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Witness: Paul Glenden Justis, Jr.
Sponsoring Party: Show-Me Concerned Land Owners
Type of Exhibit: Surrebuttal Testimony
Case No.: EA-2016-0358
Date Testimony Prepared: February 21, 2017

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

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	)))))))	Case No. EA-2016-0358

SURREBUTTAL TESTIMONY OF

PAUL GLENDEN JUSTIS, JR.

ON BEHALF OF THE

SHOW ME CONCERNED LANDOWNERS

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I. INTRODUCTION & SUMMARY

Q. What is your name?

A. I am generally known by the name Glen Justis. My legal name is Paul Glenden Justis, Jr.

Q. On behalf of what party in this case are you testifying?

A. I am testifying on behalf of Show Me Concerned Landowners.

Q. Are you the same Paul Glenden Justis, Jr. who filed rebuttal testimony in this case?

A. Yes, I am.

Q. What is the purpose of your surrebuttal testimony?

A. My testimony addresses the rebuttal testimony submitted on behalf of MJMEUC by Mr. John Grotzinger. I have reviewed Mr. Grotzinger's testimony and schedules, particularly the power purchase agreement with ****Highly Confidential****. In my surrebuttal testimony, I identify and provide discussion of deficiencies in his estimate of expected cost savings and resultant economic benefits of MJMEUC's transmission service contract over the proposed Grain Belt Express ("GBX") transmission line.

Q. Please summarize your testimony.

A. In my testimony, I draw the conclusions listed immediately below. In combination, these conclusions strongly suggest that MJMEUC's estimate of the savings their customers will realize from the GBX project is wholly unreliable. In addition, the GBX project in total does not appear to be economically viable.

1) Mr. Grotzinger's analysis does not reflect consideration of meaningful alternatives to GBX in a substantive manner.
2) The environmental regulation assumptions that underlie the Leidos market study are highly questionable.
3) Capacity costs are not treated correctly.
4) Estimated congestion costs are treated inconsistently.
5) The assumed capacity factors are inconsistent with the assumptions that underlie GBX's stated transmission rates.
6) The economic viability of MJMEUC's contracts with ****Highly Confidential**** are questionable.

II. DEFICIENCIES IN COST SAVINGS ESTIMATES

A. IDENTIFIED ALTERNATIVES ARE NOT MEANINGFUL

Q. Does Mr. Grotzinger's savings estimate reflect substantive consideration of meaningful alternatives to GBX?

A. No, it does not. In the context of a prudent resource planning process, any savings from a particular resource option should be compared against the next best feasible plan based on sound data and analysis. Mr. Grotzinger states in his testimony that MJMEUC developed a resource plan in 2015[1], and he refers to the Leidos study (Schedule JG-4) as "the plan." First, the Leidos study in Schedule JG-4 is not a resource planning study, but is merely a market price forecast. And, it is outdated as discussed further below. Mr. Grotzinger

[1] Grotzinger rebuttal testimony, page 3 lines 12-13

simply uses the results from this outdated forecast as an input to his own estimate of savings.

Q. Please characterize your professional background in utility resource planning and market price forecasting.

A. As indicated in my rebuttal testimony dated January 24, 2017, I have extensive experience connected with the methodology and application of energy portfolio analysis and market price forecasting models. I have managed work groups, including PhD-level personnel, responsible for selecting, implementing, and applying such models for the purposes of both asset valuation and integrated resource planning. I have also developed and successfully applied proprietary models for the purpose of evaluating economic tradeoffs and risks of energy resource alternatives as part of utility resource planning efforts.

Q. How would you characterize the analysis that Mr. Grotzinger has provided?

A. I would characterize it as highly simplistic and questionable in its approach and results.

Q. Please explain further.

A. Mr. Grotzinger provides no information that details the forecasted energy and capacity needs, or future resource availability, of its members, either individually or in aggregate. He provides no information that describes what MJMEUC's members individually and in the aggregate do or do not need. All we know is that MJMEUC has an uneconomic contract with Illinois Power Marketing Company that is expiring. A meaningful integrated resource plan would reflect an hour-by-hour economic dispatch of potential combinations of physical generation and contracts to match forecasted hourly demand. Each resource plan would be assessed under varying assumed conditions. Ideally, stochastic analysis would

be applied within the resource plan. As the plan is refined, it would be common practice to engage in a formal request for proposals (RFP) process to obtain firm pricing information on leading candidate resources and transmission service options.

Q. Has MJMEUC engaged in a RFP process for resource alternatives to GBX to replace the IPM contract?

A. No they have not. As stated by Mr. Grotzinger in his response JG.32, dated February 16, 2017, to MLA's second set of data requests, "We had not made a request for proposals to replace the Illinois Power Marketing contract."

Q. Isn't the Leidos study based on a stochastic methodology?

A. Yes, but not in the context of MJMEUC-specific resource planning. The Leidos study applies stochastics only in the context of forecasting regional energy and power prices. Contrary to what Mr. Grotzinger states, it is not a resource planning study.

Q. Please provide examples of potentially feasible resource alternatives that MJMEUC could consider that are not included in Mr. Grotzinger analysis.

