Exhibit No. 104

PSC Staff – Exhibit 104
J Luebbert
Rebuttal Testimony
File No. EA-2022-0328

Exhibit No.:	
Issue(s):	*Staff Overview, Tartan Factors Project Economics, Decisional Prudence*
Witness:	*J Luebbert*
Sponsoring Party:	*MoPSC Staff*
Type of Exhibit:	*Rebuttal Testimony*
Case No.:	*EA-2022-0328*
Date Testimony Prepared:	*January 17, 2023*

MISSOURI PUBLIC SERVICE COMMISSION

INDUSTRY ANALYSIS DIVISION

TARIFF/RATE DESIGN DEPARTMENT

REBUTTAL TESTIMONY

OF

J LUEBBERT

EVERGY MISSOURI WEST, INC., d/b/a Evergy Missouri West

CASE NO. EA-2022-0328

Jefferson City, Missouri
January 2023

****** Denotes Confidential Information ******

TABLE OF CONTENTS OF

REBUTTAL TESTIMONY OF

J LUEBBERT

EVERGY MISSOURI WEST, INC.,
d/b/a Evergy Missouri West

CASE NO. EA-2022-0328

REBUTTAL TESTIMONY OF

J LUEBBERT

EVERGY MISSOURI WEST, INC.,
d/b/a Evergy Missouri West

CASE NO. EA-2022-0328

Q. Please state your name and business address.

A. My name is J Luebbert. My business address is P. O. Box 360, Suite 700, Jefferson City, MO 65102.

Q. By whom are you employed and in what capacity?

A. I am the Tariff/Rate Design Department Manager for the Missouri Public Service Commission ("Commission").

Q. Please describe your educational background and work experience.

A. I graduated from the University of Missouri in Columbia, Missouri, with a Bachelor of Science in Biological Engineering, in May 2012. My work experience prior to becoming of member of the Missouri Public Service Commission Staff includes three years of regulatory work for the Missouri Department of Natural Resources. Prior to holding my current position, I was employed as Case Manager of the Commission Staff Division and as an Associate Engineer in the Energy Resources and Engineering Analysis Departments of the Industry Analysis Division of Commission Staff.

Q. Have you previously filed testimony before the Commission?

A. Yes, numerous times. Please refer to Schedule JL-r1, attached to this Rebuttal Testimony, for a list of the cases in which I have assisted and filed testimony with the Commission.

INTRODUCTION

Q. What is the purpose of this rebuttal testimony?

A. My testimony identifies the Staff witnesses that are filing rebuttal testimony in this case on behalf of Staff and the topics that the testimony of each witness will address. My testimony also includes a summarization of Staff's recommendations and provides additional context to Staff's position based upon the analyses of various Staff witnesses. Finally, my testimony provides Staff's review of Evergy Missouri West's economic analyses related to the Persimmon Creek Wind project and provides recommendations based upon the review.

SUMMARY OF STAFF'S POSITIONS

Q. Please provide an overview of the various Staff witnesses that are providing rebuttal testimony in this case as well as a brief overview of the topics covered by each witness.

A. Staff's position in this case is discussed throughout the testimony of seven witnesses. The bulleted list below includes the other Staff witnesses that are providing rebuttal testimony in this case as well as brief introductions to the topics covered by each witness:

- Claire M. Eubanks' testimony provides an overview of the Persimmon Creek Wind project and discusses the Tartan criteria of need.
- Brad J. Fortson's testimony discusses Evergy Missouri West's integrated resource planning process.
- Dr. Seoung Joun Won's testimony discusses the financial ability of Evergy Missouri West to construct, operate, and maintain the Persimmon Creek Wind Project.

- Shawn E. Lange's testimony addresses Staff's concerns with In-service Criteria and Environmental aspects associated with the Persimmon Creek acquisition and provides recommendations.
- Jordan T. Hull's testimony concludes that Persimmon Creek Wind LLC is qualified to construct and install this project, and Evergy Missouri West is qualified to own, operate, maintain, and otherwise control and manage the project.
- Matthew R. Young explains how Evergy Missouri West has mechanisms in place that protect it from regulatory lag regarding increases to depreciation expense and property taxes and is allowed to flow changes in its net fuel costs to ratepayers. He recommends tracking the tax benefits of Persimmon Creek's Production Tax Credits ("PTC") so that the Commission may consider all relevant factors in Evergy Missouri West's future rate case.
- My testimony discusses the interrelation of the Tartan factors, the economics of Persimmon Creek, and provides additional Staff recommendations.

