Exhibit No.:

Issue(s): Economic Feasibility
Witness: Sarah L.K. Lange

Sponsoring Party: MoPSC Staff
Type of Exhibit: Rebuttal Testimony

Case No.: EA-2022-0099
Date Testimony Prepared: April 8, 2022

MISSOURI PUBLIC SERVICE COMMISSION INDUSTRY ANALYSIS DIVISION TARIFF/RATE DESIGN DEPARTMENT

REBUTTAL TESTIMONY

OF

SARAH L.K. LANGE

AMEREN TRANSMISSION COMPANY OF ILLINOIS

CASE NO. EA-2022-0099

Jefferson City, Missouri April 2022

1	REBUTTAL TESTIMONY
2	OF
3	SARAH L.K. LANGE
4	AMEREN TRANSMISSION COMPANY OF ILLINOIS
5	CASE NO. EA-2022-0099
6	Q. Please state your name and business address.
7	A. My name is Sarah L.K. Lange and my business address is Missouri Public
8	Service Commission, P. O. Box 360, Jefferson City, Missouri 65102.
9	Q. Who is your employer and what is your present position?
10	A. I am employed by the Missouri Public Service Commission ("Commission")
11	and my title is Economist, Tariff/Rate Design Department, Industry Analysis Division.
12	Q. What is your educational background and work experience?
13	A. A copy of my credentials and case experience is attached as Schedule SLKL-r1.
14	Summary of Recommendation
15	Q. Have you reviewed the Ameren Transmission Company of Illinois ("ATXI")
16	application ("Application") to the Missouri Public Service Commission for a certificate of
17	convenience and necessity ("CCN") construct, acquire, own, operate and maintain certain
18	transmission facilities in, around, and between the Cities of New Madrid and Sikeston, Missouri
19	("the Project") and the direct testimonies included with that Application concerning the Project
20	meets the criteria related to whether the Application is in the public interest?
21	A. Yes. I have reviewed these documents, as well as ATXI and Missouri Joint
22	Municipal Electric Utility Commission ("MJMEUC") responses to Staff data requests.

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- Q. Is the Application economically feasible?

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A. ATXI is anticipated to be fully compensated for its investment, and the Project is therefore economically feasible in that the expected benefits of the investment justify the cost of the investment from the perspective of the Applicant, ATXI; however the request includes elements and transactions that do not appear to be subject to the Commission's jurisdiction. The Commission should approve only Project components a-d in which ownership will be retained by ATXI, and not consider the associated agreements, or those components necessary to achieve certain benefits described in the Application, but not requested pursuant to the Application.¹

- Q. What is the purpose of your testimony?
- A. I will address the economic feasibility of the Project as it pertains to the Applicant, ATXI, and the financial ability of ATXI to undertake the Project.
 - Q. What are the components of the Project?
- A. The Project, as described in the Supplemental Direct Testimony of ATXI witness Sean Black differs from that initially proposed by ATXI, and consists of both construction of new infrastructure, some of which will be partially or fully owned by entities other than ATXI, and acquisition of existing infrastructure by ATXI.

¹ In *In the Matter of the Application of Tartan Energy Company, LLC, d/b/a Southern Missouri Gas Company*, 3 Mo P.S.C.3d 173, 177 (1994)., the Commission's Order listed five criteria to include in the consideration when making a determination on whether a utility's proposal meets the standard of being "necessary or convenient for the public service." Those factors are:

[•] Is the service needed?

[•] Is the applicant qualified to provide the service?

[•] Does the applicant have the financial ability to provide the service?

[•] Is the applicant's proposal economically feasible? and

[•] Does the service promote the public interest?

- (a) Construction of the Comstock Substation, at an estimated cost of \$5.4 million to ATXI, \$5.4 million to the Missouri Joint Municipal Electric Utility Commission, ("MJMEUC"), and \$8.3 million to Sikeston Board of Municipal Utilities ("SBMU"), for a total of approximately \$18.8 million with approximately \$10.6 million to be allocated to the Ameren Missouri MISO Pricing Zone.² ATXI will retain a partial interest in this component;
- (b) Construction and modification of the six transmission lines adjacent to the new Comstock substation, at an estimated cost of approximately \$124,000 to ATXI, \$124,000 to MJMEUC, and \$2 million to SMBU, for a total of approximately \$2.2 million, with approximately \$242,000 to be allocated to the Ameren Missouri MISO Pricing Zone. ATXI will retain interest in certain lines, but not each;
- (c) Construction of an approximately 1.2 mile long single circuit 161 kV transmission line, at an estimated cost of approximately \$700,000 to ATXI, and \$673,000 to MJMEUC, for a total of \$1.4 million, fully allocable to the Ameren Missouri MISO Pricing Zone. ATXI will retain a partial interest in this component.
- (d) Acquisition of an interest in the existing 28 mile 161 kV line owned by SBMU, at a cost of \$510,000 to ATXI, \$490,000 to MJMEUC, fully allocable to the Ameren Missouri MISO Pricing Zone, with proceeds to SBMU. ATXI will acquire a partial interest in this existing component;

Additional potential components discussed in the testimonies, but for which authority is not sought at this time include:

(e) A distribution line, which would be owned by SMBU, which is necessary to fully facilitate the connection of SBMU's system with the Comstock substation, as described by ATXI witness Black at page 8, footnote 3,³ in order to achieve the benefits for SBMU described by

² ATXI did not include information concerning on-going operational costs for the Project in its Application or testimonies. These values were presumably included in the analysis performed by Sean Black, however Staff is unable to verify that the gross amounts are accurately reflected in ATXI's analysis at this time, or to identify the level of expense by component.

³ Sean Black, page 8, footnote 3 states, "As described by Ms. Timmermann in ATXI Exhibit 3.0, in addition to the Area Connections that have currently been identified, ATXI may also help facilitate the connection, to the Comstock substation, of a SBMU-owned distribution line. That connection has been omitted from the diagram embedded below and from the costs presented by Ms. Thomson ATXI Exhibit 2.0, as it is uncertain at this time whether the connection will be required. Should it be required, ATXI and SBMU will coordinate regarding the connection of that line, which will ultimately be paid for by SBMU."

ATXI witness Black at page 8, footnote 2,4 which describes 1 2 circumstances that would factor into an evaluation of the economic 3 feasibility of the Project with regard to SBMU, however SBMU is not 4 the Applicant in this proceeding, and the infrastructure and associated 5 costs described in ATXI witness Black footnote 3 were not included in 6 the Application, except as described in the Supplemental Direct 7 Testimony of Sean Black at page 7; 8 (f) Additional infrastructure including but not limited to a second 9 switching station as discussed by ATXI witness Black at page 12 acknowledging that additional infrastructure would be necessary to 10 11 accommodate significant load growth at New Madrid, such as the load associated with a new steel mill; 12 13 (g) The infrastructure necessary to provide additional transmission from the extant Ameren Missouri system to Ameren Missouri customers in 14 15 Hayti and Portageville, or to establish a North-South MISO tie, as 16 discussed by ATXI witness Black at pages 32-33; and 17 (h) Transfer of additional interest in the existing 161 kV line from SBMU 18 to ATXI. 19 Q What other approvals does ATXI request, and does the Commission have 20 jurisdiction to approve such agreements? 21 ATXI requests Commission approval of the following documents: A. (a) a Joint Ownership Agreement (JOA) among ATXI, MJMEUC, 22 23 and Sikeston (including SBMU); 24 (b) a Construction Agreement between ATXI and SBMU; and 25 (c) an Operation and Maintenance Services Agreement (O&M 26 Agreement) among ATXI, MJMEUC, and SBMU.

