FILED
November 6, 2026
Missouri Public
Service Commission

Exhibit No. 104

Staff – Exhibit 104
Rebuttal Testimony of Shawn E. Lange
Case No. EA-2026-0154

Exhibit No.:	
Issue(s):	*Public Interest*
Witness:	*Shawn E. Lange*
Sponsoring Party:	*MoPSC Staff*
Type of Exhibit:	*Rebuttal Testimony*
Case No.:	*EA-2026-0154*
Date Testimony Prepared:	*September 15, 2026*

MISSOURI PUBLIC SERVICE COMMISSION

INDUSTRY ANALYSIS DIVISION

ENGINEERING ANALYSIS DEPARTMENT

REBUTTAL TESTIMONY

OF

SHAWN E LANGE

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

CASE NO. EA-2026-0154

Jefferson City, Missouri
September 2026

** Denotes Confidential Information **

REBUTTAL TESTIMONY

OF

SHAWN E LANGE

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

CASE NO. EA-2026-0154

Q. Please state your name and business address.

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

Q. What is your current position with the Missouri Public Service Commission ("Commission")?

A. I am an Engineer Manager in the Engineering Analysis Department of the Industry Analysis Division.

Q. Would you please review your educational background and work experience?

A. My credentials and a list of cases before the Commission in which I have previously provided testimony or analysis through affidavits is included in Schedule SEL-r1.

Q. What is the purpose of your testimony?

A. The purpose of my rebuttal testimony is to respond to Evergy Missouri Metro ("EMM") witnesses on the topic of public interest of the Mullin Creek #2 ("Project").

PUBLIC INTEREST

Q. Please explain Staff's approach to analyzing public interest under the Tartan Criteria.

A. As Staff witness Amanada Arandia introduced, Staff uses the Tartan factors, i.e., need, qualifications, financial ability, economic feasibility, and promotion of the public interest, as an analytical basis for its analysis. Those factors provide an overarching framework for organizing the evidence of the case, but the Commission's inquiry does not end with a surface-level application of the Tartan considerations. Each CCN application must be evaluated in light of the particular regulatory, operational, economic, and ratemaking circumstances presented by the projects under consideration.

Q. What circumstances does Staff present through testimony in this case?

A. In reaching its conclusion concerning the public interest, Staff considered the matters discussed throughout its testimony, including the need for the Projects, public comments, project siting – including natural gas fuel supply, potential rate impacts, and the regulatory and ratemaking consequences of committing substantial utility capital to resources intended in significant part to meet projected future loads.

Generator Interconnection Agreement

Q Has EMM requested interconnection for Mullin Creek #2?

A. Yes. EMM submitted a Generator Interconnection request as a part of the Expedited Resource Adequacy Study ("ERAS") process as described in Attachment AW of the SPP Open Access Transmission Tariff (OATT) for the proposed project.[1]

Q. Has EMM provided an estimated cost breakdown for the proposed Mullin Creek # 2 project?

A. Yes. In EMM witness Olsen's Direct Testimony Schedule JKO-3 the following cost breakdown was provided:

**

[redacted]

**

Q. What are the estimated interconnection costs for Mullin Creek 2?

A. As shown in the table above, EMM estimates ** [redacted] ** of interconnection costs. ** [redacted]

[1] EA-2026-0154 J Kyle Olson Direct Pgs. 27-28.

[redacted]**.[2]

As the Commission saw when Union Electric Company d/b/a Ameren Missouri ("Ameren Missouri") terminated the acquisition of the Brickyard Hills wind project (EA-2019-0021), transmission upgrades can lead to costs significantly higher than the projected interconnection costs, making the project untenable.

Q. When will the studies be completed?

A. The Direct testimony of EMM anticipated the results of the Affected System Impact Study for the Associated Electric Cooperative as well as the final Network Upgrade costs to be received late summer 2026.[3] **[redacted]

[redacted]**.[4]

Q. What is Staff's recommendation?

A. With the proposed projects' interconnection costs not known, Staff recommends that the Commission order EMM to provide the Generator Interconnection Agreement ("GIA") for the project in this case within 30 days of a signed, executed GIA.

Fuel Reporting

Q. Are there additional reporting requirements you are supporting?

A. Yes. Staff has identified concerns on fuel-related issues as outlined in Staff witnesses Trevor Rucker and Dave Sommerer's rebuttal testimony. As EMM becomes

[2] EA-2026-0154 Evergy Missouri Metro Response to Staff DR 26.
[3] EA-2026-0154 J Kyle Olson Direct Pg. 28 lines 5-12.
[4] EA-2026-0154 Evergy Missouri Metro Response to Staff DR 26.

more reliant on natural gas for resource adequacy as well as energy for combined cycle generation, natural gas fuel availability will be imperative.

