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Witness: *Michael L. Stahlman*
Sponsoring Party: *MoPSC Staff*
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MISSOURI PUBLIC SERVICE COMMISSION

INDUSTRY ANALYSIS DIVISION

TARIFF/RATE DESIGN DEPARTMENT

REBUTTAL TESTIMONY

OF

MICHAEL L. STAHLMAN

UNION ELECTRIC COMPANY,
d/b/a Ameren Missouri

CASE NO. EA-2022-0245

Jefferson City, Missouri
December 2022

*** Denotes Highly Confidential Information ***
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REBUTTAL TESTIMONY

OF

MICHAEL L. STAHLMAN

UNION ELECTRIC COMPANY,
d/b/a Ameren Missouri

CASE NO. EA-2022-0245

Q. Please state your name and business address.

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

Q. Please provide your credentials.

A. Please see Schedule MLS-r1.

Q. What is the purpose of your testimony?

A. I will discuss Ameren Missouri's proposed Renewable Solutions Program and the impact and public interest of the proposed Boomtown Solar Project in a regional transmission organization environment. I also discuss economic feasibility of the proposed project.

I. ECONOMIC FEASIBILITY

Q. How did Staff review the Economic Feasibility of the Certificates of Convenience and Necessity ("CCN")?

A. Staff considered the CCN from the perspective of the utility. For a utility, the feasibility is typically fairly certain since a proposed project is only a small portion of its current Missouri Public Service Commission regulated rate base or, in the case of a transmission project, has an Regional Transmission Organization's approval to be included in the zonal

revenue requirement. For the Boomtown Project, the proposed project would only be a small portion of Ameren Missouri's regulated rate base, thus in isolation, it is likely feasible.

II. IMPLICATIONS OF RTO PARTICIPATION

Q. Does Ameren Missouri participate in a regional transmission organization ("RTO")?

A. Yes. Ameren Missouri participates in the Mid-continent Independent System Operator ("MISO").

Q. If Ameren Missouri is granted the CCN for the Boomtown solar project, will Ameren Missouri ratepayers be served by cleaner generating resources?

A. Not necessarily. Due to Ameren Missouri's participation in MISO, the electricity needed to serve the load of its ratepayers is purchased through MISO markets regardless of the generation resource mix owned. MISO dispatches the generation throughout its footprint based upon a security constrained economic dispatch ("SCED")[1] model and a real-time SCED algorithm.[2,3] Subsequently, all of Ameren Missouri's generating units are bid into and dispatched by MISO markets based upon results of the SCED which account for the loads of the MISO footprint. In other words, Ameren Missouri's existing fossil-fuel resources will continue to be dispatched by the MISO SCED regardless of the addition of the Boomtown Solar project to the generation fleet.

[1] Security Constrained Economic Dispatch (SCED) is defined as: "An algorithm capable of clearing, dispatching, and pricing Energy, Operating Reserve, Up Ramp Capability, and Down Ramp Capability in a simultaneously co-optimized basis that minimizes Production Costs and Operating Reserve Costs while enforcing multiple security constraints. The algorithm keeps the commitment of Resources fixed in the dispatch."

[2] The Real-Time SCED Algorithm Provides Resource Dispatches that: Minimize production costs of already-online Resources that are needed to balance Load with Supply Procure Operating Reserves, while honoring all limitations, including transmission constraints, resource ramp/limit constraints, self-schedules, etc.

[3] KA-01112 (misoenergy.org)

Q. With those facts in mind, do you agree that Ameren Missouri is making a "sustained transition to renewable resources"?

A. No. More accurately, Ameren Missouri is diluting its existing fossil-fueled fleet through rate base additions of renewable resources. On a percentage basis, Ameren Missouri's generation fleet may give the appearance of being "greener", but the fossil-fueled resources will remain and continue to be dispatched.[4] Ameren Missouri's load will continue to be served by the generating resources of the various MISO participants which are dispatched through the SCED.

Q. Is the ability to be dispatched an important consideration when deciding to invest in an electric generating resource?

A. Yes. As discussed in Schedule MM-D2 of Ameren Missouri's witness Matt Michels testimony:[5]

> Regardless of such potential variations in the planning environment and expected outcomes, the reliability and flexibility benefits of firm, dispatchable resources are critical to ensuring reliable and affordable electric service. The next section discusses the Company's latest analysis of reliability needs and the relative benefits of different types of resources in the context of Ameren Missouri's system.
>
> As dispatchable coal and gas-fired resources continue to be retired and actual and expected additions of intermittent wind and solar resources continue to rise, it has become increasingly important in resource planning to conduct more rigorous analyses of expected system reliability.

