

EXHIBIT A

BEFORE THE PUBLIC SERVICE COMMISSION OF THE STATE OF MISSOURI

In the Matter of Ameren Missouri's)
2024 Integrated Resource Plan Annual)
Update Report)
File No. EO-2025-0123

SIERRA CLUB'S FIRST SET OF DATA REQUESTS TO AMEREN

Sierra Club hereby submits this First Set of Data Requests to Ameren Missouri, Inc.

Requested by: Sarah Rubenstein

Requested from: Ameren Missouri via Crystal Tassello and others

Date requested: October 11, 2024

GENERAL INSTRUCTIONS

1) **Definitions:** For the purposes of these data requests, the following definitions shall apply:

- a) The term "Ameren" means and includes Union Electric Company d/b/a Ameren Missouri, their parent company or companies, and any and all affiliates and/or subsidiaries, successors, predecessors, agents, consultants, and witnesses in these proceedings, and any and all of their affiliates, subsidiaries, or predecessors.
- b) The term "Company" means and includes Union Electric Company d/b/a Ameren Missouri, their parent company or companies, any and all affiliates and/or subsidiaries, successors, predecessors, agents, consultants, and witnesses in these proceedings, and any and all of their affiliates, subsidiaries, or predecessors.

2) OTHER INSTRUCTIONS

- a) For each data request that calls for data specific to a generating unit, state whether the information provided is the unit total, plant-wide, or some other measure.
- b) Provide responses in electronic format (e.g., text documents should be in the original word processor file format or PDF, data files should be in Excel).
- c) If you contend that any response to any data request may be withheld under the attorney-client privilege, the attorney work product doctrine or any other privilege or basis, please state the following with respect to each such response in order to explain the basis for the claim of privilege and to permit adjudication of the propriety of that claim:

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- (a) The privilege asserted and its basis;
 - (b) The nature of the information withheld; and,
 - (c) The subject matter of the document, except to the extent that you claim it is privileged.
- d) These data requests are continuing in nature and require supplemental responses should information unknown to you at the time you serve your responses to these data requests subsequently become known.

Dated: October 11, 2024

Respectfully Submitted,

/s/ Sarah Rubenstein

Sarah Rubenstein

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DATA REQUESTS

- 1.1 Please provide supporting workpapers, including (not limited to) all input files, output files, and pre- or post-processing of said inputs and outputs, respectively—preferably in Excel format.
- 1.2 Please provide the following for all generating units in all resource plans for all years modeled, preferably in Excel format. Where unit-level data is unavailable, please provide the plant-level data.
 - a. NOx emissions
 - b. Particulate matter (PM) emissions
 - c. SO2 emissions
 - d. CO2 emissions
 - e. Generation
 - f. Nameplate capacity
 - g. MISO accredited capacity
 - h. MISO energy revenue
 - i. Variable O&M
 - j. Fixed O&M
 - k. Fuel cost
 - l. Fuel usage (MMBtu)
 - m. Forced outage rate
 - n. Planned outage rate
 - o. Equivalent availability factor
 - p. Heat rate
 - q. Non-environmental capital spending
 - r. Environmental capital spending, including corresponding regulation
 - s. Capital revenue requirements/costs to customers, including any supporting calculations
- 1.3 Please provide the following historical data for each Ameren-owned coal unit from 2019 through 2024, preferably in Excel format. For 2019-2023 please provide annual data and for 2024, the year-to-date (latest data available). Where unit-level data is unavailable, please provide the plant-level data.
 - a. NOx emissions
 - b. Particulate matter (PM) emissions
 - c. SO2 emissions
 - d. CO2 emissions

