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MISSOURI PUBLIC SERVICE COMMISSION

CASE NO. EA-2015-0146

SURREBUTTAL TESTIMONY

OF

BILL POWERS, P.E.

ON BEHALF OF

NEIGHBORS UNITED AGAINST AMEREN'S POWER LINE

November 16, 2015

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1 **I. Introduction**

2 **Q. Identify the rebuttal testimony you are addressing in your surrebuttal testimony.**

3 A. My surrebuttal testimony addresses the rebuttal testimony of Missouri Public Service
4 Commission (“Commission”) witnesses Daniel Beck, Shawn Lange, Michael Stahlman,
5 and Sarah Kliethermes.

6 **II. Staff Is Incorrect to Rely on Unverified Regional Benefits of MVP**
7 **Portfolio to Find that Mark Twain Line Is in Public Interest**

8
9 **Q. What is your overall impression of Commission witness testimony?**

10 A. Commission staff witnesses Beck, Lange, Stahlman, and Kliethermes largely repeat
11 claims of economic benefit described in MTEP11 and the MTEP14 Triennial Review
12 Report for the portfolio of MVP projects as the basis for their collective finding that
13 approval by the Commission of the Mark Twain Line is in the public interest for Ameren
14 MO ratepayers. For example, much of Mr. Lange’s rebuttal testimony consists of direct
15 quotes from MISO documents and ATXI witnesses to justify a finding that the project is
16 in the public interest, with little critical analysis of the MISO documents or ATXI witness
17 information cited. The majority of the schedules included with Ms. Kliethermes’ rebuttal
18 testimony are MISO summaries of the economic benefits of the portfolio of MVP
19 transmission projects. Although there are notable exceptions in staff rebuttal testimony to
20 the uncritical acceptance by staff of ATXI claims of economic and grid reliability
21 benefits, ultimately staff accept the Mark Twain Line is in the public interest because
22 MISO says it is, regardless of whether the line can be shown to provide any unique
23 benefits to Ameren MO ratepayers that could not be provided more inexpensively by
24 other means.

1 **Q. Do any of the MISO MVP documents assert that the rejection of any one element of**
2 **the MVP portfolio would compromise the economic benefit of the rest of the MVP**
3 **portfolio?**

4 A. No. Nowhere does MISO state that MVP portfolio is subject to a form of domino theory,
5 whereby if any one of the MVP projects is rejected by a state utilities commission the
6 entire MVP portfolio will no longer be economically viable. ATXI has made no showing
7 that the denial of the Mark Twain Line will shift the cost-benefit ratio of the remaining
8 portfolio of MVP projects from “beneficial” to “not beneficial,” or have any material
9 impact on whether they are built or not.

10 **Q. Does staff rebuttal testimony evaluate the Mark Twain application on its own**
11 **merits, or review it as one element of a much larger whole that is located outside of**
12 **Missouri?**

13 A. As one element of a much larger whole. Commission staff rebuttal testimony asserts that
14 approval of the Mark Twain line is in the public interest because the project is part of a
15 portfolio of projects that was found by MISO to be cost beneficial, and the cost recovery
16 mechanism - a MISO transmission tariff - will assure cost recovery from ratepayers.

17 **Q. Despite this apparent deference to MISO regarding whether the project is in the**
18 **public interest, do Commission staff assert that the Commission has the authority to**
19 **evaluate the Mark Twain line on its own merits?**

20 A. Yes. Ms. Kliethermes states the Commission retains the ability to reach its own
21 conclusions, which may be different than the conclusions reached by MISO.¹ However,
22 Ms. Kliethermes makes this observation after stating that MISO found both the MVP
23 portfolio as a whole and the Missouri portion of the MVP portfolio to be cost beneficial,

¹ Kliethermes rebuttal testimony, p. 5, lines 1-2.

1 and after providing summaries of the MISO cost-benefit analyses as schedules to her
2 rebuttal testimony.

3 **III. Neighbors United Concurs with Staff that There Is No RPS**
4 **Justification for the Mark Twain Line**

5
6 **Q. Does the testimony of Commission witness Beck support approval of the Mark**
7 **Twain line to meet the Missouri RPS requirement?**

8 A. No. Witness Beck states that the investor-owned utilities in Missouri can meet the RPS
9 using renewable energy credits (“RECs”), and those RECs do not have to be associated
10 with energy that is delivered to or generated in Missouri.² He also states that the current
11 value of a REC is less than \$1 per REC.³ This REC cost compares to the cost of
12 production from a wind farm of approximately \$50 to \$60 per megawatt-hour (MWh).⁴

13 **Q. Given Ameren MO can meet the Missouri RPS with RECs, and RECs are extremely**
14 **low cost, is there any RPS justification for constructing the Mark Twain Line?**

15 A. No.

16 **Q. If Missouri investor-owned utilities can buy very low cost RECs to meet their RPS**
17 **obligations, why would these utilities locate wind generation near the Mark Twain**
18 **Line or import electricity from other states over this line?**

19 A. They would not do so.
20
21

² Beck rebuttal testimony, p. 6, lines 20-23.