⁴ Sean Black page 8, footnote 2 states "The current system configuration does not provide SBMU a direct connection between its own generation and its retail load, or a direct interconnection with the systems of MISO and AECI; their power has to transfer across the SWPA Sikeston bus bar that is under SPP control. When the current Transmission Service Agreement (which is grandfathered in the SPP Tariff) between SBMU and SWPA expires on May 31, 2023, SBMU will have to start paying SPP transmission charges to deliver energy from its own generation to its retail load, and its wholesale customers in MISO and AECI will have to start paying pancaked service charges. The Project will eliminate the institution of pancaked transmission service charges by creating a direct, physical interconnection between SBMU and the systems of SPP, MISO and AECI."

Staff is unaware of the Commission's jurisdiction to review or approve such agreements within the context of this case, and has not reviewed the economic feasibility of such arrangements.

- Q. What are the elements of the Application that are subject to the Commission's jurisdiction and may be authorized by the Commission based on ATXI's Application?
- A. The following portions of the components described by ATXI may be authorized by the Commission based on ATXI's Application:
 - (a) Construction of those portions of the Comstock Substation in which ATXI will retain an interest, an estimated cost of \$3.7 million;
 - (b) Construction and modification of those transmission lines adjacent to the new Comstock substation in which ATXI will retain an interest, at an estimated cost of approximately \$350,000;
 - (c) Construction of an approximately 1.2 mile long single circuit 161 kV transmission line, at an estimated cost of approximately \$923,000; and
 - (d) Acquisition of an interest in the existing 28 mile 161 kV line owned by SBMU, at a cost of \$510,000.

The Commission has jurisdiction over owners of any property to be used as electric plant, of which ATXI is one. However, the Commission's jurisdiction is limited to entities that have not been excluded from its jurisdiction by statute, such as MJMECU, SBMU, and NMMLP.⁵ The Commission does not have jurisdiction over MISO, SPP, or SWPA. The Commission's jurisdiction over ATXI is limited to electric plant which is necessary or

⁵ The Commission's jurisdiction is also limited to the extent that an entity that has submitted to its jurisdiction does not take actions that remove the Commission's jurisdiction. Under STATE of Missouri ex rel. MISSOURI PUBLIC SERVICE COMMISSION, Appellant, v. MISSOURI GAS COMPANY, LLC, et al., Respondents, 266 S.W.3d 881 (Mo.App.2008), once an entity has successfully exceeded the jurisdiction of the Commission, the Commission has no authority to enforce prior commitments of that entity, including a commitment that the entity

would not take actions to exceed the Commission's jurisdiction.

- convenient for the public service. ATXI acknowledges the limitations in the Commission's
- 2 jurisdiction over the transaction and its various components.⁶

Financial Ability

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- Q. Does Staff have any concerns with the financial ability of ATXI to undertake the Project?
- A. No. Staff has no reason to be concerned with the financial ability of ATXI to undertake the Project. Staff makes no representations as to the financial ability of other entities discussed in this testimony or the Application.

⁶ Staff DR No. 0004 to ATXI requested "Please identify whether ATXI believes the Missouri Commission has jurisdiction over each of the following components of the project (a) construction of the Comstock Substation, (b) construction and modification of the six transmission lines adjacent to the new Comstock substation, (c) construction of an approximately 1.2 mile long single circuit 161 kV transmission line, (d) ATXI's acquisition of a 12.75% interest in the existing 28 mile 161 kV line owned by SBMU."

ATXI's response was "ATXI objects to this request to the extent it calls for legal analysis or conclusion. Further, please note that while Mr. Dearmont is an attorney by trade, he is not providing counsel to ATXI as an attorney in this proceeding and is not offering any legal opinions. Subject to that objection and caveat, and without waiving the objection, ATXI responds as follows:

By "jurisdiction" I assume Staff is asking whether, in my opinion, we need a CCN from the Commission prior to engaging in the various components of the transaction. Subject to that understanding, my responses are as follows: (a) Yes. I believe ATXI needs a CCN from the Commission to construct the Comstock Substation, or at least the portion in which ATXI will have an ownership interest. ATXI is not herein contesting the need to obtain a CCN for the construction of the Comstock Substation under the current Project structure. (b) I believe ATXI needs a CCN from the Commission to construct or modify the six transmission lines adjacent to the Comstock Substation, or at least the line in which ATXI will have an ownership interest. It is unclear to me the extent to which the Commission has jurisdiction over the lines that will be constructed or modified by ATXI, but that will ultimately be owned and 2 operated by SBMU. That said, ATXI is not herein contesting the need to obtain a CCN for the construction related to these six lines. (c) Yes. I believe ATXI needs a CCN from the Commission to construct the 1.2 mile transmission line to New Madrid. (d) Yes. Given that ATXI will serve some operating functions relative to the line, I believe ATXI likely needs a CCN from the Commission. It is unclear to me the extent to which the Commission would have jurisdiction to the extent ATXI acquired an interest in existing assets that were exclusively operated by a non-jurisdictional entity. ATXI has included the ownership interest in the subject line in its Application for transparency and is requesting Commission approval to the extent the Commission deems such approval required. For avoidance of doubt, ATXI is not herein contesting the need to obtain a CCN to acquire the ownership interest in the subject line.

Economic Feasibility

- Q. Are the portions of the Project to be retained by ATXI economically feasible, in that they are expected to be an improvement justifying its cost?
- A. Yes. The MISO cost recovery process will make ATXI whole and provide a return to investors for the costs and expenses ATXI will outlay for the Project, as discussed by Staff Expert Witness Michael L. Stahlman. Because ATXI is the Applicant and the MISO processes more or less ensure that ATXI will recover the revenue requirement of the Project, the economic feasibility of the Project can more or less be assumed. However, because ATXI presents testimony purporting to address the costs and benefits of the Project and potential future additions to the Project from the perspectives of various entities, Staff will respond to those assertions and provide greater context here.
 - Q. Did ATXI represent that the Project is economically feasible?
- A. Yes, In the Supplemental Direct Testimony of Sean Black, at pages 3-4 ATXI states that an addition of 5-10 MW of new load located in New Madrid Missouri "helps the overall Project economics. It will create additional revenues, which will flow back to the Midcontinent Independent Transmission Operator, Inc. (MISO) Ameren Missouri (AMMO) Pricing Zone and help offset the cost of the Project for the other customers in the transmission pricing zone. ATXI has revised the Net Present Value (NPV) analysis that I referred to in my December 21 direct testimony (see ATXI Exhibit 1.0 at 30-31), and that ATXI provided to Staff in response to data request MPSC 0001, to model the effects of both 5 MW and 10 MW load additions, at the revised Project cost described below. The revised NPV analysis shows that the addition of the load will advance the "break even" point of the Project by several years. Specifically, assuming 5 MW of additional load, Year 6 (2029) will be the first positive year,

1 as opposed to Year 9 (2032) under ATXI's original NPV analysis, and generates net positive 2 revenues in Year 13 (2036), as opposed to Year 22 (2045) under the original analysis. Assuming 3 10 MW of additional load, Year 3 (2026) will be the first positive year and generates positive 4 revenues in Year 6 (2029)." Further, in its Application and the initially-submitted Direct 5 Testimony of Sean Black, ATXI made conclusory representations of the following: 6 1. That the Project is economically feasible, with the components as 7 described in the Application, as represented by ATXI witness Black, at 8 pages 30-31; 9 2. That "The City of New Madrid has been actively exploring opportunities that would drive economic development to the city and 10 provide the associated benefits to its residents," as stated in the verified 11 Application at page 3, and that "the Project will also help facilitate the 12 13 future load growth that New Madrid is pursuing," as represented by ATXI witness Black at page 10; 14 3. That the project will be in furtherance of SBMU's energy export goals, 15 as represented at page 6 of the testimony of ATXI witness Black; 16 17 4. That the "Project positions ATXI and/or Ameren Missouri well for potential future expansions of the existing system, which could improve 18 system reliability and allow Ameren Missouri to directly serve retail 19 20 customers located in the Hayti / Portageville area, as well as improve system reliability to all customers in the region," as represented at the 21 22 testimony at page 10 of Sean Black's testimony, and that "the future 23 expansion of this Project could result in increased contract path between 24 the MISO North and South regions, which could reduce annual payments 25 from MISO to SPP and benefit all MISO customers," as stated by ATXI witness Black at pages 33-34. 26 27 Q. Is Mr. Black's testimony relevant in this regard? 28 A. No. The discussion provided by Mr. Black concerns ATXI's representations of 29 the benefits and portions of the costs to entities that are not the Applicant in this matter, and

which are not subject to the Commission's jurisdiction.

