Similarly, in the June Order the Secretary directed that every two weeks PJM and Dominion are to “report all dates between June 12, 2018 and September 9, 2018, on which Yorktown Units 1 and/or 2 are operated, and the associated air emissions and water usage data for those dates.”² This report covers the authorized period of the last seven days of the March Order and the first seven days of the June Order.

In both orders, 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.”³ The Secretary also found that the issuance of the orders will meet the

¹ March Order at page 2.
² June Order at page 2.
³ March Order at page 1; June Order at page 1.

emergency and serve the public interest as required by Federal Power Act Section 202(c).⁴ 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 in the March Order and for the 90-day period of June 12 through September 9, 2018 in the June Order.⁵

As stated in the June 6 report regarding PJM's dispatch of the Yorktown Units 1 and 2 for the period May 22 through June 4, Unit 1 tripped off line at approximately 19 hundred hours on June 2. While operating as directed by PJM, Unit 1 suffered an unexpected failure of a critical component of the unit, and due to the loss of this component Unit 1 cannot operate and has been taken out of service. Yorktown Unit 1 is not expected to be available for operations again until late summer 2018, at the earliest.

Also as stated in the June 6 report, Unit 2 was still operating at 23:59 hundred hours on June 4 and remained on line as directed by PJM until PJM released the unit on June 13 at approximately 20:20 hundred hours and the unit came off line at approximately 23:20 hundred hours on June 13. At approximately 7:20 hundred hours on June 17, PJM directed Unit 2 to come back on line the next morning, Unit 2 started operation on June 17 and became on line at approximately 3 hundred hours on June 18, and the unit was still on line at 23:59 hundred hours on June 18, 2018.

Attachment 1 to this report is the Yorktown Power Station Bi-Weekly Mass Emissions for June 5 through June 18 that shows the actual runtime and air emissions data for Unit 2. 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 2.⁶

The information in Attachment 1 reports Yorktown Unit 2 hourly emissions of PM-10 and SO₂ in pounds per hour, and mercury in pounds per hour, for the operating period beginning June 5 through June 18, 2018. Additionally for the same time period, Attachment 1 provides Unit 2 hourly emissions of NO_x

⁴ *Id.*

⁵ March Order at page 2; June Order at page 2.

⁶ 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 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.

in pounds per hour, greenhouse gases (as CO₂) 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_x and SO₂ 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). CO₂ 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.⁷

Attachment 2 to this report is the Yorktown Unit 2 June 5 through June 18 Circulating Water Usage report for the unit 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 start to be pumped before the unit is started and continue to be pumped until the turbine metal temperature is less than 300 °F. 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 Unit operations in June 5 through June 18. As shown in Attachment 2, water continually circulated through Unit 2 from June 5 through June 18, and continued to be circulated through the unit during the shut-down (June 13) to start-up (June 17) period.

PJM and Dominion Energy Virginia respectfully submits the information in this report be accepted by the Secretary as compliant with the Secretary's directive in the March Order 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. Additionally, PJM and Dominion Energy Virginia respectfully submits the information in this

⁷ 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.

report be accepted by the Secretary as compliant with the Secretary's directive in the June Order that every two weeks PJM and Dominion are to report all dates between June 12, 2018 and September 9, 2018, on which Yorktown Units 1 and/or 2 are operated, and the associated air emissions and water usage data for those dates.

Respectfully submitted,

/s/Michael C. Regulinski

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