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Exhibit No. 112

Staff – Exhibit 112
Direct Testimony of Broderick Niemeier
Case No. ER-2026-0143

Exhibit No.:
Issue(s): *Variable Fuel*
Witness: *Brodrick Niemeier*
Sponsoring Party: *MoPSC Staff*
Type of Exhibit: *Direct Testimony*
Case No.: *ER-2026-0143*
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MISSOURI PUBLIC SERVICE COMMISSION

INDUSTRY ANALYSIS DIVISION

ENGINEERING ANALYSIS DEPARTMENT

DIRECT TESTIMONY
REVENUE REQUIREMENT

OF

BRODRICK NIEMEIER

EVERGY METRO, INC., d/b/a EVERGY MISSOURI METRO

CASE NO. ER-2026-0143

Jefferson City, Missouri
June 2026

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DIRECT TESTIMONY OF

BRODRICK NIEMEIER

EVERGY METRO, INC., d/b/a EVERGY MISSOURI METRO

CASE NO. ER-2026-0143

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DIRECT TESTIMONY

OF

BRODRICK NIEMEIER

EVERGY METRO, INC., d/b/a EVERGY MISSOURI METRO

CASE NO. ER-2026-0143

Q. Please state your name and business address.

A. My name is Brodrick Niemeier and my business address is Public Service Commission, P.O. Box 360, Jefferson City Missouri 65102.

Q. By whom are you employed and in what capacity?

A. I am employed by the Missouri Public Service Commission ("Commission") as an Associate Engineer in the Engineering Analysis Department of the Industry Analysis Division.

Q. Please describe your educational background and work experience.

A. In 2021, I graduated from the Missouri University of Science and Technology with a Bachelor of Science degree in Chemical Engineering. Following my graduation, I began working for the Commission in Staff's Engineering Analysis Department. Further information on my educational background and work experience can be found within Schedule BN-d1.

EXECUTIVE SUMMARY

Q. What is the purpose of your direct testimony?

A. My testimony discusses Staff's calculation of the variable fuel and purchased power expense.

Q. Do you provide any recommendations for expense levels to be reflected in the revenue requirement ordered in this case?

A. Yes. It is my recommendation that the revenue requirement ordered by the Commission in this case should reflect Staff's calculation of variable fuel and purchased power expense, equal to $ 265,518,813.89.

Q. Do you describe the development of a work product you provided to another Staff witness for the development of an issue?

A. Yes. I provided the production cost model results to Staff witness Stacy Henderson for use in determining the appropriate percentage of transmission expense for Evergy Missouri Metro ("EMM") to recover, and Brooke Mastrogiannis to develop the Staff's recommended Fuel Adjustment Clause Base Factor. I also provided the production cost model results to Staff witness Antonija Nieto to include in the calculation of Staff's revenue requirement.

VARIABLE FUEL AND PURCHASED POWER EXPENSE

Q. What does Staff recommend concerning the variable fuel and purchase power expense for EMM?

A. Staff recommends the revenue requirement ordered by the Commission include a variable fuel and purchased power expense of $ 265,518,813.89. Load for use in Staff's production cost model is calculated at the system level (combined Missouri and Kansas) by Staff expert Michael L. Stahlman (i.e. Net System Input), using hourly load information provided by EMM, and using the annualized and normalized energy

levels calculated by Staff experts Kim Cox, Amanda Rucker, and Randall T. Jennings. Net system input does not include the true-up plug energy level calculated by Staff expert Sarah L.K. Lange.

Q. Explain what variable fuel and purchased power expense is and how it affects Staff's calculation of the recommended revenue requirement.

A. Variable fuel and purchased power expense is the cost to operate the utility's power plants and purchase any necessary electricity to provide that utility's customers with electricity. It includes fuel and other costs associated with operating a power plant, though employee wages and equipment repairs are not included. Any costs of purchasing electricity are added, such as Purchased Power Agreements ("PPAs") or purchases from the Southwest Power Pool ("SPP") Market, and any electric sales to the SPP Market are subtracted from this total. This number is then used to calculate the revenue requirement as well as used in the calculation of the Fuel Adjustment Clause base factor.

Q. How is production cost modeling used in the electric power industry?

A. Production cost modeling software is widely used by the electric power industry in the United States and throughout the world for the calculation of variable fuel and purchased power expenses. Similar software is used by electric utilities, regional transmission operators, regulatory agencies, universities, and research laboratories for evaluating the costs related to the generation, transmission, and consumption of electricity. The use of modeling software allows for the calculation of the lowest cost

method by which customer needs can be satisfied while considering a given utility's generating resources, load requirements, and other constraints.