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Q. Does Mr. Black represent that the Project is economically feasible for entities other than ATXI?

A. Yes. However, the Application and testimonies attached as exhibits there-to unnecessarily muddy the waters through discussion of some benefits, but not all costs, for various entities. Mr. Black represents that over time and eventually, the additional MISO revenues that will proceed from incorporation of the existing New Madrid load into the Ameren Missouri MISO Pricing Zone will exceed the additional charges to Ameren Missouri that will result from the additional ATXI and MJMEUC transmission revenue requirement attributable to the ATXI and MJMEUC portions of the Project.⁸ Existing Ameren Missouri's MISO Zone customers are not the Applicant in this matter, and further, there is no internal logic to whether Mr. Black includes a given transaction in the silo of "cost" or "benefit" for a given entity. For example, Mr. Black provides additional MISO revenue associated with existing NMMLP load as a benefit offsetting the cost of new MISO revenue requirement, but does not discuss the cost of the MISO charges to NMMLP. Most glaringly, the avoided benefit to customers in SPP of

⁷ Much of the testimony discusses additional New Madrid Municipal Light and Power ("NMMLP") load that was anticipated to materialize to justify certain investments, but is no longer projected to materialize. Throughout the testimony, possible financial and strategic benefits to NMMLP, SMBU, and Ameren Missouri are discussed, however, those entities are not the Applicants seeking approval of the Project. The testimony appears to have been written to address a larger overall project that is not the subject of the Application as the testimony appears to abruptly change course to address a changed scope and more modest load-growth assumptions.

⁸ Based on ATXI's modeling and assuming perfect ratemaking, the cumulative benefits to existing load in Ameren Missouri's MISO Pricing Zone will begin to exceed the cumulative detriment in the year **|

^{**} These projections are too attenuated to suggest that approval of the Project is an economically feasible undertaking for existing load in Ameren Missouri's MISO Pricing Zone. The additional benefits alluded to in the ATXI materials involve additional costs that have not been included in the ATXI analysis or described in its Application, associated testimonies, or responses to data requests.

- new revenues from SBMU for use of existing infrastructure is ignored from the perspective of
 Missouri ratepayers, and stated as a benefit to SBMU.
 - Q. What are the costs and benefits applicable to each entity?

A. Based on the Project as-applied-for, as opposed to future expansion of project scope, Staff understands the rough costs and benefits by entity to be as provided below. Note, neither ATXI nor MJMEUC responded to Staff's request for quantification of these elements in data requests.

Costs

Benefits

MISO Revenue Requirement Increase Accounting for all
Listed Costs except the Option Agreement

Capital Investment in partial interest in some
Comstock-adjacent transmission lines
Capital Investment in partial interest in new 161 kV
line
Payment to SBMU to obtain partial interest in existing
161 kV line

O&M for Infrastructure
Option Agreement payments to SBMU

MJMEUC: Project as Applied-for

Costs

Benefits

MISO Revenue Requirement Increase Accounting for all Listed Costs except the Option Agreement

Capital Investment in partial interest in some

Comstock-adjacent transmission lines

Capital Investment in partial interest in new 161 kV line

Payment to SBMU to obtain partial interest in existing

161 kV line

O&M

Option Agreement payments to SBMU

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Ameren Missouri MISO Pricing Zone: Project as Applied-for		
Costs	Benefits	
	More customers paying MISO charges for existing	
Increased MISO Charges due to new infrastructure	infrastucture	

Missouri Customers in SPP: Project as Applied-for	
Costs	Benefits
Avoided benefit of SBMU payments for existing	
infrastructure	

NMMLP: Project as Applied-for	
Costs Benefits	
	Per MJMEUC response to Staff DR 11, "The addition of the project including the direct 161kV connection to MISO facilities enhances City reliability, and would allow for significant load growth within the city. It will additionally
MISO Charges for existing load	allow more diverse, and lower costs, options for supply."
	Per MJMEUC response to Staff DR 11, "The City has entered into supply contracts sourced from MISO resources in addition to existing SWPA resources. This resource mix, along with the addition of the transmission
Additional MISO charges for new MJMEUC and ATXI infrastructure	project, will provide lower cost and greater reliability to the City."

SBMU: Project as Applied-for	
Costs Benefits	
Capital Investment in some portion of Comstock	Avoided payments to SPP for use of existing infrastructure
Capital Investment in partial interest in some Comstock-adjacent transmission lines.	Payment for existing 161 kV line interest
Capital Investment in a Comstock-adjacent distribution line and the capital costs of site preparation for adjacent facilities.	Option Agreement payments for additional 161 kV line interest
O&M	Ability to join various RTOs in future or sell to wholesale customers in various RTOs
Value of interests in existing 161 kV line transferring to ATXI and MJMEUC	

- Q. Did Staff inquire as to the basis of the conclusory statements of benefit contained in ATXI witness Black's testimony and the Application?
- A. Yes, however, as discussed below, little if any additional information was provided in the responses to Staff's data requests, and the materials provided do not improve the reliability of the conclusory statements referenced above.

ATXI's Modeling of The Ameren Missouri MISO Pricing Zone Cost/Benefit

- Q. At page 30-31 of his testimony, ATXI witness Black generally describes that ATXI conducted a net benefit analysis for an abandoned design of the Project that assumed a significant increase in NMMLP load that is no longer expected to materialize. The Net Present Value (NPV) of that analysis indicated that over the life of the form of the Project studied, and under the load conditions assumed, "the customer savings exceeded the costs." He then states that the formerly-studied Project design was revised, and load assumptions were updated, and that the study was updated indicating that the design in the Application under the revised load assumptions "still addressed New Madrid's and SBMU's energy needs while eventually producing net benefits for the AMMO Pricing Zone." What level of costs and benefits are generated under the revised ATXI model?
- A. ATXI failed to provide this model as a workpaper, however Staff obtained it in response to Data Request (DR) No. 0001, which was updated with a supplemental response on 3/11/2022 for the model that was described in the Supplemental Direct Testimony of ATXI witness Black. The inputs to this model were provided in response to Staff DR No. 0001.1. However, the values provided in that response do not include those values provided in response to Staff DR No. 0013, which requested, "Please provide the assumed annual expenses, by type,

and by responsible entity, for the life of the Project, by Project component. RESPONSE
"ATXI's annual expenses for the proposed Comstock substation are projected to be
approximately \$23,000 per year. This includes the cost to inspect, operate, and maintain the site
and all substation equipment and for routine switching. Under the O&M Agreement, SBMU is
responsible for inspection, operation, and maintenance of the Area Connections, Existing Line,
and New Line. ATXI has been unable to obtain from SBMU an estimate of annual O&M
expenses for these facilities. A consultant for SMBU has, however, indicated that SBMU's
expenses for these facilities should be similar to expenses incurred by Ameren on other similar
facilities. Using Ameren's experience as a proxy, we would expect annual O&M expenses on
the line facilities to be roughly \$45,000 per year."
Q. Has Staff prepared an updated summary of the content of the Supplemental

- Q. Has Staff prepared an updated summary of the content of the Supplemental Direct Testimony of ATXI witness Black at pages 3-4, which incorporates these additional revenue requirement components?
- A. Yes. Modifying Mr. Black's testimony to incorporate those omitted amounts results in the following:

Specifically, assuming 5 MW of additional load, Year 67 (20292030) will be the first positive year, as opposed to Year 9 (2032) under ATXI's original NPV analysis, and generates net positive revenues in Year 1318 (20362041), as opposed to Year 22 (2045) under the original analysis. Assuming 10 MW of additional load, Year 34 (20262027) will be the first positive year and generates positive revenues in Year 68 (20292031).