An important distinction between renewable resources and the existing fossil-fueled generation in MISO is the ability to dispatch based upon market and system conditions. At this point in time, "the reliability and flexibility benefits of firm, dispatchable resources are critical to

[4] Ameren Missouri's Meramec units and Rush Island units will be retired in the near term. The retirement of the Meramec has been planned for years and the Rush Island retirement is required by the results of Rush Island New Source Review litigation.

[5] Page 13 of Schedule MM-D2 of Ameren Missouri witness Matt Michels direct testimony.

ensuring reliable and affordable electric service" which are not attributes associated with solar or wind resources on a stand-alone basis.

Q. Mr. Michels in his direct testimony discusses that the utility industry is trending toward more renewable generation additions and acceleration of fossil-fueled generation retirements.[6] Can you provide a high level overview of how those two trends working in concert may impact MISO market prices?

A. Yes. First, it is important to reiterate the importance of the inability of renewable generation resources to dispatch based upon market signals and system needs.[7] During periods of high MISO market prices and system reliability needs, renewables cannot be dispatched to meet the demand. Aside from the inability to dispatch, another aspect of renewable generation is the dependence on weather for energy production. Specifically for solar projects, generation drops off overnight and during periods when the sky is overcast. Inversely, when the sun is shining, production from solar facilities slowly ramps up in the morning hours, peaks when the sun is positioned optimally for the system, and then ramps back down until dark. The result of the inability to dispatch, and the dependence on weather, is that production of solar facilities in a geographic region will tend to ebb and flow with weather instead of market signals. With those two factors in mind, the high-level result of an increased renewable penetration in MISO along with accelerated retirements of dispatchable fossil-fuel plants is likely to result in increased price volatility, with periods of over-supply[8] of electricity during some periods and insufficient supply in others. The figures below are simple supply and demand curves and are

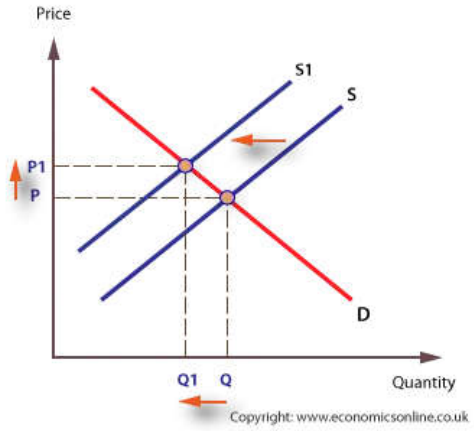
[6] Direct Testimony of Matt Michels, p. 8, ll. 21-23.

[7] Staff notes that some renewable resources are able to "dispatch down" meaning they can curtail or reduce generation during periods of negative market prices.

[8] At times the increase may result in excess energy production which can lead to negative market prices.

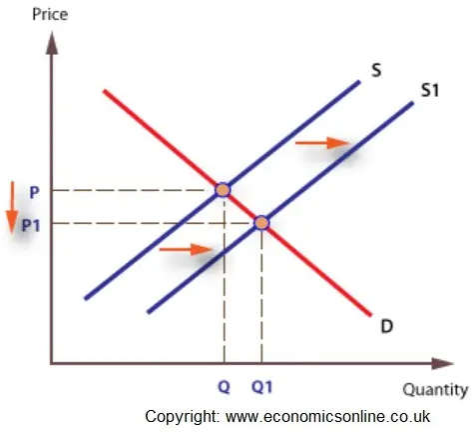
likely to be found in most Economics 101 courses which demonstrate the effect that these two changes can have on the market price in these two scenarios.[9]

Figure 1: Supply decrease[10]



As can be seen in Figure 1, as supply decreases and demand remains constant, similar to what may occur when more renewables added to the system and weather is not conducive to renewable generation, the market price increases, all else being equal. This cost increase would be reflected in the cost to serve the load of end-users.

Figure 2: Supply increase[11]



[9] Staff notes that the demand for electricity is much more inelastic than the curve shown in the figures. The figures are intended to be illustrative only.