³ Ibid, p. 8, lines 2-4.

⁴ Powers rebuttal testimony, p. 6, lines 21-23.

1 **IV. Neighbors United Disagrees with Staff that the Missouri Clean**
2 **Power Plan May Be a Justification for the Mark Twain Line**
3

4 **Q. Mr. Beck offers Missouri compliance with the Missouri Clean Power Plan (CPP) as**
5 **another justification for the Mark Twain Line. Does the CPP call for new**
6 **transmission as a necessary element of carbon reduction?**

7 A. No. The claim of Mr. Beck is that the Mark Twain Line would limit the effect of the
8 uncertainty of what the Clean Power Plan will require by providing Missouri electric
9 utilities opportunities to locate wind generation near the Mark Twain Line, by allowing
10 Missouri electric utilities the opportunity to import renewable electricity from other states
11 (especially other MISO states), and by allowing Missouri utilities the opportunity to
12 export electricity from in-state sources to other states.⁵

13 **Q. Hasn't the Commission informed EPA that it anticipates that demand-side**
14 **management programs will be a major element of its CPP carbon reduction**
15 **portfolio?**

16 A. Yes. The Commission December 23, 2013 comment letter to EPA on CPP compliance
17 strategy emphasizes demand-side management programs under the Missouri Energy and
18 Efficiency Investment Act (MEEIA), Mo. Rev. Stat. § 393.1075.⁶ Yet in its 2014 IRP,
19 Ameren MO suspended its demand response program for the 2016-2018 period.⁷ Ameren
20 MO identified this demand response program as cost-effective in the 2011 IRP. The
21 program would have added 100 MW of demand response by 2021.⁸ The justifications
22 offered by Ameren MO in the 2014 IRP for retrenchment of demand side management

⁵ Beck rebuttal testimony, p. 9, lines 1-5.

⁶ **Exhibit PE-40**, p. 2, pdf pp. 13-15.

⁷ Powers rebuttal testimony, p. 31, lines 2-8.

⁸ Ibid.

1 programs are controversial, as explained in the March 2015 rebuttal testimony of Synapse
2 Energy Economics in proceeding EO-2015-0055 before the Commission.⁹

3 **Q. How does 100 MW of demand response compare to the increase in imports available**
4 **to Ameren MO if the Mark Twain Line is built?**

5 A. 100 MW of demand response is more than four times the 24 MW of increased import
6 capacity that would be provided, according to ATXI, by the Mark Twain Line.¹⁰

7 **V. Neighbors United Disagrees with Staff that the Mark Twain Line**
8 **Is Needed to Address Northeast Missouri Reliability Issues**
9

10 **Q. Does Mr. Lange imply that the Mark Twain Line is necessary to make wind power**
11 **at the West Adair substation deliverable?**

12 A. Yes.¹¹

13 **Q. Is this implication correct?**

14 A. No.

15 **Q. Why not?**

16 A. Mr. Lange did not mention that the same MISO interconnect study he cites to support a
17 position that wind power is not deliverable at the West Adair Substation also states that a
18 \$10.9 million upgrade to the Adair-Novelty 161 kV line will make 300 MW of wind
19 power fully deliverable, as explained in my rebuttal testimony.¹²

⁹ Exhibit PE-41.

¹⁰ Exhibit PE-42.

¹¹ Lange rebuttal testimony, p. 9, line 22, p. 10, line 1-8.

¹² Powers rebuttal, p. 11, lines 5-9.

1 **Q. So should significant amounts wind power be located near the Adair Substation**
2 **there is a viable upgrade to the existing 161 kV transmission system that would**
3 **make this wind power fully deliverable with no cost to Ameren MO ratepayers?**

4 A. That is correct. The \$10.9 million would be paid by the wind power developer, not by
5 Ameren MO ratepayers.¹³

6 **Q. Did Mr. Lange assess the reasonableness of ATXI grid reliability modeling**
7 **assumptions?**

8 A. Yes and no. Mr. Lange states in his rebuttal testimony that there are no wind projects in
9 the MISO queue for interconnection at the Adair Substation.¹⁴ Mr. Lange correctly
10 acknowledges that much of the Mark Twain Project may not be physically necessary if
11 that area of Missouri is not developed with wind.¹⁵ However, Mr. Lange does not opine
12 whether it is reasonable for ATXI to assure there is a 300 MVA customer load on the
13 Adair Substation when the modeled Category C event, the simultaneous loss of two of
14 the three existing 161 kV lines connecting at the Adair Substation, takes place.¹⁶ ATXI
15 states the contingency event occurs under peak load conditions.¹⁷ Almost no wind power
16 is generated during peak load conditions, only about 6 percent of rated capacity.¹⁸ ATXI
17 assumes that wind power generation does not contribute to the Category C contingency.¹⁹
18 The estimated peak load on the Adair Substation is approximately 64 MW at peak
19 summer demand, not 300 MVA.^{20,21} This large discrepancy between the peak substation

¹³ Ibid, p. 12, lines 1-5.