The adjusted revised ATXI model projects ** * in additional revenue requirement to the Ameren Missouri Miso Zone through 2052, with a projected increase in revenues from existing and new New Madrid load of ** * during that time.

1	These projections are too attenuated to suggest that approval of the Project is an
2	economically feasible undertaking for Ameren Missouri's MISO Zone. Further, the 25 year
3	NPV under ATXI's most optimistic estimate is ** **, with only a 25 year NPV of
4	** resulting from the less speculative of the scenarios, adjusted to include
5	ATXI's projected operating cost estimates. ⁹
6	Q. Did Staff inquire as to the potential economic benefits and costs to the other
7	entities discussed, and for the individual project components?
8	A. Yes. Staff DR No. 0009 requested,
9 10 11 12 13 14 15 16 17 18 19	Please reference the testimony at page 12 of Sean Black's testimony that 'the Project that the parties ultimately selected was the most cost-effective and efficient way to address all of the stakeholders interests,' and provide the cost benefit analysis of each aspect of the Project in isolation, and in combination with Project components eliminated [ie (a) construction of the Comstock Substation, (b) construction and modification of the six transmission lines adjacent to the new Comstock substation, (c) construction of an approximately 1.2 mile long single circuit 161 kV transmission line, (d) ATXI's acquisition of a 12.75% interest in the existing 28 mile 161 kV line owned by SBMU].
20	ATXI's response was that,
21 22 23	ATXI objects to this request to the extent it calls for new analyses or assumes the existence of analyses not created or maintained by ATXI in the regular course of its business. Subject to and without waiving that
	9 Under the first model, assuming perfect ratemaking, a cumulative detriment is experienced until ** **. Based on ATXI's modeling, while the Project is projected to introduce ** ** total additional revenues to Ameren Missouri's MISO Zone over the next ** ** years, it will increase the revenue requirement of Ameren Missouri's MISO Zone by ** ** over the next ** **. Assuming perfect ratemaking and the

reasonableness and accuracy of the underlying assumptions, the cumulative benefits to existing load in Ameren

Missouri's MISO Pricing Zone will begin to exceed the cumulative detriment in the year ** **; however, considering the Net Present Value of the cumulative detriments/benefits, and perfect ratemaking, no net benefit is projected to be experienced by existing load in Ameren Missouri's MISO Pricing Zone until the year ** **.

1 objection, ATXI responds as follows. As indicated in ATXI's response 2 3 4 5 6 7 8 9 10 11 12 13 14 15

to MPSC 0007, although ATXI broke out the various components of the Project in its Application in order to describe them better and more clearly, the Project is one holistic proposal. As such, no specific cost benefit analysis of each aspect of the Project in isolation exists, as ATXI understands this request. With respect to the Project as a whole, however, the alternate solution that ATXI could have pursued (without Sikeston's participation) to provide transmission service to the City of New Madrid would have been to construct a greenfield Comstock Substation (but having a smaller configuration) in close proximity to the existing Sikeston-SPA Substation and construction of a new, greenfield 161 kV transmission line running from the Comstock Substation to the New Madrid North Primary Substation. While ATXI did not develop an estimated cost for this option, a new substation and transmission line of that size and length would have cost far more than the proposed solution.

Staff DR No. 0007 requested that ATXI "Please describe how the acquisition and retention of ownership interests in the Project by ATXI of assets that are currently in existence is in the public interest, is needed, and is economically feasible."

ATXI's response was,

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ATXI understands this data request to refer the existing line component of the proposed Project. Specifically, ATXI will acquire a 12.75% undivided interest in an existing approximately 28-mile 161 kV transmission line that extends south from SWPA's Sikeston substation and terminates at AECI's New Madrid substation and that is currently owned by SBMU. (Please see, e.g., Application, Para. 11.d.) ATXI's acquisition and retention of that ownership interest is in the public interest and is needed because the acquisition is an integral and interdependent component of the overall Project. Although ATXI broke out the various components of the Project in its Application in order to better and more clearly describe them, the Project is one holistic proposal. ATXI's interest in the line, along with the other Project components, will provide New Madrid the direct connection to MISO that New Madrid desires to ensure an adequate and economic energy supply and transmission pathway to meet the City's needs and attract economic development to the City. SBMU retaining the majority interest

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in the line promotes continued interconnectivity with AECI, in furtherance of SBMU's goals (see ATXI's response to MPSC 0006). Additionally, ATXI's retention of a partial ownership interest in the existing southern-extending line will promote both system and regional benefits. It makes possible future expansion of Ameren's existing system, which could improve system reliability in the region; allow Ameren to directly serve customers in Hayti/Portageville; and extend the MISO border into Missouri, putting Ameren one step closer to direct interconnection for certain customers in the region. For more information on these benefits, please see ATXI's responses to MPSC 0008 and 0012 (Confidential). 2 ATXI's acquisition and retention of a partial ownership interest in the existing line is economically feasible as that partial acquisition—as an integral component of the overall Project—is the most cost-effective way to simultaneously address the various Project parties' energy needs in a manner that will provide net future benefits to customers in the AMMO Pricing Zone and promote future system and regional benefits, as explained, all at a cost that ATXI is capable of financing without negative financial implications for the Company. (Please see ATXI Ex. 1.0 (Black Direct) at 24-29.)

- Q. Did these responses include information that reasonably indicates that the Project is economically feasible from the perspective of any entity?
- A. No. The models provided in response to the first Staff DR projects benefits so remote and minimal, and devoid of inputs and context, such that it does not reliably project economic feasibility. The responses to DR Nos. 0007 and 0009 failed to produce meaningful information or analysis supporting the economic feasibility of the Project as a whole or by component, for any particular entity.

Potential New Madrid Load Growth

Q. Did Staff inquire as to the likelihood of load growth in New Madrid that would, as described by ATXI, improve the economic feasibility of the Project?

A. Yes. Staff's DR No. 0003 to ATXI requested,

Please reference the representation at page 3 of the Application in this matter stating that 'The City of New Madrid has been actively exploring opportunities that would drive economic development to the city and provide the associated benefits to its residents.' (a) Please describe all such opportunities currently under exploration. (b) Please describe all such opportunities that have been explored in the last five years, and describe the status of each as of first quarter 2022.

ATXI's response was,

ATXI objects to this request to the extent it asks for information beyond ATXI's possession, custody, or control. Subject to and without waiving that objection, ATXI responds as follows. ATXI understands that data request 0002 to the Missouri Joint Municipal Electric Utility Commission (MJMEUC) requests similar information from that party. ATXI respectfully refers Staff to MJMEUC's response to that data request, which ATXI understands is forthcoming. ATXI lacks information beyond the statement made in its Application; ATXI is generally aware that the City of New Madrid is actively exploring economic development opportunities.