[10] https://www.economicsonline.co.uk/competitive_markets/shifts_in_supply.html/

[11] https://www.economicsonline.co.uk/competitive_markets/shifts_in_supply.html/

Conversely, as can be seen in Figure 2, as supply increases and demand remains constant, similar to what may occur during periods of time that renewable generation is producing the most, the market price decreases, all else being equal. This reduction in market price would be reflected in the revenues of the generating units producing at that time as well as the cost to serve the load of end-users.

Q. Which of these two scenarios best describes what may occur during periods of winter peak demand?

A. The scenario of decreased or insufficient supply.

Q. Is a solar facility ideal to meet winter demands?

A. No. Figure 3 shows Staff's weather-normalized peak hours for the update period in Ameren Missouri's current rate case. As can be seen the peak hour usage for the winter months occurred between 7 and 8 am; a period when the sun is low and solar will not produce much generation.

Figure 3. Hour of Ameren Missouri's Monthly Peak[12]

Month	October	November	December	January	February	March	April
Hour (1-24)	17	8	8	8	8	8	18

In White County, IL, where the project is located, the sun does not even rise until 7:20 am for about half of the month January, and the winter periods tend to be considerably cloudier on average than summer months. About half of the days between November and March are considered "cloudy" by the state climatologist for Cairo, IL, the city closest to the project for which I was able to obtain data.[13] Another 23% were considered "partly cloudy".

[12] From the NSI workpapers of Staff witness Hari K. Poudel., PhD.

[13] "Cloudiness in Illinois", State Climatologist Office for Illinois, https://www.isws.illinois.edu/statecli/General/cloudiness.htm. (20DEC2022).

Q. In Mr. Michels direct testimony, he states that solar facilities "are assumed to provide reliable capacity of about 11% of rated output during the winter season."[14] Does that assumption sound reasonable?

A. The assumption sounds overly optimistic at first blush, but even assuming that it is true, it means that Ameren Missouri would need to build nine times the name plate capacity to meet a winter capacity shortfall.

Q. Ameren Missouri witness Scott Wibbenmeyer identified the near term need of the facility to "support customer demand for renewable energy through the [Renewable Solutions] Program (RSP)."[15] Does Staff agree?

A. No. First, the RSP is designed to offset customer demand to build additional solar generation. This is discussed on page 6 of the Direct Testimony of Lindsey J. Forsberg, where she expresses the concern that many of the participants of this program would install behind-the-meter solar to alternatively meet their clean energy goals.

Secondly, while this project would add more generation capacity in Ameren Missouri's renewable portfolio, once this project is operational, it will not cause any reduction in Ameren Missouri's generation from its fossil fuel generating units. While Staff is generally not opposed to moving toward more environmentally friendly generation technology, Staff does not agree that that movement should occur at any cost. It is Staff's position that as we move towards a future with more renewable and other non-fossil fuel generation, that any new renewable resources help eliminate reliance on fossil fuel generation. At this time, Boomtown and the RSP do not meet that condition.

[14] Direct Testimony of Matt Michels, p. 14, ll. 11-12.
[15] Direct Testimony of Scott Wibbenmeyer, p. 3, ll. 5-6, Ameren Missouri witness.

Q. Is this project reasonably calculated to benefit both the utility and its customers?

A. No. Based upon Ameren Missouri's own analysis, the economics of the Boomtown solar facility are dependent upon several assumptions including market prices for the electricity generated and capacity accredited by MISO. Several of the scenarios identified by Ameren Missouri result in additional costs to ratepayers, including Ameren Missouri's base case which is presented in Figure 4 below.

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Note that this scenario is self-selected by Ameren Missouri and may not represent actual results. Beyond the specific CCN contemplated with the Boomtown solar project, the RSP program proposed to construct resources for a few specified participants while including the cost of the facilities in the rate base for all customers. This program would also then automatically result in Ameren Missouri's customers paying for resources that are not necessary. This aspect is further discussed by Staff witness Cedric E. Cunigan, PE.