Q. Does the Commission have reporting requirements regarding fossil fuel outages?

A. Yes. Commission rule 20 CSR 4240-3.190 has multiple reporting requirements for fossil fuel generators. One in particular that is pertinent is 20 CSR 4240-3.190(4)(A)3, which states:

> Forced outages of any fossil-fuel fired generating unit(s) with an accredited capacity of greater than one hundred (100) megawatts that reasonably could be anticipated to last longer than three (3) days, when the unit(s) is forced out due to a common or unforeseen occurrence;

Q. Has Evergy units had gas availability issues?

A. **[redacted]**.

Q. What is Staff's recommendation in this case?

A. Staff Recommends that if natural gas becomes unavailable for any EMM fossil-fuel fired generating unit(s) with an accredited capacity of greater than one hundred (100) megawatts that reasonably could be anticipated to last longer than three (3) days, this will be reported like all other forced outages as part of 20 CSR 4240-3.190 (4)(A)3.

Q. The proposed unit and many units that have come before the Commission have proposed dual fuel capability, does Staff want reporting on fuel oil?

A. Yes, and 20 CSR 4240-3.190 (4)(A)5 requires such reporting:

> Reductions of coal inventory below a thirty- (30-) day supply and reductions of oil inventory below fifty percent (50%) of the storage capacity of that oil facility;

Permits

Q Does Staff have other concerns regarding this proposed project?

A. Combustion turbines may have emission limitations or operating permits that limit the amount of emissions during times of the year.

Q. Why is that concerning?

A. Combustion turbine tuning is necessary to keep operating parameters in an acceptable range. These operating parameters may include:

- Fuel pressure and flow
- Air mass flow
- Compressor inlet guide vane position
- Compressor bypass valve position
- Compressor outlet pressure
- Turbine exhaust pressure
- Turbine exhaust temperature and temperature spread
- Turbine exhaust outlet O2, CO and NOx
- Combustion vibration

Extreme weather events in winter may include longer periods of colder temperatures. Colder air is denser which may impact the emissions of the unit or may impact the unit such that it cannot operate.

Q. Does Staff recommend a condition regarding this concern?

A. Yes. Staff recommends that any CCN for the proposed project includes a condition that the permit allow for tuning on back-up or secondary fuel.

Local Public Hearing

Q. Has Staff attended the local public hearing in this case?

A. Yes, Staff was in attendance on September 10, 2026 for the Local Public Hearing (LPH) for this case.

Q. Was there concerns raised in testimony at the LPH?

A. No.

Q. Was there public comments filed in this case?

A. Yes. As of September 11, 2026, there are three public comments associated with this docket. Two of the three comment on other sources of generation and potential benefits of those sources of generation. The third comment was a concern about Construction Work In Progress for different potential projects.

Q. What is Staff's conclusion on public interest in this case?

A. Staff has determined that the public interest piece of the Tartan Criteria would not be met without the inclusion of the conditions in Staff witness Amanda Arandia's testimony on any approved CCN. Specifically, I support the following conditions:

1. EMM shall provide the completed ERAS GIA for the Project in this case within 30 days of a signed, executed GIA.

2. Staff Recommends that if natural gas becomes unavailable for any EMM fossil-fuel fired generating unit(s) with an accredited capacity of greater than one hundred (100) megawatts that reasonably could be anticipated to last longer than three (3) days, EMM will report this outage as part of 20 CSR 4240-3.190 (4)(A)3.

3. EMM shall obtain the necessary permit that will allow for tuning of the CTG on any back-up fuel.

Q. Does this conclude your rebuttal testimony?

A. Yes it does.

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of Application of Evergy Metro, Inc. d/b/a Evergy Missouri Metro for Permission and Approval of a Certificate of Convenience and Necessity Authorizing it to Construct, Install, Own, Operate, Manage, Maintain, and Control a Natural Gas Electrical Production Facility	)))))))	Case No. EA-2026-0154

AFFIDAVIT OF SHAWN E. LANGE, PE

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

COMES NOW SHAWN E. LANGE, PE, and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing *Rebuttal Testimony of Shawn E. Lange, PE*; and that the same is true and correct according to his best knowledge and belief.

Further the Affiant sayeth not.

Shawn E Lange
SHAWN E. LANGE, PE

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 9th day of September 2026.