MJMEUC's response to the same question in DR No. 0002 was an unconditioned objection,

The Missouri Joint Municipal Electric Utility Commission ("MJMEUC") does not retain documents or data related to economic development of its members. To the extent an objection is required in order to prevent MJMEUC from being compelled to respond to this data request ("DR") as framed, MJMEUC objects to this DR on the bases that it: is vague, overly broad, and unduly burdensome; seeks information that is beyond MJMEUC's possession, custody, and/or control; is not proportional to the needs of the case considering the totality of the circumstances; that the requesting party already possesses this information; and seeks information that is not relevant or reasonably calculated to lead to the discovery of admissible evidence in this proceeding. MJMEUC would note that the requesting party (State of Missouri) likely possesses this information through their Department of Economic Development.

1 On February 22, 2022, MJMEUC further responded that, 2 MJMEUC's understanding is generally consistent with ATXI's per 3 ATXI's representation in its Application: the City of New Madrid has been, and is currently, exploring economic development opportunities. 4 5 Beyond that, MJMEUC does not retain documents or data related to the 6 economic development of its members, but respectfully refers Staff to 7 the Missouri Department of Economic Development, which office may 8 have additional, nonpublic information regarding New Madrid's recent 9 economic pursuits. 10 Staff requested, in Staff DR No. 0005, that ATXI "Please clarify the status of the 11 anticipated construction of a large steel mill within New Madrid's municipal boundaries as 12 referenced at page 6 of the testimony of Sean Black." 13 ATXI's response was, 14 ATXI objects to this request to the extent it asks for information beyond 15 ATXI's possession, custody, or control. Subject to and without waiving 16 that objection, ATXI responds as follows. ATXI understands that, as a 17 result of complications due to the COVID-19 pandemic, the developer 18 of the steel mill lost its financing late in the process. Please see ATXI 19 Exhibit 1.0 (Black Direct) at 17, ll. 19-20. It is ATXI's understanding 20 that due to the circumstances of the COVID-19 pandemic, the steel mill 21 project is indefinitely on hold. 22 Staff also requested, in Staff DR No. 0011, to MJMEUC, 23 Please: 1. Explain, in as much detail as possible, why the City of New 24 Madrid needs this project. 2. Explain, in a much detail as possible, how 25 this project affects any contract(s) that the City of New Madrid has entered into or the City of New Madrid is expected to enter into. 26 27 MJMEUC's response was a conditioned objection, stating: 28 Missouri Municipal Electric The Joint Utility Commission 29 ("MJMEUC") does not generally retain documents or data related to the 30 City of New Madrid or its electrical system. To the extent an objection

is required in order to prevent MJMEUC from being compelled to respond to this data request ("DR") as framed, MJMEUC objects to this DR on the bases that it: is vague, overly broad, and unduly burdensome; seeks information that is beyond MJMEUC's possession, custody, and/or control; is not proportional to the needs of the case considering the totality of the circumstances; that the requesting party already possesses this information; and seeks information that is not relevant or reasonably calculated to lead to the discovery of admissible evidence in this proceeding. Notwithstanding said objection, MJMEUC will attempt to respond to this DR to the best of its ability.

The response received 2/22/2022 stated,

1) The City of New Madrid ("City") is currently served by two (2) 69kV distribution lines owned by the City that are connected to the Southwestern Power Administration (SWPA) substation at the City. That substation connection is at a 161/69kV transformer that serves both of the City distribution lines and the cooperative system. The limits on the transformer and the City connections to the SWPA substation limits both the load growth and reliability of the City for serving both current and future loads. The addition of the project including the direct 161kV connection to MISO facilities enhances City reliability, and would allow for significant load growth within the city. It will additionally allow more diverse, and lower costs, options for supply. 2) The City has entered into supply contracts sourced from MISO resources in addition to existing SWPA resources. This resource mix, along with the addition of the transmission project, will provide lower cost and greater reliability to the City.

However, on March 1, 2022 ATXI informed Staff that new load was expected in New Madrid. In the Supplemental testimony of ATXI witness Black at page 2 ATXI relayed that a "February 18, 2022 Missouri Department of Economic Development release titled "Circular SynTech to expand in New Madrid, investing more than \$91 million and creating 45 new jobs" indicates that Circular SynTech, LLC (CST) is expanding to New Madrid and

will invest up to \$91.4 million to construct a new, 200-acre campus that will convert municipal

- solid waste and construction and demolition debris into valuable renewable chemicals.

 According to the release, the facility is expected to begin operations before the end of 2022...."
 - Q. Will accommodation of significant additional load in the New Madrid area require additional infrastructure which may be allocable in whole or in part to Ameren Missouri's MISO Zone?
 - A. Yes.

Furtherance of SMBU's Energy Export Goals

- Q. Did Staff inquire as to the nature and economic potential of SBMU's energy export goals that would, as described by ATXI, improve the economic feasibility of the Project if furthered?
- A. Yes. Staff DR No. 0006 requested that ATXI "Please describe SBMU's energy export goals as referenced at page 6 of the testimony of Sean Black."
 - ATXI's response was,

ATXI objects to this request to the extent it asks for information beyond ATXI's possession, custody, or control. Subject to and without waiving that objection, ATXI responds as follows. Based upon discussions with SBMU, ATXI believes that SBMU wishes to remain directly connected with MISO, SPP and AECI in order to continue providing power to its current wholesale customers at a competitive price. In addition, SBMU has indicated that it continues to seek new opportunities in the three market areas to sell power and energy. These sales of power and energy from the Sikeston-owned generator helps SBMU keep the cost of service to its own retail customers at a reasonable level and provides an additional competitive option to entities within the aforementioned markets. The Project will help allow SBMU to meet these goals.

Staff also requested, in Staff DR No. 0010, to MJMEUC,

Please: 1. Explain, in as much detail as possible, why the city of Sikeston and/or SBMU needs this project. 2. Explain how this project affects the City of Sikeston and/or SBMU's Transmission Service Agreements. 3. Explain how this project affects the City of Sikeston and/or SBMU's other Agreements. 4. Explain the City of Sikeston and/or SBMU's export goals as referenced in Sean Black's direct testimony. 5. Explain how this project impacts the City of Sikeston and/or SBMU's export goals.

MJMEUC's response was a conditioned objection, stating:

The Missouri Joint Municipal Electric Utility Commission ("MJMEUC") does not retain documents or data related to the City of Sikeston's and/or SBMU's system planning. To the extent an objection is required in order to prevent MJMEUC from being compelled to respond to this data request ("DR") as framed, MJMEUC objects to this DR on the bases that it: is vague, overly broad, and unduly burdensome; seeks information that is beyond MJMEUC's possession, custody, and/or control; is not proportional to the needs of the case considering the totality of the circumstances; that the requesting party already possesses this information; and seeks information that is not relevant or reasonably calculated to lead to the discovery of admissible evidence in this proceeding. Notwithstanding said objection, MJMEUC will attempt to respond to this DR to the best of its ability.