Q. How does Staff use production cost modeling in this case?

A. Staff uses a production cost model to perform a simulation of EMM's electric generation, sales, and purchases. The simulation results are used to calculate the revenues and expenses from these actions. Specifically, the revenues and expenses calculated from the simulation's results are:

- The cost of fuel necessary to support the generation of electricity at power plants;
- The costs and revenues from purchases and sales of energy within the Southwest Power Pool marketplace; and
- The cost of energy obtained from purchased power agreements.

Fixed expenses such as those related to the recovery of capital are not included in the results of Staff's production cost model.

Q. What production cost modeling software does Staff use?

A. Staff uses the PLEXOS® software for production cost modeling.

Q. What inputs are necessary for Staff's production cost model?

A. Staff's production cost model includes input data developed by multiple Staff witnesses. These include: market prices from Staff witness Justin Tevie, fuel prices from Staff witness Antonija Nieto, and system load from Staff witness Michael L. Stahlman. Justin Tevie, Antonija Nieto, and Michael L. Stahlman have each filed testimony within this case concerning this data. I developed the inputs for wind and solar farm generation, planned and forced outages, and power plant characteristics.

Q. How did Staff develop the solar and wind farm generation used in the production cost model?

A. Staff used historical generation provided by EMM to create a shaped average for each month based on the last seven years of data for each solar and wind resource separately.[1] Staff excluded data when seven years of data were unavailable, or if a portion of the data was unrepresentative of future generation. One of the causes for excluding data in this case was the loss of Production Tax Credits ("PTCs").

Q. What are PTCs and why would losing them reduce the generation from a renewable resource?

A. PTCs are tax credits awarded when a renewable resource generates electricity during the first ten years of operation, which incentivizes the site to generate more during that period. There is typically a noticeable decrease in generation once the first ten years of operation has ended, which corresponds to the end of earning PTCs. The tax credit provided by PTCs effectively increases the value of electricity produced by the generator, and they can be thought of as a subsidy in this situation. Because this electricity is more valuable, the owner of the generator can operate the resource at a price where it would otherwise be unprofitable, in some situations even bidding into the SPP market at a negative price. When the PTCs end, the owner doesn't have the incentive to operate the resource as often, which decreases the total generation of the resource going forward.

[1] Staff uses the most recent seven years of renewable generation data to be consistent with the period Staff considers for outage data. Seven-year averages are used for outage data due to major outages occurring on a seven-year cycle.

Q. How did Staff adjust its renewable shapes to account for the loss of PTCs?

A. Staff excluded months that are not expected to be representative of the renewable generation going forward for any renewable facility that has been in service between ten and 17 years and is influenced by the loss of PTCs. Specifically, for this case Staff adjusted the shape for Cimmaron 2, Spearville 2, and Spearville 3. Slate Creek 1, Waverly, Greenwood Solar, and Osborn have already lost or will lose the ability to earn PTCs by the end of 2026, though the exact effect of PTCs ending is not yet known for these wind and solar farms. When Staff has sufficient data, likely in the next rate case, similar changes will be made for these renewable resources.

Q. Do you know the exact dates when PTCs end for each renewable resource?

A. Staff requested the exact date PTCs ended for each wind and solar resource, and how this known change was simulated within EMM's production cost model. Only the year when PTCs ended/will end was provided for Hawthorn Solar and Spearville 1 and 2.[2] Similarly, EMM did not indicate if or how it factored the expiration of PTCs for renewable resources into the EMM production cost model.[3]

Q. How were planned and forced outages accounted for in Staff's production cost model?

A. Planned and forced outages occur infrequently and vary in duration. In order to capture that variability, Staff averaged the last seven years of historic outages for each unit. A seven-year average is used by Staff due to most units having a major

[2] Between company owned generation and PPAs, 13 wind and solar farms within EMM's portfolio have qualified for earning PTCs in the past.
[3] Please see Staff Data Request No. 217, attached as Schedule BN-d3

planned outage scheduled every five to seven years. Staff removed any outages which it viewed as extreme outliers and calculated both planned and forced outages based off the remaining data.