¹⁴ Lange rebuttal testimony, p. 11, lines 10-12.

¹⁵ Ibid, p. 11, lines 7-8.

¹⁶ **Exhibit PE-43.**

¹⁷ Ibid.

¹⁸ Powers rebuttal testimony, p. 23, lines 4-6.

¹⁹ **Exhibit PE-43.**

²⁰ Ibid, p. 28, lines 11-15.

²¹ MW is assumed to be equivalent to MVA in this rebuttal testimony.

1 load modeled by ATXI and the actual peak substation load is not addressed by Mr. Lange
2 in his rebuttal testimony.

3 **Q. Did Mr. Lange evaluate any alternatives to the Mark Twain Line to address the**
4 **Category B and C contingencies that ATXI asserts will be addressed by the Mark**
5 **Twain Line?**

6 A. No. Mr. Lange simply accepts ATXI's assertion that the Mark Twain Line will address
7 these contingency conditions and does not consider other solutions on the existing
8 161 kV transmission system that would be less costly to Ameren MO ratepayers. Some of
9 these solutions are addressed in my rebuttal testimony.²²

10 **VI. Neighbors United Concurs with Staff that MISO and ATXI Economic**
11 **Benefit Analyses Are Obsolete and Incomplete**
12

13 **Q. Do you agree with Mr. Lange that the economic modeling done by MISO uses old**
14 **data?**

15 A. Yes. Mr. Lange points-out in his rebuttal testimony that the studies were carried out
16 during the mid- to late-2000's.²³

17 **Q. Doesn't Ms. Kliethermes also state that the ATXI witness uses old data to claim**
18 **economic benefits for the Mark Twain Line?**

19 A. Yes. Ms. Kliethermes states that the generation source(s) used by ATXI in its modeling
20 is based on expectations held in the year 2010, and that this information it is not
21 reflective of reality at this time.²⁴

²² Powers rebuttal testimony, pp. 24-33.

²³ Lange rebuttal testimony, p. 9, lines 12-20.

²⁴ Kliethermes rebuttal testimony, p. 10, lines 10-12.

1 **Q. Does Commission witness Stahlman state that staff disagree with ATXI that the**
2 **MTEP14 MVP Triennial Review should be viewed as evidence of the project’s**
3 **economic feasibility?**

4 A. Yes. Mr. Stahlman states that the MTEP14 MVP Triennial Review does not isolate the
5 cost-benefit ratio of the Mark Twain transmission project.²⁵

6 **Q. Does Mr. Stahlman point-out in his rebuttal testimony that the MTEP14 MVP**
7 **Triennial Review economic analysis did not include any offsets due to restrictions in**
8 **land use, for example the loss of agricultural land?**

9 A. Yes. Mr. Stahlman states that the model, PROMOD IV, focuses on electric markets.²⁶

10 **Q. Does Mr. Stahlman recommend the Commission not use the economic development**
11 **benefits analysis contained in the Direct Testimony of ATXI witness Geoffrey**
12 **Hewings, Ph.D. as a basis to approve or reject the Project?**

13 A. Yes. Mr. Stahlman states that staff understands that job creation can make it easier to
14 “sell” a project from a public policy perspective, but fundamentally, job creation is a
15 function of the costs of the project rather than its benefits.²⁷

16 **Q. Does Ms. Kliethermes recommend that the Commission not rely on any implications**
17 **in the testimony of ATXI witness Dr. Schatzki that (1) the Project would reduce**
18 **Missouri retail electric rates, or that (2) the Project would reduce environmental**
19 **emissions in Missouri?**

20 A. Yes.²⁸

21

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²⁵ Stahlman rebuttal testimony, p. 7, lines 7-11.

²⁶ Ibid, p.4, lines 10-12.

²⁷ Ibid. 6, lines 14-16.

²⁸ Kliethermes rebuttal testimony, p. 3, lines 4-6.

