

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

ELECTRONIC 2021 INTEGRATED RESOURCE)	CASE NO.
PLAN OF DUKE ENERGY KENTUCKY, INC.)	2021-00245

COMMISSION STAFF'S POST-HEARING REQUEST FOR INFORMATION
TO DUKE ENERGY KENTUCKY, INC.

Duke Energy Kentucky, Inc. (Duke Kentucky), pursuant to 807 KAR 5:001, shall file with the Commission an electronic version of the following information. The information requested is due no later than June 3, 2022. The Commission directs Duke Kentucky to the Commission's July 22, 2021 Order in Case No. 2020-00085¹ regarding filings with the Commission. Electronic documents shall be in portable document format (PDF), shall be searchable, and shall be appropriately bookmarked.

Each response shall include the question to which the response is made and shall include the name of the witness responsible for responding to the questions related to the information provided. Each response shall be answered under oath or, for representatives of a public or private corporation or a partnership or association or a governmental agency, be accompanied by a signed certification of the preparer or the person supervising the preparation of the response on behalf of the entity that the response is true and accurate to the best of that person's knowledge, information, and belief formed after a reasonable inquiry.

¹ Case No. 2020-00085, *Electronic Emergency Docket Related to the Novel Coronavirus COVID-19* (Ky. PSC July 22, 2021), Order (in which the Commission ordered that for case filings made on and after March 16, 2020, filers are NOT required to file the original physical copies of the filings required by 807 KAR 5:001, Section 8).

Duke Kentucky shall make timely amendment to any prior response if Duke Kentucky obtains information that indicates the response was incorrect when made or, though correct when made, is now incorrect in any material respect. For any request to which Duke Kentucky fails or refuses to furnish all or part of the requested information, Duke Kentucky shall provide a written explanation of the specific grounds for its failure to completely and precisely respond.

Careful attention shall be given to copied material to ensure that it is legible. When the requested information has been previously provided in this proceeding in the requested format, reference may be made to the specific location of that information in responding to this request. When applicable, the requested information shall be separately provided for total company operations and jurisdictional operations. When filing a paper containing personal information, Duke Kentucky shall, in accordance with 807 KAR 5:001, Section 4(10), encrypt or redact the paper so that personal information cannot be read.

1. Provide PJM's most recent Effective Load Carrying Capability (ELCC) Report showing projected future ELCC class ratings for onshore wind, offshore wind, solar fixed panel, and solar tracking panel.

2. Refer to Table H.2 on pages 167–168 of Duke Kentucky's Integrated Resource Plan (IRP).

- a. Provide the per \$/MWh cost of carbon taxes for operating each generating resource listed in Table H.2 in each month of the IRP planning period using the same assumptions used to produce the information in Table H.2.

b. Provide the marginal per \$/MWh cost of operating each generating resource listed in Table H.2 in each month of the IRP planning period using the same assumptions used in the IRP model for the following IRP scenarios:

- (1) Base gas costs with CO2 regulation;
- (2) Base gas cost without CO2 regulation;
- (3) High gas cost with CO2 regulation; and
- (4) High gas cost without CO2 regulation.

c. Provide the average per \$/MWh price of energy in the market in each month of the IRP planning period using the same assumptions used in the IRP model for the following IRP scenarios:

- (1) Base gas costs with CO2 regulation;
- (2) Base gas cost without CO2 regulation;
- (3) High gas cost with CO2 regulation; and
- (4) High gas cost without CO2 regulation.

d. Provide the average actual per \$/MWh price of energy in the PJM market in each month from January 2020 through April 2022.

3. Refer to Figure 6.8 on pages 61–62 of Duke Kentucky’s IRP. Provide an Excel spreadsheet with all formulas, rows, and columns unprotected and fully accessible showing the total load in each year used to calculate the percentages in Figure 6.8 and the load served by market purchases in each year for each of the scenarios and portfolios reflected in Figure 6.8.

4. a. Identify and briefly describe each modeling constraint that Duke Kentucky placed on the model when it selected each of the scenario-optimized portfolios.

b. Identify and briefly describe each constraint and qualitative requirement that Duke Kentucky determined must be met when developing each of the alternative portfolios (e.g. whether East Bend had to be closed by a specific date in an alternative, whether Duke Kentucky required a certain amount or restricted the amount of solar or wind to be added when considering an alternative, etc.).

5. Refer to Figure 4.1 on page 35 of Duke Kentucky's IRP.

a. Identify and briefly describe the source of each of the overnight capital costs listed in that figure and provide a copy of the source material if available.

b. Provide a detailed description of the types of generation resources from which each of the overnight capital costs listed on that figure were estimated.

6. Provide the inputs Duke Kentucky used to calculate the carrying charge used to calculate the Present Value Revenue Requirements for the IRP model.

7. a. Explain the physical constraints for the interconnection of each of the new generation resources in the preferred portfolio, including a description of network upgrades necessary to interconnect each generation resource and situations in which a physical constraint could prevent a resource from being interconnected.

b. Provide an itemized estimate of the cost of interconnection and network upgrades necessary to interconnect each generation resource in the preferred portfolio, and explain how Duke Kentucky made those estimates and major uncertainties that could affect those estimates.

c. Explain how interconnection constraints and network upgrades were considered when developing the scenario-optimized portfolios and the alternative portfolios, including whether and, if so, how costs associated with interconnections of each resource were included in the scenario-optimized models.



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DATED MAY 20 2022

cc: Parties of Record

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