Q. How were the power plant characteristics for Staff's production cost model derived?

A. Staff relied on data provided by EMM, both within this case and within filings required by Commission Rule 20 CSR 4240-3.190 for inputs relating to each generating unit, such as:

- Unit Capacity;
- Unit heat rate curves;
- Ramp rates;
- Primary and startup fuels;
- Startup costs; and
- Variable operating and maintenance expenses.

Definitions for the above terms can be found within Schedule BN-d2

Q. What was the Commission's previous decision regarding variable fuel and purchased power expense?

A. In EMM's last rate case, all but one issue regarding variable fuel and purchased power expense settled before hearing. The remaining issue resulted in the Central Nebraska Public Power and Irrigation District Hydro PPA being "disallowed from

recovery as it is not used and useful to Missouri Customers."[4] This PPA ended in 2023 and thus is not an issue within this case.

Q. What is the recommended variable fuel and purchased power expense that resulted from Staff's production cost model?

A. Staff calculated the variable fuel and purchased power expense to be $265,518,813.89. The revenue requirement ordered by the Commission should reflect staff's calculation of the variable fuel and purchased power expense.

Q. Does this conclude your direct testimony?

A. Yes, it does.

[4] ER-2022-0129 and ER-2022-0130, Docket Item No. 658, Commission Amended Report and Order, Page 100.

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of Evergy Metro, Inc. d/b/a Evergy Missouri Metro's Request for Authority to Implement a General Rate Increase for Electric Service	))))	Case No. ER-2026-0143

AFFIDAVIT OF BRODRICK NIEMEIER

STATE OF MISSOURI	)	
	)	ss.
COUNTY OF COLE	)	

COMES NOW BRODRICK NIEMEIER and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing *Direct Testimony-Revenue Requirement*; and that the same is true and correct according to his best knowledge and belief.

Further the Affiant sayeth not.

Brodrick Niemeier

BRODRICK NIEMEIER

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 26th day of June 2026.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: April 04, 2029
Commission Number: 12412070

D Suzie Mankin

Notary Public

CREDENTIALS AND CASE PARTICIPATION OF

BRODRICK NIEMEIER

Present Position:

I am an Associate Engineer in the Engineering Analysis Department, Industry Analysis Division, of the Missouri Public Service Commission.

Educational Background and Work Experience:

In December 2021, I received a Bachelor of Science Degree in Chemical Engineering from Missouri University of Science and Technology. I joined the Commission Staff in March 2022.

Testimony Filed:

Case Number	Utility	Testimony	Issue
GE-2018-0193	Summit Natural Gas of Missouri	Staff Report	Meter Inspections
EA-2022-0244	Ameren Missouri	Rebuttal	Qualifications and Report Requirements
EO-2022-0320	Evergy Missouri West	Staff Report	Change of Provider
WA-2022-0361	Missouri American Water Company	Staff Report	Depreciation
WA-2023-0026	Confluence Rivers	Staff Report	Depreciation
WA-2023-0071	Missouri American Water Company	Staff Report	Depreciation
EO-2023-0105	Evergy Missouri West	Staff Report	Change of Provider
GE-2023-0196	Liberty (Empire) Gas	Staff Report	Meter Inspections
GE-2023-0354	Spire Missouri	Staff Report	Meter Inspections
EO-2024-0035	Evergy Missouri West	Staff Report	Change of Provider
EO-2024-0142	Evergy Missouri West	Staff Report	Change of Provider
EO-2024-0161	Evergy Missouri West	Staff Report	Change of Provider

Case Number	Utility	Testimony	Issue
EA-2023-0131	Liberty (Empire) Electric	Staff Report	Application Requirements, Qualifications, Maintenance and Forced Outages, and Operating Plans
ER-2024-0189	Evergy Missouri West	Direct, Rebuttal, True-up	Fuel and Purchased Power Cost
GE-2024-0345	Summit Natural Gas of Missouri	Staff Report	Meter Inspections
EA-2024-0237	Ameren Missouri	Staff Report	Application Requirements
ER-2024-0319	Ameren Missouri	Direct, True-up	Solar In-service Criteria
EO-2025-0223	Liberty (Empire) Electric	Report	Territorial Agreement
EA-2025-0075	Evergy Missouri West	Report	Public Interest and Application Requirements
ER-2024-0261	Liberty (Empire) Electric	Direct, True-Up	Plant additions and Modifications, Riverton 10 Repair
EO-2025-0154	Evergy Missouri West Evergy Missouri Metro	Rebuttal Report, Surrebuttal	System Support Rider, Customer Capacity Rider, Demand Response & Local Generation Rider
ET-2025-0184	Ameren Missouri	Report	Electric Service Agreement
EA-2025-0238	Ameren Missouri	Report	BESS In-Service Criteria

Definitions

Unit capacity:

The maximum capacity of a power plant is equal to its maximum level of energy output in megawatts (MW).

