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February 27, 2023

The Honorable Jennifer Granholm
Secretary of Energy
United States Department of Energy
1000 Independence Avenue, SW
Washington, DC 20585-1000

Re: Order No. 202-22-4, Final Report of PJM Interconnection, L.L.C.

Dear Secretary Granholm:

Pursuant to Order No. 202-22-4 issued by the Department of Energy (“DOE” or “Department”) on December 24, 2022 (the “Order”), paragraph E, PJM Interconnection, L.L.C. (“PJM”) submits a final report (“Final Report”) on (i) the enumerated environmental and other information on the Specified Resources operated under the provisions of the Order;¹ (ii) information quantifying the net revenues in aggregate associated with the Specified Resources operated in excess of environmental limits under the provisions of the Order; and (iii) updates to information previously reported by PJM under the Order, and responses to questions from DOE staff.

PJM also includes herein a request for a determination that certain information provided in this Final Report is exempt for mandatory disclosure pursuant to Exemption 4 of the Freedom of Information Act (“FOIA”).²

The filing consists of the following:

1. Non Public version of the Final Report (password protected containing commercially sensitive confidential information).
2. Public version Request for Emergency Order (public version with confidential information redacted).
3. Attachment A - Bethlehem FO Emissions 12/20/2022 R2
4. Attachment B - York 1 FO Emissions 12/20/2022 R2
5. Attachment C - Calpine’s notification letters to the Pennsylvania Department of Environmental Protection (PADEP) re: Bethlehem & York
6. Attachment D - Permit Reports

¹ Order at paragraph E (i) – (vii). The environmental information and data submitted by PJM to comply with these requirement in the Order was provided to PJM by Calpine Corporation (“Calpine”), the owner of the Specified Resources operated under the terms of the Order.

² 5 U.S.C. 552(b)(4).

I. Background

On December 24, 2022, pursuant to Section 202(c) of the Federal Power Act (“FPA”) and part 205, subpart W, of the regulations of the Department PJM submitted a request (the “Request”) that the Secretary of Energy (“Secretary”) find that an electric reliability emergency exists within the PJM Region that requires intervention by the Secretary, in the form of a Section 202(c) emergency order, to preserve the reliability of the bulk electric power system. PJM requested that the Secretary issue the order immediately, effective December 24, 2022, authorizing all electric generating units located within the PJM Region to operate up to their maximum generation output levels under the limited circumstances described in the Request, notwithstanding air quality or other permit limitations. The generating units (“Specified Resources”) that the Order pertains to are listed on the Order 202-22-4 Resources List, listed in Attachment A to the Request, as updated in accordance with the Order.³

On December 24, 2022, the Department issued the Order granting PJM’s Request. The Department determined that an emergency existed in the electricity grid operated by PJM due to a shortage of electric energy, a shortage of facilities for the generation of electric energy and other causes, and that issuance of the Order will meet the emergency and serve the public interest. Given the nature of the emergency, the Department determined that additional dispatch of the Specified Resources is necessary to best meet the emergency and serve the public interest for purposes of FPA section 202(c). In line with the anticipated circumstances precipitated by the cold weather event, the Order was limited to the period beginning with the issuance of the Order on December 24, 2022 through 12:00 pm Eastern Time on December 26, 2022.

In compliance with the Order, on January 26, 2023, PJM submitted a report (“January 26 Report”) of all dates between December 24, 2022, and December 26, 2022, inclusive, on which the Specified Resources were operated, the hours of operation, and exceedance of permitting limits, including sulfur dioxide, nitrogen oxide, mercury, carbon monoxide, and other air pollutants, as well as exceedances of wastewater release limits.⁴ The Order directs PJM to submit this Final Report by February 27, 2023.⁵

II. Final Report

a. Report on Environmental and Other Information.

The Order requires that the Final Report submitted by PJM the environmental information enumerated in the Order, paragraph E, (i) – (vii) for the Specified resources operated under the Order.⁶ In compliance with these directives, the following information is provided in

³ The Specified Resources are posted on www.energy.gov.

⁴ Order at paragraph E.

⁵ Order at paragraph E (i) – (vii).