Additionally, the Renewable Resource Rates and Renewable Benefits Rates located on Tariff Sheet 83.6 are locked in for fifteen years; the life of the proposed program phase. These rates were negotiated between Ameren Missouri and the participants. By the terms of Ameren Missouri's contracts with the participants, the participants could potentially withdraw from the program if the Commission were to alter the rates in Tariff Sheet 83.6. As discussed in the direct Testimony of Steve Wills, these rates were designed on Ameren Missouri's Class Cost of Service (CCOS) in the prior rate case[16], but would not be subject to the current or future rate cases. The proposed rates were designed to be independent of market conditions,[17] and would not change to reflect changes in the participant's avoided costs, changes in transmission congestion, increased operational and maintenance expenses, or differences between the LMP at the load location during the time the energy is consumed with the LMP at the solar facility during the time the energy is generated.

Q. Do the contributions of the Renewable Solutions Program participants largely offset the capital investment expenditures of the solar facility?

A. No. Based upon the workpapers provided by Ameren Missouri in support of application considering production tax credit benefits, Ameren Missouri expects a net subscriber contribution that totals less than ** [redacted] **. Over the term of the RSP, Ameren Missouri's expected net participant contribution from the RSP is slightly less than ** [redacted] **.

Q. If this project is approved and becomes a part of Ameren Missouri's generation portfolio, does it help eliminate the future need of fossil fuel generation?

[16] Direct Testimony of Steve Wills, p. 13, ll. 2-7.
[17] Direct Testimony of Steve Wills, p. 5, ll. 21-23.

A. No. As pointed out in Staff witness Brad J. Fortson's testimony, Ameren Missouri is still on target to build a large natural gas fired combined cycle combustion turbine ("CC") near the end of this decade.

Q. According to Mr. Fortson's testimony and Ameren Missouri's future plans, it appears that the Ameren Missouri has plans to significantly invest in renewables over the next few years. Why does it still plan on building a CC?

A. In order to meet system reliability. Unfortunately, at this time, the majority of renewable projects that are available in the market do not provide consistent, reliable generation at all times when customers need and demand electricity. Therefore, there is still a need to build as clean as possible fossil fuel facilities to ensure that all customers have access to electricity when they need it. An overreliance on renewables in today's environment cannot meet those needs. Staff is hopeful that we will get to time in the not too distant future where there are other resources that can meet customer needs that are better for the environment.

Q. Everyone understands the current technological limitations, but isn't every step towards a cleaner future a positive step?

A. Not necessarily. For instance, a facility like Boomtown only has about a 20-30 year life span. So, assuming that it is operational by 2025, it will be reaching the end of its life cycle around 2045. The 2045 timeframe is roughly when Ameren Missouri is hopeful to meet its goal of being carbon neutral. However, Boomtown will not be a part of that goal. Other projects will have to be built in order to meet that goal and Boomtown would probably be facing either major upgrades or retirement. Thus, for the life of Boomtown, it will be providing energy that is not required to meet Ameren Missouri's system requirement and will not be a part of an overall carbon neutral future. However, ratepayers would be on the hook for

paying for this plant, and all future plants that will get Ameren Missouri to that goal. Thus, the Commission should not approved Ameren Missouri's request for a CCN for this project.

Q. Are there other public interest considerations for the CCN?

A. Yes. As mentioned earlier, page 6 of the Direct Testimony of Lindsey J. Forsberg discusses that many of the participants of this program could install behind-the-meter solar to meet their clean energy goals. Staff has concerns with the design of a program that is intended to offset solar generation where it directly serves Missouri load (which minimizes electrical resistance and impedance losses) and minimizes congestion on transmission.

Additionally, Staff has concerns that the capacity issue faced by Ameren Missouri is due to, in part, Illinois legislation.[18] Instead of constructing plants in Missouri which would put them under the authority of the Missouri legislature, Ameren Missouri has opted to further construct facilities in Illinois.

Finally, it should be noted that constructing facilities outside the Missouri footprint would also increases the cost to exit MISO, which is a subject in Case No. EO-2011-0128.

Staff witness J Luebbert discusses other public interest considerations.

Q. Does this conclude your testimony?

A. Yes it does

[18] Direct Testimony of Matt Michels, p. 15, ll. 1-2.

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of the Application of Union Electric Company d/b/a Ameren Missouri for Approval of a Subscription-Based Renewable Energy Program	)))))	Case No. EA-2022-0245

AFFIDAVIT OF MICHAEL L. STAHLMAN

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

COMES NOW MICHAEL L. STAHLMAN and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing *Rebuttal Testimony of Michael L. Stahlman*; and that the same is true and correct according to his best knowledge and belief.