Unit heat rate curve:

The heat rate of a power plant, typically measured in BTU/kWh, is a measure of efficiency. It shows how much energy from the fuel consumed by the power plant is required to generate one kWh of electricity. The larger the magnitude of the heat rate, the less efficient a power plant is.

Primary and startup fuels:

A power plant's primary fuel is the main source of energy that it uses to generate electricity. For example, a coal-fired power plant will have coal as its primary fuel. This is distinct from startup fuel which may be used sparingly during limited periods of time while the power plant is being started. Fuel oil might be used as a startup fuel while a coal plant is being started. Once a certain power level is achieved, the startup fuel will stop being used, and the power plant will operate solely on its primary fuel.

Ramp rates:

Ramp rates describe how quickly a power plant can change its output power level and are typically given in units of megawatts per hour or megawatts per minute. Large coal or nuclear power plants have lower ramp rates than smaller natural gas-fired combustion turbines.

Startup costs:

Startup costs are the operations and maintenance costs associated with the startup of a power plant. The magnitude of startup costs can influence how a power plant is dispatched within a market. All other factors being equal, high startup costs would tend to make a power plant less likely to be dispatched in a given situation.

Variable operating and maintenance expense:

Variable operations and maintenance expenses ("VOM") are a part of the incremental cost of running a power plant. They represent the costs related to the equipment replacement and servicing that are necessarily incurred by the wear and tear that occurs when a power plant operates. These costs are measured in dollars per megawatt-hour ($/MWh) and will affect the price at which energy from a power plant is offered into the market. All other factors being equal, high VOM costs would tend to make a power plant less likely to be dispatched in a given situation.

Evergy Missouri Metro
Case Name: 2026 Evergy MO Metro Rate Case
Case Number: ER-2026-0143

Requestor Niemeier Brodrick -
Response Provided March 23, 2026

Question:0217
For each renewable resource site included within Evergy Metro's production cost model:

A) State whether or not the site has received Production Tax Credits (PTCs) in the past.

B) State whether or not the site is currently receiving PTCs.

C) Provide the date that the site is no longer eligible to receive PTCs.

D) Describe how the loss of PTCs at the site is modeled within Evergy Metro's production cost model, if the site is no longer eligible to receive PTCs. Requested by: Brodrick Niemeier (Brodrick.Niemeier@psc.mo.gov)

RESPONSE: (do not edit or delete this line or anything above this)

Confidentiality: PUBLIC
Statement: This response is Public. No Confidential Statement is needed.

Response:
Listed below is the information requested for the sites included in the Company's production cost modeling.

Spearville I Wind Facility
A) Yes. PTC credits were received in the past
B) No. It is not currently receiving any PTCs
C) It stopped receiving credits in 2016
D) All PTC credits were included in Evergy Metro's cost of service income tax expense as they were received from 2006-2016. There are no PTC credits included in the current rate case.

Spearville II Wind Facility
A) Yes. PTC credits were received in the past
B) No. It is not currently receiving any PTCs
C) It stopped receiving credits in 2020

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D) All PTC credits were included in Evergy Metro's cost of service income tax expense as they were received from 2010-2020. There are no PTC credits included in the current rate case.

Hawthorn Solar Facility
A) Yes. PTC credits were received in the past
B) Yes. It is currently generating PTCs
C) It will stop receiving credits in 2033
D) All PTC credits are included in Evergy Metro's cost of service income tax expense as they are received. There was $356,520 (total company) of Solar PTC credits included in the direct filing cost of service income tax expense computation in the current rate case.

Information provided by: Melissa Hardesty, Tax

Attachment(s):
None

Missouri Verification:
I have read the Information Request and answer thereto and find answer to be true, accurate, full and complete, and contain no material misrepresentations or omissions to the best of my knowledge and belief; and I will disclose to the Commission Staff any matter subsequently discovered which affects the accuracy or completeness of the answer(s) to this Information Request(s).

Signature /s/ *Brad Lutz*
Director Regulatory Affairs

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