⁶ Order at paragraph E.

coordination with Calpine, the owner of the Specified Resources operated under the terms of the Order:⁷

(i) Emissions data in pounds per hour for each Specified Resource unit, for each hour of the operational scenario, for CO, NOx, PM10, VOC, and SO2;

In response to these reporting requirements, attached to this Final Report are spreadsheets submitted to PJM by Calpine labeled “Bethlehem FO Emissions 122022 R2” (Attachment A) and York FO Emissions 122022 R2” (Attachment B).

(ii) Emissions data must include emissions (lbs/hr) calculated consistent with reporting obligations pursuant to operating permits, permitted operating/emission limits, and the actual incremental emissions above the permit limits.

PJM is informed by Calpine that there were no exceedances of any emissions limits while operating on fuel oil.

(iii) The number and actual hours each day that each Specified Resource unit operated in excess of permit limits or conditions, e.g., “Generator #1; December 25, 2022; 4 hours; 04:00-08:00 CT”;

Two generating units owned by Calpine ran under the Order’s allowances at levels that exceeded their permitting operating hour limits for a small number of hours. Those generators were:

- Bethlehem Energy, a dual-fuel natural gas/fuel-oil unit (1,130 MW) located in Bethlehem, PA 18015; and
- York Energy 1, a dual-fuel natural gas/fuel-oil unit (565 MW) located in Peach Bottom Township, PA 17314.⁸

For the period that PJM was on Energy Emergency Alert (EEA) Level 2 and consistent with the Order,⁹ the operating hours for Bethlehem Energy Center Blocks 1 and 2, and the operating hours and fuel oil consumption for York Energy Center 1 were exceeded in reliance on the Order. Bethlehem’s oil operating hour limit is 108 hours for all 6 Combustion Turbines (CT) per calendar day. The Bethlehem facility exceeded the oil operating hours limit by 14.61 hours (or 2.435 hours per CT), which began on 12/24/2022 19:18 thru 21:50 (HE20 – HE22). The generation MWh associated with this timeframe are as follows:

Bethlehem 1 (3 CTs)	<u>Allocated MWh</u>
HE20	290.18 (allocated generated MWh from 19:18 using 5-min interval values)

⁷ As stated in the January 26 Report, the Specified Resources which operated under the terms of the Order were Bethlehem Energy, and York Energy 1.

⁸ In part c below, PJM updates the information on the units identified on December 25, 2022, in PJM’s daily notice.

⁹ Order at paragraph B (i).

HE21	365.92 (entire generated MWh)
HE22	248.71 (entire generated MWh)
Total	904.81 MWh

Bethlehem 2 (3 CTs)

HE20	284.19(allocated generated MWh from 19:18 using 5 min interval values)
HE21	360.88 (entire generated MWh)
HE22	250.63 (entire generated MWh)
Total	895.7 MWh

York Energy Center block 1's oil operating hours limit is 59.5 hours combined for all 3 CTs, while its fuel oil consumption limit is 612.85 Kgal for a calendar day. York 1 exceeded both its operating hours limit and fuel oil consumption limit. The operating hours limit was exceeded by 6.23 hours (or 2.076 hours per CT), which started on 12/24/2022 19:50 – 22:00 (HE20- HE22), while the fuel oil consumption limit was exceeded by 44.61 Kgal, which started on 12/24/2022 at approximately 20:39 - 22:00 (HE21-HE22). Since the operating hours limit was eclipsed at 19:50 (HE20), about 50 minutes earlier than fuel oil consumption at 20:39 (HE21), the generation MWh associated with the operating hour exceedance are as follows:

York Energy1 (3 CTs)

	Allocated MWh
HE20	86.36 (allocated generated MWh from 19:50 using 5-min interval values)
HE21	517.96 (entire generated MWh)
HE22	390.98 (entire generated MWh)
Total	995.30 MWh

PJM was informed by Calpine that neither Bethlehem nor York 1 exceeded its permit limits on CO, NOx, PM10, VOC, or SO2.¹⁰

(iv) Amount, type and formulation of any fuel used by each Specified Resource.

The fuel oil is specified in Excel workbook tabs 1 & 2 ("Bethlehem FO Emissions 122022 R2" (Attachment A) and York FO Emissions 122022 R2" (Attachment B) and in Calpine's notification letters to the Pennsylvania Department of Environmental Protection (PADEP) (Attachment C).