A. First, they could examine simply buying renewable energy credits (REC's) to support future growth of renewable energy interest, if any, of its members. A physical generation alternative would be to purchase a higher MW amount of Missouri-based wind energy to offset the slightly lower capacity factor within MISO. In his analysis, Mr. Grotzinger has erroneously assumed that any energy shortfall from Missouri or Iowa-based wind would have to be supplied at the price forecasted in the Leidos study. This is incorrect. Many other alternatives exist.

B. QUESTIONABLE ASSUMPTIONS IN LEIDOS STUDY

Q. Are the environmental regulation assumptions in the Leidos study reliable?

A. No. The Leidos study is outdated and is based on unrealistic assumptions regarding environmental regulations, given the current political climate in the United States. While the cover page of the Leidos study states "August 2016" as the date, the underlying analysis is older than this and is likely outdated. Section 2.1 of the report refers to the forecast period as January, 2015 through December 31, 2039. It appears that the study in total, or at least significant portions thereof, was performed in 2014. The study also assumes enforcement of the Clean Power Plan and associated expansion of renewable energy requirements[2]. It also assumes significant retirement of conventional generation. The United States has clearly moved in a different direction given the results of the 2016 presidential election and the events that have transpired since. While I am not predicting the future, using these assumptions as the underlying foundation of the Leidos study makes the study problematic, if not invalid. Assumptions concerning environmental regulations heavily influence the results of market pricing analyses such as the Leidos study. In fact, the Leidos study itself contains information that indicates that the environmental regulation-related features of the SERF model require improvement[3].

Q. Are there other aspects of the Leidos study that are relevant?

A. Yes. I find it relevant that even with the assumption of enactment of the Clean Power Plan, the Leidos study uses natural-gas fired generation as the least expensive option for the

[2] Leidos study, section 2.7

[3] Leidos study, page 2-15, second paragraph

purpose of generation expansion within the model[4]. This is a common assumption of models of this type. If wind energy plus supplemental capacity was economically superior, then it logically would be the assumed incremental supply-side power resource. But, it is not. As demonstrated in multiple analyses, wind power (when capacity costs are included) is more expensive than natural gas based generation.

C. CAPACITY COST NOT TREATED CORRECTLY

Q. Are capacity costs treated in a consistent manner in Mr. Grotzinger's analysis?

A. No, they are not. As I explain in my prior rebuttal to Mr. Berry's direct testimony, capacity costs should be included to compare power supply resources. Mr. Grotzinger performed his analysis on an energy-only basis. This is an insufficient basis for comparing resource alternatives on a total cost basis. As stated by Mr. Grotzinger on page 2 line 14 of his rebuttal testimony, "That resource planning exercise demonstrated a clear need to replace the energy and capacity currently provided in the IPM contract." However, wind energy provides little on-demand capacity. As discussed in my rebuttal testimony, costs for supplemental capacity should be added to the energy cost of wind resources to arrive at a total cost for energy plus capacity. This must be done to compare the cost of wind against conventional generation. Thus, the comparisons of the cost of wind energy to combined cycle generation in Schedules JG-6 and JG-7 are unreliable.

D. INCONSISTENT TREATMENT OF CONGESTION COSTS

Q. Are congestion costs treated in a consistent manner in Mr. Grotzinger's analysis?

[4] Leidos study, Section 2.8

A. No, they are not. In the GBX case, Mr. Grotzinger omits congestion costs. In his "alternatives" he uses congestion cost assumptions ranging from -$1 to $7 per mwh, but he does not address congestion costs for delivery within MISO for the GBX case. The GBX delivery point will be in MISO, and additional transmission charges and potential congestion costs should be included in the GBX case if they are included in the non-GBX cases. Further, as stated by Mr. Grotzinger, congestion costs are difficult to forecast. His assumption of an average $7/mwh congestion cost for the Crystal Lake case is without clear basis, and is inconsistent with his omission of congestion costs in the GBX case.

E. INCONSISTENT CAPACITY FACTOR ASSUMPTIONS

Q. Are Mr. Grotzinger's capacity factor assumptions consistent with the assumptions in GBX's projected transmission rates?

A. No. Mr. Grotzinger's testimony assumed a 50% capacity factor for GBX and the wind energy delivered thereon[5]. The rates for GBX service stated in Mr. Berry's direct testimony are based on a 55% percent capacity factor[6]. If the actual capacity factor of GBX is only 50%, then their rates would need to be higher and the savings to MJMEUC would be lower.

F. VIABILITY OF CONTRACTS IS QUESTIONABLE

Q. Are both the GBX transmission service contract and the <u>Highly Confidential**</u> contracts economically viable?**

A. **<u>**Highly Confidential**</u>**

[5] Grotzinger rebuttal testimony, Schedule JG-5

[6] Berry direct testimony work papers, GBX resp to Show Me-1.2.Berry.Attach 02.HC, 'Inputs and Summary'!B13

Highly Confidential

Table 1 – Year 1 Delivered Energy Rate Comparison

Highly Confidential

Figure 1 – Year 1 Delivered Energy Rate Comparison

Highly Confidential

Q: Does this conclude your surrebuttal testimony?

A: Yes, it does.