On 2/22/2022, MJMEUC responded,

1) Based on discussions with SBMU it is MJMEUC's understanding that SBMU currently serves its retail and wholesale customers through a Grandfathered Agreement with Southwest Power Administration (SWPA). This grandfathered agreement terminates in 2023 and cannot be extended. Once the agreement terminates SBMU will be required to take transmission service through SPP to serve its retail load from its own generation even though it is only using a short piece of bus work in the SWPA Sikeston substation. This would force SBMU to increase the rates to its retail customers. In addition, SBMU's wholesale customers in MISO and Associated Electric Cooperative (AECI) would

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see an increase in the delivery of their energy for the same reason. The project will provide SBMU with its own facilities which connect its generation to its own retail load allowing it to serve this load without incurring an external transmission service charge. The project provides SBMU with direct interconnections to MISO, SPP and AECI allowing it to continue to receive its allocation of federal power from SWPA and to deliver wholesale power from its generator to its wholesale customers without the customer incurring pancaked rates. Since the project maintains SBMU's connections to MISO, SPP and AECI, it also preserves SBMU's ability to join the RTO of its choice in the future. 2) As explained above, MJMEUC understands that SBMU's current transmission Service Agreement terminates in 2023 and this project allows it to maintain a status quo by re-establishing a direct connection between its owned generation and its retail load. SBMU's federal allocation will continue to be delivered through its interconnection with SWPA. 3) Please see above answers. 4) Based upon discussions with SBMU, MJMEUC understands that SBMU must remain directly connected with MISO, SPP and AECI in order to continue providing power to its current wholesale customers at a competitive price. In addition, SBMU has indicated that it continues to seek new opportunities in the three market areas to sell power and energy. MJMEUC believes these sales of power and energy from the Sikeston owned generator helps SBMU keep the cost of service to its own retail customers at a reasonable cost and provides an additional competitive option to entities within the markets. The Project will allow SBMU to meet these goals. 5) See answer '4' above. [Emphasis added.]

- Q. Did these responses include information that reasonably indicates that the extant modeled economic feasibility of the Project is likely to improve due to furtherance of the "business goals" of SBMU?
- A. No. Based on these responses, Staff has no reason to conclude that SBMU's business goals might improve the modeled economic feasibility of the Project. Note that attainment of the benefits described in ATXI's response to Staff DR No. 0006 will require additional infrastructure, as described by ATXI witness Black in footnote 3 of his initially-filed

- testimony, and further discussed in the Supplemental Direct Testimony of ATXI witness Black at page 7.
 - Q. Do certain economic benefits relied upon to support this Application undercut the theories of economic feasibility relied upon by ATXI in the testimony of ATXI witness Black.
 - A. Yes. ATXI witness Black's evidence of economic feasibility for the Project is that additional investment will enable additional participation in the Ameren Missouri MISO Pricing Zone cost share, which may produce a net decrease, eventually in the net Ameren Missouri MISO Pricing Zone revenue requirement for existing zonal load. However, as alluded to in ATXI witness Black's footnote 3, and stated explicitly in MJMEUC's response to Staff DR No. 0010, one of the goals of the Project is the opportunity to avoid payments to the SPP, which would reduce the net revenue requirement for Missouri utilities that participate in the SPP, associated with infrastructure that already exists. Thus, absent the Project, customers served by SPP load-serving entities would experience a benefit, with no cost increases.

<u>Potential Benefits for Ameren Missouri Hayti and Portageville Customers and the MISO System</u>

- Q. Did Staff inquire as to how the Project, as described by ATXI, would improve the economic feasibility of the Project by improving service to Ameren Missouri's Hayti and Portageville customers, or by increasing the contract path between the MISO North and South Regions?
- A. Yes. Staff DR No. 0008 requested that ATXI "Please reference the testimony at page 10 of Sean Black's testimony that 'Project positions ATXI and/or Ameren Missouri well for potential future expansions of the existing system, which could improve system

reliability and allow Ameren Missouri to directly serve retail customers located in the Hayti / Portageville area, as well as improve system reliability to all customers in the region.' (a) Please further describe what system reliability improvement for Ameren Missouri retail customers in the Hayti/Portageville area is facilitated by each aspect of the Project, [ie (a) construction of the Comstock Substation, (b) construction and modification of the six transmission lines adjacent to the new Comstock substation, (c) construction of an approximately 1.2 mile long single circuit 161 kV transmission line, (d) ATXI's acquisition of a 12.75% interest in the existing 28 mile 161 kV line owned by SBMU], separately. (b) Please describe what system reliability improvements for Ameren Missouri retail customers in the Hayti/Portageville areas is necessary or anticipated to be necessary, including a description of timelines and assumptions. (c) For each improvement identified in response to part b, please explain how each aspect of the project better facilitates each potential improvement."

ATXI's response was "(a) – (c) As explained in ATXI's response to MPSC 0007, although ATXI broke out the various components of the Project in its Application in order to describe them better and more clearly, the Project is one holistic proposal. With the possible exception of items (c) and (d) above [construction of an approximately 1.2 mile long single circuit 161 kV transmission line and ATXI's acquisition of a 12.75% interest in the existing 28 mile 161 kV line owned by SBMU], the other components in which ATXI will have an interest – along with the option ATXI obtained from Sikeston to rebuild the existing line in the future should system needs require it (please see ATXI 2 Ex. 1.0 (Black Direct) at 22, n.6 (Confidential)) – places Ameren-owned transmission lines closer to the customers it serves in Hayti and Portageville, MO. This pathway could be extended to Hayti and Portageville customers directly, creating multiple service paths and increasing reliability through

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redundancy. A direct transmission connection would also allow for the elimination of over \$2 million of annual transmission service charges paid by Ameren Missouri for using Entergy's transmission lines to serve those customers. Finally, increased MISO N-S tie capacity could lower overall energy cost and reduce capacity requirements in the MISO footprint. For further discussion, please see ATXI's response to MPSC 0012 (Confidential)."

Note, that Ameren Missouri usage of an ATXI-owned transmission path would also be subject to transmission service charges recoverable by ATXI.

Staff DR No. 0012 requested,

ATXI's witness Sean Black states in Direct 'A future expansion could also create an additional contract path between the North and South regions of MISO, which could reduce payments under the Joint Operating Agreement in place between MISO and SPP, in turn benefitting the retail customers of Ameren Missouri, as well as any other retail or wholesale customers served by the MISO transmission system. And, finally, the Project effectively extends the current MISO "border" further south into Missouri, which may help create further system and economic benefits in the future, again benefitting the region generally. In addition to potential benefits to load, an example of these other system expansion benefits and opportunities includes an expanded ability to integrate renewable generation into the MISO market.' (Pg. 11 lines 1-9) 1. Please explain, in detail, what future expansion Mr. Black referencing. 2. Please explain, in detail, how this project help create system benefits in the future. Please include any other project that may be necessary.

ATXI's response is confidential in its entirety, and included in the Rebuttal testimony of Staff Expert Witness Shawn E. Lange, PE.

Conclusion

- Q. If significant additional load beyond that discussed in the Supplemental Direct testimony of ATXI witness Black materializes in New Madrid, or if SBMU builds additional plant, or if Ameren Missouri desires to build additional plant in Southeast Missouri and this infrastructure is ultimately constructed, could the economic feasibility analysis of the Project components for which this Application has been submitted change?
- A. Yes. Project cost/benefit analysis is fluid based on the assumptions and rate making conditions. The scope of which entities' costs and benefits are considered also impacts Project results. For example, \$1 million of the increase to the rate base in the Ameren Missouri's MISO Zone revenue requirement is related to the acquisition of rights to an existing SBMU facility. That cost to Ameren Missouri's MISO Zone is a benefit to SBMU. Similarly, the additional Ameren Missouri MISO Zone revenues that create the "benefit" to existing Ameren Missouri MISO Zone customers is a cost to those new customers. On the balance, Ameren Missouri's MISO Zone will have a higher revenue requirement, and Ameren Missouri's MISO Zone customers will pay it there will simply be more of them, under the Project as currently configured.
- Q. Could you summarize the Staff's position on ATXI's financial ability with regard to the Project?
- A. Staff has no reason to doubt the financial ability of ATXI to undertake this project.
 - Q. Could you summarize the Staff's position on the Project's economic feasibility?
- A. ATXI is anticipated to be fully compensated for its investment, and the Project is therefore economically feasible in that the expected benefits of the investment justify the cost

of the investment from the perspective of the Applicant, ATXI.¹⁰ While it is not clear that the Commission has the authority in this case to order that Ameren Missouri customers be held harmless from any negative consequences of the Project, in that ATXI has held out purported benefits to Ameren Missouri as justification for the Project and as its evidence of the economic feasibility of the Project, Staff recommends that the Commission in future cases hold Ameren Missouri customers harmless from any negative impacts of the Project as-applied for, and as possible with the construction of the additional components referenced in ATXI's Application and testimonies attached as exhibits there-to. This is consistent with the position Ameren Missouri would be expected to take were they a party to this case and were this an arms-length transaction among all parties for whom ATXI has offered testimony indicating a benefit will accrue.