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- e. Generation
 - f. Nameplate capacity
 - g. MISO accredited capacity
 - h. MISO energy revenue
 - i. Variable O&M
 - j. Fixed O&M
 - k. Fuel cost
 - l. Fuel usage (MMBtu)
 - m. Forced outage rate
 - n. Planned outage rate
 - o. Equivalent availability factor
 - p. Heat rate
 - q. Non-environmental capital spending
 - r. Environmental capital spending, including corresponding regulation
- 1.4 Please provide the annual values of the MISO capacity price forecast used in Ameren's modeling.
- 1.5 Please provide all cost forecasts, in Excel format where possible, of new supply-side resource builds, including capital and O&M costs, and the source for the costs provided, any calculations or processing of those sources' costs used prior to modeling, the supporting analyses and/or documentation for any adjustments made to the primary sources of these forecasts, and federal tax credit assumptions applied in each year for each relevant resource for:
- a. Solar PV
 - b. Battery Storage
 - c. Wind
 - d. Gas CC
 - e. Gas CT
 - f. Any other new supply-side resources modeled
- 1.6 In April 2024, the U.S. EPA issued final new carbon pollution standards for coal and gas-fired power plants ("111(d)") that will require these resources to employ capacity factor limitations, co-firing, and/or CCS to continue operations into the future. Do any of the Company's plans meet the requirements of the U.S. EPA's proposed CO2 emission limits?
- a. If so, please explain how compliance is achieved for each coal and gas unit and compliant plan.
 - b. If not, please explain why not.

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- 1.7 Refer to page 12 of the IRP update, regarding 111(d), where the Company notes that it “plans to closely watch the current judicial processes and adjust its planning accordingly.”
- a. If the Company has developed estimates of the costs and operating impacts of any of the following compliance options, please provide such estimates—including capital, O&M, heat rate, and other operating characteristics.
 - i. CCS on coal units
 - ii. CCS on gas units
 - iii. Co-firing of coal units with gas
 - iv. Capacity factor limitations on new gas units.
 - b. Regarding estimates of CCS on coal and gas, please explain which units have been considered, the reason for CCS, timing of CCS installation, and the assumed CO₂ capture rate (%).
 - c. Regarding estimates of co-firing of coal units with gas, please explain which units have been considered, the reason for co-firing, and the timing of the capital investment required (e.g. pipeline).
 - d. If the Company is modeling CCS, does it project the remaining (i.e. uncaptured) emissions from the unit(s)?
 - i. If so, please provide the remaining emissions from CCS units for all endpoint scenarios.
 - ii. If not, please explain why not.
 - e. If employing CCS technologies on any existing or new unit, what does the Company assume happens with the captured CO₂? Please explain and provide any associated costs or revenues associated with the captured CO₂.
 - f. Please provide all cost and operational impact estimates for CCS reviewed by the Company in the past two years.
- 1.8 Refer to page 8 of the IRP update.
- a. Please provide the RFP, bid responses, and the Company’s evaluation of those bids.
 - b. If these responses were factored into the IRP modeling, please explain how,
- 1.9 Refer to page 13 of the IRP update.
- a. Please explain what capital projects would be required at each coal unit if the ozone in the St. Louis area were to “bump up” to “serious non-attainment” status per the EPA.
 - i. Please provide the associated capital costs, O&M costs, and changes in operating characteristics at each affected coal unit.
 - b. Does the IRP currently assume that no new spending would be required to address ozone non-attainment?
 - i. If so, please explain why.

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- c. Please provide the most recent capital and O&M cost estimates for SCR at the Company's coal units for which an estimate has been made.
 - d. Please provide forecasts of NOx allowances reviewed by the Company in the past two years.
 - e. Please provide the NOx allowance costs for each coal unit for all scenarios modeled.
- 1.10 Refer to page 15 of the IRP update.
- a. Please explain what capital projects would be required at each coal unit if the PM2.5 in the St. Louis area were to be designated as "non-attainment" by the EPA.
 - i. Please provide the associated capital costs, O&M costs, and changes in operating characteristics at each affected coal unit.
 - b. Does the IRP currently assume that no new spending would be required to address PM 2.5 non-attainment?
 - i. If so, please explain why.
 - c. Please explain what capital projects would be required at each coal unit give the partial disapproval of Missouri's Regional Haze implementation plan.
 - i. Please provide the associated capital costs, O&M costs, and changes in operating characteristics at each affected coal unit.
 - d. Does the IRP currently assume that no new spending would be required to address Regional Haze?
 - i. If so, please explain why.
- 1.11 Refer to page 17 of the IRP update, please provide all inputs, outputs, and supporting calculations used in the mothball analysis.

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CERTIFICATE OF SERVICE

I hereby certify that on this day, October 11th, 2024, a true and correct copy of the foregoing discovery was sent by email to all counsel of record.

/s/ Sarah Rubenstein

Sarah Rubenstein