



December 5, 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 No. 202-18-5

Dear Secretary Perry:

Pursuant to Order No. 202-18-5 dated September 5, 2016 (“Order”) by the Secretary of Energy (“Secretary”), PJM Interconnection, L.L.C. (“PJM”) and Virginia Electric and Power Company (“Dominion”) respectfully submit the attached air emissions report and water usage report regarding PJM’s dispatch of Yorktown Units 1 and 2 from November 20 to December 3, 2018, including the periods needed to startup and ramp down the units. This report is submitted in accordance with the Secretary’s directive in the directive in the Order that every two weeks PJM and Dominion are to “report all dates between September 10, 2018 and December 8, 2018, on which Yorktown Units 1 and/or 2 are operated, and the associated air emissions and water usage data for those dates.”¹

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.”² The Secretary also found that the issuance of the order will meet the emergency and serves the public interest as required by Federal Power Act Section 202(c).³ In doing so, the Secretary directed Dominion to operate Yorktown Units 1 and/or 2 as directed by PJM only as needed to ensure grid reliability for a 90-day period of September 10 through December 8, 2018.⁴

PJM dispatched Yorktown Unit 2 on November 27 at approximately 8 hundred hours, the unit came on-line on the 28th at approximately 4 hundred hours, and tripped off-line the same day at

¹ Order at page 2.
² Order at page 1.
³ *Id.*
⁴ Order at page 2.

approximately 8:30 hundred hours. The unit was restarted on the same day and came back on-line at approximately 22:30 hundred hours. PJM dispatched the unit off-line the next day and the unit came off line at approximately 12:30 hundred hours.

Yorktown Unit 1 was dispatched on November 27 at approximately 21 hundred hours, and was in start-up mode when the dispatch was cancelled by PJM the next day. The unit never came on-line but cooling water was in service for a period of time during start-up activities.

Attachment 1 to this report is the Yorktown Power Station Bi-Weekly Mass Emissions for November 20 through December 3 that shows the actual runtime and air emissions data for Units 1 and 2. This spreadsheet includes hourly runtime data for Yorktown Units 1 and 2, hourly gross Megawatt (MW) outputs, and raw and calculated data showing air emissions data associated with operations of Yorktown Units 1 and 2.⁵

The information in Attachment 1 reports Yorktown Units 1 and 2 hourly emissions of PM-10 and SO₂ in pounds per hour, and mercury in pounds per hour, for the reporting period. Additionally, Attachment 1 provides Units 1 and 2 hourly emissions of NO_x 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.⁶

⁵ 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 Units 1 and 2 including times when the unit was not generating power.

⁶ 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 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 Units 1 and 2 November 20 to December 3 Circulating Water Usage report for unit operations as 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 operations of the Yorktown Units for this reporting period.

PJM and Dominion respectfully submit the information in this report be accepted by the Secretary as compliant with the Secretary's directives in the Order that every two weeks PJM and Dominion are to report all dates on which Yorktown Units 1 and/or 2 are operated for the period November 20 to December 3, and the associated air emissions and water usage data for those dates.

Respectfully submitted,

/s/Michael C. Regulinski
Michael C. Regulinski
Managing General Counsel
Dominion Energy Services, Inc.
120 Tredegar Street, RS-2
Richmond, Virginia 23219
Phone: (804) 819-2794
Email: michael.regulinski@dominionenergy.com

Steven R. Pincus
Associate General Counsel
PJM Interconnection, L.L.C.
955 Jefferson Avenue
Valley Forge Corporate Center
Norristown, PA 19403-2497
Phone: 610-666-4370
Email: pincus@pjm.com

cc: Pat Hoffman, U.S. Department of Energy
Catherine Jereza, U.S. Department of Energy
Rakesh Batra, U.S. Department of Energy
Casey Roberts, Sierra Club Environmental Law Program