Further the Affiant sayeth not.

MICHAEL L. STAHLMAN

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 21st day of December 2022.

D. SUZIE MANKIN
Notary Public - Notary Seal
State of Missouri
Commissioned for Cole County
My Commission Expires: April 04, 2025
Commission Number: 12412070

Notary Public

Michael L. Stahlman

Education

2009	M. S., Agricultural Economics, University of Missouri, Columbia.
2007	B.A., Economics, Summa Cum Laude, Westminster College, Fulton, MO.

Professional Experience

2010 -	Regulatory Economist, Missouri Public Service Commission
2007 – 2009	Graduate Research Assistant, University of Missouri
2008	Graduate Teaching Assistant, University of Missouri
2007	American Institute for Economic Research (AIER) Summer Fellowship Program
2006	Price Analysis Intern, Food and Agricultural Policy Research Institute (FAPRI), Columbia, MO
2006	Legislative Intern for State Representative Munzlinger
2005 – 2006	Certified Tutor in Macroeconomics, Westminster College, Fulton, MO
1998 – 2004	Engineering Watch Supervisor, United States Navy

Expert Witness Testimony

Union Electric Company d/b/a AmerenUE GR-2010-0363
In the Matter of Union Electric Company d/b/a AmerenUE for Authority to File Tariffs Increasing Rates for Natural Gas Service Provided to Customers in the Company's Missouri Service Area

Union Electric Company d/b/a Ameren Missouri GT-2011-0410
In the Matter of the Union Electric Company's (d/b/a Ameren Missouri) Gas Service Tariffs Removing Certain Provisions for Rebates from Its Missouri Energy Efficient Natural Gas Equipment and Building Shell Measure Rebate Program

KCP&L Great Missouri Operations Company EO-2012-0009
In the Matter of KCP&L Greater Missouri Operations Company's Notice of Intent to File an Application for Authority to Establish a Demand-Side Programs Investment Mechanism

Union Electric Company d/b/a Ameren Missouri EO-2012-0142
In the Matter of Union Electric Company d/b/a Ameren Missouri's Filing to Implement Regulatory Changes Furtherance of Energy Efficiency as Allowed by MEEIA

Kansas City Power & Light Company EO-2012-0323
In the Matter of the Resource Plan of Kansas City Power & Light Company

KCP&L Great Missouri Operations Company EO-2012-0324
In the Matter of the Resource Plan of KCP&L Greater Missouri Operations Company

Kansas City Power & Light Company EO-2012-0135
KCP&L Great Missouri Operations Company EO-2012-0136
In the Matter of the Application of Kansas City Power & Light Company [KCP&L Great Missouri Operations Company] for Authority to Extend the Transfer of Functional Control of Certain Transmission Assets to the Southwest Power Pool, Inc.

Kansas City Power & Light Company, KCP&L Great Missouri Operations Company, and Transource Missouri — EA-2013-0098, EO-2012-0367
In the Matter of the Application of Transource Missouri, LLC for a Certificate of Convenience and Necessity Authorizing it to Construct, Finance, Own, Operate, and Maintain the Iatan-Nashua and Sibley-Nebraska City Electric Transmission Projects

Kansas City Power & Light Company
KCP&L Great Missouri Operations Company — EU-2014-0077
In the Matter of the Application of Kansas City Power & Light Company and KCP&L Greater Missouri Operations Company for the Issuance of an Accounting Authority Order relating to their Electrical Operations and for a Contingent Waiver of the Notice Requirement of 4 CSR 240-4.020(2)

Kansas City Power & Light Company — EO-2014-0095
In the Matter of Kansas City Power & Light Company's Notice of Intent to File an Application 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

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

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

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

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

Kansas City Power & Light Company — EO-2014-0240
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

KCP&L Great Missouri Operations Company — EO-2014-0241
In the Matter of KCP&L Greater Missouri Operations Company's Filing for Approval of Demand-Side Programs and for Authority to Establish a Demand-Side Programs Investment Mechanism

Ameren Transmission Company of Illinois EA-2015-0146
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

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

KCP&L Great Missouri Operations Company ER-2016-0156
In the Matter of KCP&L Greater Missouri Operations Company's Request for Authority to Implement a General Rate Increase for Electric Service

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 ER-2016-0179
In the Matter of Union Electric Company d/b/a Ameren Missouri's Tariff to Increase Its Revenues for Electric Service

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 345kV transmission line.