Q Does this conclude your rebuttal testimony?

A. Yes.

¹⁰ ATXI is the sole Applicant in this case, although the Application includes a request for authority for MJMEUC, SBMU, and NMMLP to own and operate plant. Further, the Application does not include all facilities that will be necessary to attain the economic and system benefits discussed in the Application. The testimony provided by ATXI witness Black largely discusses economic and system benefits that may accrue to MJMEUC, SBMU, NMMLP, and Ameren Missouri, although it does not provide the full costs necessary to achieve those benefits. Further, the Application and associated testimonies are largely silent as to the economic harm and/or avoided benefits that the Project may occasion with SWPA and SPP and the customers of those entities. The docket does not reflect the positions of Ameren Missouri, SWPA, or SPP, and the positions of MJMEUC, SBMU, and NMMLP are provided by ATXI witnesses.

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of the Application of Ameren Transmission Company of Illinois for a Certificate of Convenience and Necessity Under Section 393.170 RSMo Relating to Transmission Investments in Southeast Missouri) File No. EA-2022-0099))
AFFIDAVIT OF SARA	AH L.K. LANGE
STATE OF MISSOURI)	
COUNTY OF COLE) ss.	
COMES NOW SARAH L.K. LANGE and or	n her oath declares that she is of sound mind
and lawful age; that she contributed to the foregoing	Rebuttal Testimony of Sarah L.K. Lange; and
that the same is true and correct according to her bes	st knowledge and belief.
Further the Affiant sayeth not. SARA	HL.K. LANGE
JURA	Γ
Subscribed and sworn before me, a duly constit	uted and authorized Notary Public, in and for
the County of Cole, State of Missouri, at my office of2022.	in Jefferson City, on this 6th day
DIANNA L. VAUGHT Notary Public - Notary Seal State of Missouri Commissioned for Cole County My Commission Expires: July 18, 2023 Commission Number: 15207377	Notary Public

Sarah L.K. Lange

I received my J.D. from the University of Missouri, Columbia, in 2007, and am licensed to practice law in the State of Missouri. I received my B.S. in Historic Preservation from Southeast Missouri State University, and took courses in architecture and literature at Drury University. Since beginning my employment with the MoPSC I have taken courses in economics through Columbia College and courses in energy transmission through Bismarck State College, and have attended various trainings and seminars, indicated below.

I began my employment with the Commission in May 2006 as an intern in what was then known as the General Counsel's Office. I was hired as a Legal Counsel in September 2007, and was promoted to Associate Counsel in 2009, and Senior Counsel in 2011. During that time my duties consisted of leading major rate case litigation and settlement, and presenting Staff's position to the Commission, and providing legal advice and assistance primarily in the areas of depreciation, cost of service, class cost of service, rate design, tariff issues, resource planning, accounting authority orders, construction audits, rulemakings and workshops, fuel adjustment clauses, document management and retention, and customer complaints.

In July 2013 I was hired as a Regulatory Economist III in what is now known as the Tariff / Rate Design Department. In this position my duties include providing analysis and recommendations in the areas of RTO and ISO transmission, rate design, class cost of service, tariff compliance and design, and regulatory adjustment mechanisms and tariff design. I also continue to provide legal advice and assistance regarding generating station and environmental control construction audits and electric utility regulatory depreciation. I have also participated before the Commission under the name Sarah L. Kliethermes.

Presentations

Midwest Energy Policy Series – Impact of ToU Rates on Energy Efficiency (August 14, 2020) Billing Determinants Lunch and Learn (March 27, 2019)

Support for Low Income and Income Eligible Customers, Cost-Reflective Tariff Training, in cooperation with U.S.A.I.D. and NARUC, Addis Ababa, Ethiopia (February 23-26, 2016)

Fundamentals of Ratemaking at the MoPSC (October 8, 2014)

Ratemaking Basics (Sept. 14, 2012)

Participant in Missouri's Comprehensive Statewide Energy Plan working group on Energy Pricing and Rate Setting Processes.

Relevant Trainings and Seminars

Regional Training on Integrated Distribution System Planning for Midwest/MISO Region (October 13-15, 2020)

"Fundamentals of Utility Law" Scott Hempling lecture series (January – April, 2019)

Today's U.S. Electric Power Industry, the Smart Grid, ISO Markets & Wholesale Power Transactions (July 29-30, 2014)

MISO Markets & Settlements training for OMS and ERSC Commissioners & Staff (January 27–28, 2014)

Validating Settlement Charges in New SPP Integrated Marketplace (July 22, 2013)

PSC Transmission Training (May 14 – 16, 2013)

Grid School (March 4–7, 2013)

Specialized Technical Training - Electric Transmission (April 18–19, 2012)

The New Energy Markets: Technologies, Differentials and Dependencies (June 16, 2011)

Mid-American Regulatory Conference Annual Meeting (June 5–8, 2011)

Renewable Energy Finance Forum (Sept. 29–Oct 3, 2010)

Utility Basics (Oct. 14–19, 2007)

Testimony and Staff Memoranda

Company	Case No.
The Empire District Electric Company d/b/a Liberty	ER-2021-0312
In the Matter of the Request of The Empire District Electric Company	
Authority to File Tariffs Increasing Rates for Electric Service Provided to Customers in	
its Missouri Service Area	
Union Electric Company d/b/a Ameren Missouri	ER-2021-0240
In the Matter of Union Electric Company d/b/a Ameren Missouri's Ta	
Revenues for Electric Service	iiiis to Majust its
Trevendes for Electric Service	
Ameren Transmission Company of Illinois	EA-2021-0087
In the Matter of the Application of Ameren Transmission Company of Illinois for a	
Certificate of Public Convenience and Necessity to Construct, Install, Own, Operate,	
Maintain, and Otherwise Control and Manage a 138 kV Transmission Line and associate	
facilities in Perry and Cape Girardeau Counties, Missouri	

Company Case No. Evergy Affiliates ET-2021-0151 In the Matter of the Application of Evergy Metro, Inc. d/b/a Evergy Missouri Metro and Evergy Missouri West, Inc. d/b/a Evergy Missouri West for Approval of a Transportation Electrification Portfolio Spire Missouri, Inc. GR-2021-0108 In the Matter of Spire Missouri Inc.'s d/b/a Spire Request for Authority to Implement a General Rate Increase for Natural Gas Service Provided in the Company's Missouri Service Areas Union Electric Company d/b/a Ameren Missouri ET-2021-0082 In the Matter of the Request of Union Electric Company d/b/a Ameren for Approval of its Surge Protection Program Union Electric Company d/b/a Ameren Missouri GT-2021-0055 In the Matter of the Request of Union Electric Company d/b/a Ameren Missouri to Implement the Delivery Charge Adjustment for the 1st Accumulation Period beginning September 1, 2019 and ending August 31, 2020 The Empire District Electric Company ET-2020-0390 In the Matter of The Empire District Electric Company's Tariffs Approval of a Transportation Electrification Portfolio for Electric Customers in its Missouri Service Area The Empire District Electric Company ER-2019-0374 In the Matter of The Empire District Electric Company's Tariffs to Increase Its Revenues for Electric Service Union Electric Company d/b/a Ameren Missouri ER-2019-0335 In the Matter of of Union Electric Company d/b/a Ameren Missouri's Tariffs to Decrease Its Revenues for Electric Service KCP&L Greater Missouri Operations Company ER-2019-0413 In the Matter of KCP&L Greater Missouri Operations Company Request for Authority to Implement Rate Adjustments Required by 4 CSR 240-20.090(8) And the Company's Approved Fuel and Purchased Power Cost Recovery Mechanism Union Electric Company d/b/a Ameren Missouri GR-2019-0077 In the Matter of of Union Electric Company d/b/a Ameren Missouri's Tariffs to Increase Its Revenues for Natural Gas Service