1 **Q. Why does Ms. Kliethermes make this recommendation?**

2 A. Ms. Kliethermes states that it is not suitable for projecting the impact of the Project on
3 Missouri retail rates, or projecting the impact of the Project on the ability of the State of
4 Missouri to comply with various emissions requirements.²⁹

5 **Q. Do staff consider the possibility that MTEP14 Triennial Review economic benefits**
6 **modeling conducted for the MVP portfolio as a whole may be wrong because of the**
7 **use of obsolete data and the presumption that wind power will be the predominant**
8 **form of renewable energy developed to meet regional RPS targets for the**
9 **foreseeable future?**

10 A. No. Mr. Lange uncritically repeats MISO’s statement that its “Value Proposition” (of the
11 MVP portfolio) reflects that its continued efforts in regional planning enables more
12 economic placement of wind resources in the region.³⁰ No staff rebuttal testimony
13 questions whether the framework MISO presumption, that future RPS targets will be met
14 with wind power, is still valid in the face of rapid and ongoing declines in the cost of
15 solar power.³¹ Staff takes the collective view that, although there is no specific evidence
16 to support MISO claims of the economic benefit of the Mark Twain Line, the regional
17 economic benefits of the MVP portfolio as a whole justify a finding that the Mark Twain
18 Line is in the public interest of Ameren MO ratepayers.

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²⁹ Ibid, p. 5, lines 8-10.

³⁰ Lange rebuttal testimony, p. 7, lines 1-4.

³¹ Powers rebuttal testimony, pp. 34-41.

1 **Q. Did staff evaluate the MISO economic benefits modeling conducted for other**
2 **specific MVP transmission projects outside of Missouri to determine if the same**
3 **analytical deficiencies staff identified relative to the economic benefits assertions**
4 **made by ATXI for the Mark Twain Line are also present for other specific MVP**
5 **transmission projects?**

6 A. No.

7 **Q. Is it reasonable for Commission staff to rely on economic benefit data they know to**
8 **be obsolete and incomplete to opine that the Mark Twain Line is in the public**
9 **interest?**

10 A. No.

11 **VII. Staff Does Not Address How the Mark Twain Line Route Will Be**
12 **Affected by Environmental Compliance Requirements**
13

14 **Q. Are the conditions described in staff testimony adequate to account for the**
15 **environmental compliance authorizations the Mark Twain Line must obtain?**

16 A. No. Commission witness Dietrich states in her rebuttal testimony that, of about 3,000
17 written public comments received, less than 10 comments provide support for the request,
18 and over 2,900 (are) opposed to the request.³² Ms. Dietrich documents that a theme of the
19 comment letters in opposition is: 1) the negative impact of the line on real estate values,
20 2) the presence of the line impeding farming in the project area, 3) cause deforestation, 4)
21 restrict future land use options, and 5) tarnish rural landscapes. Despite the public
22 concern over the project, there is no mention in staff rebuttal testimony regarding the
23 environmental authorizations that must be obtained before the Commission finalizes its

³² Dietrich rebuttal testimony, p. 3, lines 13-18.

1 order, if it chooses to approve the project, and how these authorizations may affect the
2 location of the project right-of-way.

3 **Q. Is staff aware that the route preferred by ATXI may cause significant negative**
4 **economic impacts due to impact on agricultural lands?**

5 A. Yes. However, staff witness Stahlman clarified in his rebuttal testimony that the MISO
6 economic cost-benefit analysis did not include any costs associated with the loss of
7 agricultural land.³³ Additional costs not mentioned in staff rebuttal testimony include
8 addressing endangered Indiana bat and proposed endangered northern long-eared bat
9 habitat degradation,³⁴ raptor nesting area degradation, fragmentation of woodland habitat,
10 and degradation of spawning streams.³⁵ These issues may be partially mitigated by right-
11 of-way route modifications negotiated by the U.S. Fish and Wildlife Service and the
12 Missouri Department of Natural Resources with ATXI to limit negative impacts.^{36,37}

13 **Q. What action should be taken by the Commission, if it chooses to approve the**
14 **project, to assure the final route of the Mark Twain Line causes minimum economic**
15 **and environmental disruption in the project area?**

16 A. The Commission can condition the effective date of the order approving the Mark Twain
17 Line, if it chooses to issue such an approval, to occur after receipt by the Commission of
18 final project approvals issued by the U.S. Fish and Wildlife Service and the Missouri
19 Department of Natural Resources.

20

³³ Stahlman rebuttal testimony, p.4, lines 10-12.

³⁴ Exhibits PE-44, PE-45, PE-46, PE-47, PE-48.

³⁵ Powers rebuttal testimony, p. 43, lines 6-8.

³⁶ Exhibit PE-38 (Powers rebuttal testimony).

³⁷ Exhibit PE-49.

1 **VIII. Conclusion**

2

3 **Q. Does this conclude your surrebuttal testimony?**

4 **A. Yes.**