(v) All reporting provided under the Specified Resource's operating permit requirements over the last three years to the United States Environmental Protection Agency or local Air Quality Management District for the location of a Specified Resource that operates pursuant to this Order.

¹⁰ The forgoing information was reported in the January 26, 2023.

The permit reporting over the last three years for the Specified Recourses that operated pursuant to the Order is attached hereto (Attachment D).

(vi) Additional information requested by DOE as it performs any environmental review relating to the issuance of this Order.

As of this date, no additional information has been requested by DOE in its performance of its environmental review relating to the issuance of this Order.

(vii) Information provided by the Specified Resource describing how the requirements in paragraph C above were met by the Specified Resource while operating under the provisions of this Order.¹¹

Calpine submitted the data in the attached Excel workbook tabs 1 and 2 (“Bethlehem FO Emissions 122022 R2” (Attachment A) and York FO Emissions 122022 R2” (Attachment B) which is from the emissions data handling and acquisition software (DAHS) for each plant.

b. Net Revenues in Aggregates Associated with Specified Resources Operate in Excess of Environmental Limits Pursuant to the Order.

Order paragraph E includes a requirement that PJM provide information quantifying the net revenue in aggregate associated with generation in excess of environmental limits in connection with the Order. The approach PJM took to determine net revenues is $MW * (LMP - \text{cost offer for York 1 and Bethlehem})$. Applying this methodology, the following are the net revenues for Calpine’s units which operated pursuant to the Order:

Redacted

c. Report on Updated and Additional Information

DOE staff requested that PJM report whether the units that were dispatched pursuant to the Order are also eligible to receive revenues from payment of bonus payments for Non-Performance Charges for hours of operation subject to the Order on a net basis. In the January 26 Report, PJM stated that further investigation was necessary to respond to the request. Redacted
Redacted

¹¹ Order, paragraph C provides as follows: *All operation of the Specified Resource must comply with applicable environmental requirements, including but not limited to monitoring, reporting, and recordkeeping requirements, to the maximum extent feasible while operating consistent with the emergency conditions.*

Redacted

III. Request for Exemption from mandatory disclosure pursuant to Exemption 4 of the FOIA

In regard to the Non Public version of the Final Report, PJM respectfully requests the information submitted to the DOE be designated as confidential pursuant the FOIA¹² and the implementing regulations, 10 C.F.R. Section 1004.11(e)(1).

The FOIA specifies that “commercial or financial information obtained from a person and privileged or confidential, is exempt from mandatory disclose.¹³ The regulations provide in pertinent part as follows:

Criteria for determining the applicability of 5 U.S.C. 552(b)(4). Subject to subsequent decisions of the Appeal Authority, criteria to be applied in determining whether information is exempt from mandatory disclosure pursuant to Exemption 4 of the Freedom of Information Act include:

- (1) Whether the information has been held in confidence by the person to whom it pertains;*
- (2) Whether the information is of a type customarily held in confidence by the person to whom it pertains and whether there is a reasonable basis therefore;*
- (3) Whether the information was transmitted to and received by the Department in confidence;*
- (4) Whether the information is available in public sources;*
- (5) Whether disclosure of the information is likely to impair the Government's ability to obtain similar information in the future; and*
- (6) Whether disclosure of the information is likely to cause substantial harm to the competitive position of the person from whom the information was obtained.¹⁴*

PJM submits that the redacted information in the Request for Emergency Order is confidential information exempt from mandatory disclosure under FOIA because it meets criteria

¹² 5 U.S.C. 552(b)(4).

¹³ 5 U.S.C. 552(b)(4).

¹⁴ 10 C.F.R. Section 1004.11(e)(1).

set for the regulation. The redacted information is financial and payment information customarily held and maintained by PJM as Member confidential information pursuant to the Amended and Restated Operating Agreement of PJM Interconnection, L.L.C. (“Operating Agreement”), section 18.17.1. This information is not publically available. The Operating Agreement is part of PJM’s filed rate and it requires PJM to maintain such Member information confidential.

Therefore, PJM respectfully requests the information submitted to the DOE be designated as confidential pursuant the FOIA¹⁵ and exempt from mandatory disclose.

Respectfully submitted,
/s/ Steven R. Pincus
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cc:
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¹⁵ 5 U.S.C. 552(b)(4).