Company Case No. Union Electric Company d/b/a Ameren Missouri ET-2019-0149 In the Matter of the Application of Union Electric Company d/b/a Ameren Missouri **Revised Tariff Sheets** The Empire District Electric Company ET-2019-0029 In the Matter of The Empire District Electric Company's Revised Economic Development Rider Tariff Sheets The Empire District Electric Company ER-2018-0366 In the Matter of a Proceeding Under Section 393.137 (SB 564) to Adjust the Electric Rates of The Empire District Electric Company Union Electric Company d/b/a Ameren Missouri EA-2018-0202 In the Matter of the Application of Union Electric Company d/b/a Ameren Missouri for Permission and Approval and a Certificate of Public Convenience and Necessity Authorizing it to Construct a Wind Generation Facility Kansas City Power & Light Company ER-2018-0145 KCP&L Greater Missouri Operations Company ER-2018-0146 In the Matter of Kansas City Power & Light Company's Request for Authority to Implement a General Rate Increase for Electric Service Union Electric Company d/b/a Ameren Missouri ET-2018-0132 In the Matter of the Application of Union Electric Company d/b/a Ameren Missouri for Approval of Efficient Electrification Program Union Electric Company d/b/a Ameren Missouri ET-2018-0063 In the Matter of the Application of Union Electric Company d/b/a Ameren Missouri for Approval of 2017 Green Tariff Laclede Gas Company GR-2017-0215 Laclede Gas Company d/b/a Missouri Gas Energy GR-2017-0216 In the Matter of Laclede Gas Company's Request to Increase Its Revenue for Gas Service, In the Matter of Laclede Gas Company d/b/a Missouri Gas Energy's Request to Increase Its Revenue for Gas Service. ER-2017-0316 Kansas City Power & Light Company In the Matter of Kansas City Power & Light Company's Demand Side Investment Rider Rate Adjustment And True-Up Required by 4 CSR 240-3.163(8) Kansas City Power & Light Company ER-2017-0167 In the Matter of Kansas City Power & Light Company's Demand Side Investment Rider Rate Adjustment And True-Up Required by 4 CSR 240-3.163(8)

Company Case No. KCP&L Great Missouri Operations Company ET-2017-0097 In the Matter of KCP&L Greater Missouri Operations Company's Annual RESRAM Tariff Filing Grain Belt Express Clean Line, LLC EA-2016-0358 In the Matter of the Application of Grain Belt Express Clean Line LLC for a Certificate of Convenience and Necessity Authorizing It to Construct, Own, Operate, Control, Manage, and Maintain a High Voltage, Direct Current Transmission Line and an Associated Converter Station Providing an Interconnection on the Maywood -Montgomery 345 kV Transmission Line Kansas City Power & Light Company ER-2016-0325 In the Matter of Kansas City Power & Light Company's Demand Side Investment Rider Rate Adjustment And True-Up Required by 4 CSR 240-3.163(8) Kansas City Power & Light Company ER-2016-0285 In the Matter of Kansas City Power & Light Company's Request for Authority to Implement A General Rate Increase for Electric Service Union Electric Company d/b/a Ameren Missouri EA-2016-0207 In the Matter of Union Electric Company d/b/a Ameren Missouri for Permission and Approval and a Certificate of Public Convenience and Necessity Authorizing it to Offer a Pilot Subscriber Solar Program and File Associated Tariff Union Electric Company d/b/a Ameren Missouri ER-2016-0179 In the Matter of Union Electric Company d/b/a Ameren Missouri's Tariff to Increase Its Revenues for Electric Service ER-2016-0156 KCP&L Great Missouri Operations Company In the Matter of KCP&L Greater Missouri Operations Company's Request for Authority to Implement a General Rate Increase for Electric Service **Empire District Electric Company** ER-2016-0023 In the Matter of The Empire District Electric Company's Request for Authority to Implement a General Rate Increase for Electric Service EA-2015-0146 Ameren Transmission Company of Illinois In the Matter of the Application of Ameren Transmission Company of Illinois for Other Relief or, in the Alternative, a Certificate of Public Convenience and Necessity Authorizing it to Construct, Install, Own, Operate, Maintain and Otherwise Control and

Manage a 345,000-volt Electric Transmission Line from Palmyra, Missouri to the Iowa

Border and an Associated Substation Near Kirksville, Missouri

Company Case No. Ameren Transmission Company of Illinois EA-2015-0145 In the Matter of the Application of Ameren Transmission Company of Illinois for Other Relief or, in the Alternative, a Certificate of Public Convenience and Necessity Authorizing it to Construct, Install, Own, Operate, Maintain and Otherwise Control and Manage a 345,000-volt Electric Transmission Line in Marion County, Missouri and an Associated Switching Station Near Palmyra, Missouri Union Electric Company d/b/a Ameren Missouri EO-2015-0055 In the Matter of Union Electric Company d/b/a Ameren Missouri's 2nd Filing to Implement Regulatory Changes in Furtherance of Energy Efficiency as Allowed by MEEIA Kansas City Power & Light Company ER-2014-0370 In the Matter of Kansas City Power & Light Company's Request for Authority to Implement a General Rate Increase for Electric Service Empire District Electric Company ER-2014-0351 In the Matter of The Empire District Electric Company for Authority to File Tariffs Increasing Rates for Electric Service Provided to Customers in the Company's Missouri Service Area Union Electric Company d/b/a Ameren Missouri EC-2014-0316 City of O'Fallon, Missouri, and City of Ballwin, Missouri, Complainants v. Union Electric Company d/b/a Ameren Missouri, Respondent Union Electric Company d/b/a Ameren Missouri ER-2014-0258 In the Matter of Union Electric Company d/b/a Ameren Missouri's Tariff to Increase Its Revenues for Electric Service Union Electric Company d/b/a Ameren Missouri EC-2014-0224 Noranda Aluminum, Inc., et al., Complainants, v. Union Electric Company d/b/a Ameren Missouri, Respondent Grain Belt Express Clean Line, LLC EA-2014-0207 In the Matter of the Application of Grain Belt Express Clean Line LLC for a Certificate of Convenience and Necessity Authorizing It to Construct, Own, Operate, Control, Manage, and Maintain a High Voltage, Direct Current Transmission Line and an Associated Converter Station Providing an Interconnection on the Maywood -Montgomery 345 kV Transmission Line

In the Matter of KCP&L Greater Missouri Operations Company's Application for Authority to Establish a Renewable Energy Standard Rate Adjustment Mechanism

KCP&L Great Missouri Operations Company

EO-2014-0151

<u>Case No.</u>

Kansas City Power & Light Company

EO-2014-0095

In the Matter of Kansas City Power & Light Company's Filing for Approval of Demand-Side Programs and for Authority to Establish A Demand-Side Programs Investment Mechanism

Veolia Energy Kansas City, Inc.

HR-2014-0066

In the Matter of Veolia Energy Kansas City, Inc. for Authority to File Tariffs to Increase Rates