Dianna L. Vaught
Notary Public

DIANNA L. VAUGHT
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: July 18, 2027
Commission Number: 15207377

CREDENTIALS AND CASE PARTICIPATION OF SHAWN E. LANGE, PE

PRESENT POSITION:

I am the Engineering Manager of the Engineering Analysis Department, Industry Analysis Division, of the Missouri Public Service Commission.

EDUCATIONAL BACKGROUND AND WORK EXPERIENCE:

In December 2002, I received a Bachelor of Science Degree in Mechanical Engineering from the University of Missouri, at Rolla now known as the Missouri University of Science and Technology. I joined the Commission Staff in January 2005. I am a registered Professional Engineer in the State of Missouri and my license number is 2018000230.

TESTIMONY FILED:

Case Number	Utility	Testimony	Issue
ER-2005-0436	Aquila Inc.	Direct	Weather Normalization
		Rebuttal	Weather Normalization
		Surrebuttal	Weather Normalization
ER-2006-0314	Kansas City Power & Light Company	Direct	Weather Normalization
		Rebuttal	Weather Normalization
ER-2006-0315	Empire District Electric Company	Direct	Weather Normalization
		Surrebuttal	Weather Normalization
ER-2007-0002	Union Electric Company d/b/a AmerenUE	Direct	Weather Normalization
ER-2007-0004	Aquila Inc.	Direct	Weather Normalization
ER-2007-0291	Kansas City Power & Light Company	Staff Report	Weather Normalization
		Rebuttal	Weather Normalization
ER-2008-0093	Empire District Electric Company	Staff Report	Weather Normalization
ER-2008-0318	Union Electric Company d/b/a AmerenUE	Staff Report	Weather Normalization

Case Number	Utility	Testimony	Issue
ER-2009-0089	Kansas City Power & Light Company	Staff Report	Net System Input
ER-2009-0090	KCP&L Greater Missouri Operations Company	Staff Report	Net System Input
ER-2010-0036	Union Electric Company d/b/a AmerenUE	Staff Report	Net System Input
ER-2010-0130	Empire District Electric Company	Staff Report	Variable Fuel Costs
		Surrebuttal	Variable Fuel Costs
ER-2010-0355	Kansas City Power & Light Company	Staff Report	Variable Fuel Costs
ER-2010-0356	KCP&L Greater Missouri Operations Company	Staff Report	Engineering Review-Sibley 3 SCR
ER-2011-0004	Empire District Electric Company	Staff Report	Variable Fuel Costs
ER-2011-0028	Union Electric Company d/b/a Ameren Missouri	Staff Report	Net System Input
ER-2012-0166	Union Electric Company d/b/a Ameren Missouri	Staff Report	Weather Normalization
		Surrebuttal	Weather Normalization Maryland Heights In-Service
ER-2012-0174	Kansas City Power & Light Company	Staff Report	Weather Normalization Net System Input Variable Fuel Costs
		Surrebuttal	Weather Normalization
ER-2012-0175	KCP&L Greater Missouri Operations Company	Staff Report	Weather Normalization Net System Input
		Surrebuttal	Weather Normalization
ER-2012-0345	Empire District Electric Company	Rebuttal	Interim Rates
		Staff Report	Weather Normalization
EC-2014-0223	Noranda Aluminum v. Ameren Missouri	Rebuttal	Weather Normalization
EA-2014-0207	Grain Belt Express CCN	Rebuttal	Certificates of Convenience/Feasibility Analysis
		Surrebuttal	

Case Number	Utility	Testimony	Issue
ER-2014-0258	Union Electric Company d/b/a Ameren Missouri	Staff Report	Net System Input Variable Fuel Costs
ER-2014-0351	Empire District Electric Company	Staff Report	Net System Input Variable Fuel Costs
ER-2014-0370	Kansas City Power & Light Company	Staff Report	Net System Input Variable Fuel Costs
		True-up Direct	Variable Fuel Costs La Cygne In-service
EA-2015-0146	ATXI CCN	Rebuttal	Certificates of Convenience/Feasibility Analysis
		Surrebuttal	
ER-2016-0023	Empire District Electric Company	Staff Report	Net System Input Variable Fuel Costs
		Surrebuttal	Variable Fuel Costs
ER-2016-0179	Union Electric Company d/b/a Ameren Missouri	Staff Report	Variable Fuel Costs
EA-2016-0385	Grain Belt Express CCN	Rebuttal	Certificates of Convenience/Feasibility Analysis
		Surrebuttal	
ER-2018-0145	Kansas City Power & Light Company	Staff Report	Variable Fuel Costs Market Prices
		Rebuttal	Variable Fuel Costs Market Prices
		True-up Direct	Variable Fuel Costs Market Prices
EA-2018-0327	ATXI CCN	Rebuttal	Certificates of Convenience/Feasibility Analysis
EA-2019-0021	Union Electric Company d/b/a Ameren Missouri	Staff Report	Certificates of Convenience/Feasibility Analysis
EA-2019-0010	Empire District Electric Company	Staff Report	Certificates of Convenience/Feasibility Analysis
EC-2020-0408	MLA v. Grain Belt Complaint	Staff Recommendation	Formal Complaint
EA-2021-0167	ATXI CCN	Staff Recommendation	Certificates of Convenience/Feasibility Analysis