Spire Missouri, Inc. GR-2017-0215 and GR-2017-0216
In the Matter of Spire Missouri, Inc.'s Request to Increase Its Revenues for Gas Service

Liberty Utilities GR-2018-0013
In the Matter of Liberty Utilities (Midstates Natural Gas) Corp. d/b/a Liberty Utilities' Tariff Revisions Designed to Implement a General Rate Increase for Natural Gas Service in the Missouri Service Areas of the Company

Spire Missouri, Inc. GO-2019-0058 and GO-2019-0059
In the Matter of Spire Missouri, Inc. d/b/a Spire's Request to Decrease [Increase] WNAR

Grain Belt Express Clean Line LLC EM-2019-0150
Invenergy Transmission LLC
Invenergy Investment Company LLC
In the Matter of the Joint Application of Invenergy Transmission LLC, Invenergy Investment Company LLC, Grain Belt Express Clean Line LLC and Grain Belt Express Holding LLC for an Order Approving the Acquisition by Invenergy Transmission LLC of Grain Belt Express Clean Line LLC

Union Electric Company d/b/a Ameren Missouri GR-2019-0077
In the Matter of Union Electric Company d/b/a Ameren Missouri's Tariffs to Increase its Revenues for Natural Gas Service

Union Electric Company d/b/a Ameren Missouri ER-2019-0335
In the Matter of Union Electric Company d/b/a Ameren Missouri's Tariffs to Decrease Its Revenues for Electric Service

Empire District Electric Company ER-2019-0374
In the Matter of The Empire District Electric Company's Request for 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 EA-2020-0371
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 Under 20 CSR 4240-3.105

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 ER-2021-0240
In the Matter of Union Electric Company d/b/a Ameren Missouri's Tariffs to Adjust Its Revenues for Electric Service

Union Electric Company d/b/a Ameren Missouri GR-2021-0241
In the Matter of Union Electric Company d/b/a Ameren Missouri's Tariffs to Adjust Its Revenues for Natural Gas Service

The Empire District Electric Company ER-2021-0312
In the Matter of the Request of The Empire District Electric Company d/b/a Liberty for Authority to File Tariffs Increasing Rates for Electric Service Provided to Customers in its Missouri Service Area

The Empire District Gas Company GR-2021-0320
In the Matter of The Empire District Gas Company's d/b/a Liberty Request to File Tariffs to Change its Rates for Natural Gas Service

Ameren Transmission Company of Illinois EA-2022-0099
In the Matter of the Application of Ameren Transmission Company of Illinois for a Certificate of Convenience and Necessity Under Section 393.170.1, RSMo. Relating to Transmission Investments in Southeast Missouri

Evergy Metro, Inc d/b/a Evergy Missouri Metro ER-2022-0129
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

Evergy Missouri West, Inc. d/b/a Evergy Missouri West ER-2022-0130
In the Matter of Evergy Missouri West, Inc. d/b/a Evergy Missouri West's Request for Authority to Implement A General Rate Increase for Electric Service

Spire Missouri, Inc. GR-2022-0179
In the Matter of Spire Missouri, Inc. d/b/a Spire's Request for Authority to

Implement a General Rate Increase for Natural Gas Service Provided in the Company's Missouri Service Areas

Selected Manuscripts

Stahlman, Michael and Laura M.J. McCann. "Technology Characteristics, Choice Architecture and Farmer Knowledge: The Case of Phytase." Agriculture and Human Values (2012) 29: 371-379.

Stahlman, Michael. "The Amorality of Signals." Awarded in top 50 authors for SEVEN Fund essay competition, "The Morality of Profit."

Selected Posters

Stahlman, Michael, Laura M.J. McCann, and Haluk Gedikoglou. "Adoption of Phytase by Livestock Farmers." Selected poster at the American Agricultural Economics Association Annual Meeting, Orlando, FL, July 27-29, 2008. Also presented at the USDA/CSREES Annual Meeting in St. Louis, MO in February 2009.

McCann, Laura, Haluk Gedikoglu, Bob Broz, John Lory, Ray Massey, and Michael Stahlman. "Farm Size and Adoption of BMPs by AFOs." Selected poster at the 5th National Small Farm Conference in Springfield, IL in September 2009.