Case Number	Utility	Testimony	Issue
EA-2021-0087	ATXI CCN	Staff Report	Certificates of Convenience/Feasibility Analysis
ER-2021-0240	Union Electric Company d/b/a Ameren Missouri	Staff Report	Variable Fuel Costs Atchison wind farm Construction Audit and in-service review
		Rebuttal	Atchison in-service and Variable Fuel Costs
		True-up Direct	Variable Fuel Costs
ER-2021-0312	Empire District Electric Company	Staff Report	Transmission and Distribution Investment
EA-2022-0043	Evergy Metro and Evergy West Hawthorn Solar CCN	Staff Report	Certificates of Convenience/Feasibility Analysis
EA-2022-0099	ATXI CCN	Staff Direct Testimony	Certificates of Convenience/Feasibility Analysis
EA-2022-0244	Union Electric Company d/b/a Ameren Missouri	Staff Report	Certificates of Convenience/Feasibility Analysis
EA-2022-0245	Union Electric Company d/b/a Ameren Missouri	Staff Rebuttal Testimony	Certificates of Convenience/Feasibility Analysis
ER-2022-0337	Union Electric Company d/b/a Ameren Missouri	Direct Testimony	Variable fuel Costs
		Rebuttal Testimony	Variable fuel Costs
		Surrebuttal/True-up Direct	Variable fuel Costs
		True-up Rebuttal	Variable fuel Costs
EA-2022-0328	Evergy Missouri West	Staff Rebuttal Testimony	Certificates of Convenience/Feasibility Analysis
EA-2023-0017	GrainBelt Express	Staff Rebuttal Testimony	Certificates of Convenience/Feasibility Analysis

Case Number	Utility	Testimony	Issue
EA-2023-0226	Union Electric Company d/b/a Ameren Missouri	Staff Memo	Certificates of Convenience/Feasibility Analysis
ET-2023-0249	Union Electric Company d/b/a Ameren Missouri	Staff Memo	Cogeneration and Net Metering rate
EA-2024-0286	Union Electric Company d/b/a Ameren Missouri	Rebuttal Testimony	Certificates of Convenience/Feasibility Analysis
EF-2024-0021	Union Electric Company d/b/a Ameren Missouri	Rebuttal	Financing Order Authorizing the Issue of Securitized Utility Tariff Bonds
ER-2024-0189	Evergy Missouri West	Rebuttal	Variable Fuel Cost
EA-2024-0237	Union Electric Company d/b/a Ameren Missouri	Staff Memo/Report	Certificates of Convenience/Feasibility Analysis
ER-2024-0319	Union Electric Company d/b/a Ameren Missouri	Staff Direct	Variable Fuel Costs
		Staff True-up Direct	Variable Fuel Cost
EA-2024-0302	ATXI	Staff Memo/Report	Certificates of Convenience/Feasibility Analysis
EA-2024-0292	Evergy Missouri West	Staff Memo/Report	Certificates of Convenience/Feasibility Analysis
EA-2025-0075	Evergy Missouri West	Staff Memo/Report	Certificates of Convenience/Feasibility Analysis
EA-2025-0028	Union Electric Company d/b/a Ameren Missouri	Staff Memo/Report	Certificates of Convenience/Feasibility Analysis

Case Number	Utility	Testimony	Issue
ER-2024-0261	Empire District Electric Company	Direct Testimony Surrebuttal/True-up Direct	Variable Fuel Cost Variable Fuel Cost
EA-2025-0238	Union Electric Company d/b/a Ameren Missouri	Staff Memo/Report	Certificates of Convenience/Feasibility Analysis
EA-2025-0239	Union Electric Company d/b/a Ameren Missouri	Staff Memo/Report	Certificates of Convenience/Feasibility Analysis