SUMMARY OF STAFF RECOMMENDATIONS

Q. Please provide a summary of Staff's recommendations in this case.

A. Staff recommends that the Commission reject Evergy Missouri West's application for a Certificate of Convenience and Necessity ("CCN").

Given the complexity and volume of the analysis necessary to evaluate the economics of a given project and the risks borne by ratepayers, if Evergy Missouri West provides updated analysis in subsequent rounds of testimony in this case, Staff recommends that the Commission reject the application and allow Evergy Missouri West to file a new application for a CCN based upon the updated analyses. This approach would provide Staff and other parties to this case time to review the analyses and respond accordingly, providing for a more substantial and

complete record for the Commission's determination.[1] Alternatively, Staff recommends that the Commission extend the procedural schedule in this case, including the opportunity for responsive testimony. This approach would provide Staff and other parties to this case a bit more time to review the analyses and respond, providing for a more substantial and complete record for the Commission's determination.

Staff recommends that the Commission order Evergy Missouri West to provide resource specific economic analysis utilizing reasonable assumptions beyond the IRP results, LCOE estimates, and installed capacity costs in support of future CCN applications. The analysis should address concerns raised by Staff in this testimony, including but not limited to, differences in energy production and market prices based upon time and location as well as expected changes to capacity factors after PTC eligibility.

If the Commission determines that approval of the CCN is appropriate, Staff recommends that the Commission not make a decision in this case regarding Evergy Missouri West's decisional prudence of the Persimmon Creek Wind Project and include the following conditions in the order approving the CCN:

1. Staff recommends that the Commission order that the in-service criteria contained in attachment SEL-2 to Shawn Lange's rebuttal testimony are appropriate for use in a future case to determine whether the Persimmon Creek project is in-service. Staff prefers to have in-service criteria that the parties can agree to prior to the case(s) in which the plant is put into rate base, it is unclear whether that will happen in this case.[2]

2. ** [redacted]

[1] Ibid.
[2] Rebuttal testimony of Shawn Lange.

[redacted]**[3]

3. Staff recommends that the Commission order Evergy West to track the PTCs accrued on its books so that they too are available for the Commission's consideration in Evergy West's next rate case.

4. Staff recommends that the Commission hold Evergy Missouri West's ratepayers harmless if the costs of Persimmon Creek exceed the market revenues and ratepayer realized benefits.

EXECUTIVE SUMMARY

Q. Please provide a summary of your testimony?

A. Staff recommends that the Commission reject Evergy Missouri West's application for a CCN. Evergy Missouri West's application and the supporting testimony do not justify the Persimmon Creek wind project. The Persimmon Creek project is likely a poor choice to resolve the alleged capacity need for Evergy Missouri West for a variety of reasons including location, resource type, and timing of expected generation. Furthermore, Persimmon Creek is unlikely to be a good hedge[4] against market energy costs.

[3] Ibid.
[4] Hedging is a strategy that attempts to minimize risk.

Staff has identified several flaws in Evergy Missouri West's analysis that the company has relied upon to justify the project and therefore the results of Evergy Missouri West's analysis should be dismissed along with Evergy's application for the CCN.[5]

The mission of the Missouri Public Service Commission is to ensure that Missourians receive safe and reliable utility service at just, reasonable and affordable rates. Thus, all investments of a utility that go into the rate base charged to customers should be justified based upon the basis of ratepayer needs and the economics of the specific project. Evergy Missouri West's application fails to show that this project will improve either the safety or reliability of its operations and the economic analysis provided in support is unreliable.

Evergy Missouri West has attempted to justify this project as a way to partially fulfill an alleged capacity need and as a potential hedge for market energy costs. My testimony explains why the economic analysis relied upon by Evergy Missouri West to justify the project is flawed and should not be relied upon. Instead of acting as a hedge in energy markets, Evergy's proposed project would instead shift risk of the project's underperformance onto captive ratepayers rather than being borne by an independent market participant, such as the current owner of the asset.

Finally, my testimony discusses the interrelation of the Tartan factors,[6] policy considerations, describes Staff's concerns with the project economics, recommends that the

[5] The issues identified within Staff's analysis should not be considered an exhaustive list and are based upon a focused review of the materials. Nevertheless, the issues identified are substantial and the results of Evergy Missouri West's analysis should be disregarded.

[6] 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 identified five criteria to consider in determining whether granting the requested CCN is "necessary or convenient for the public service." Those factors are:

1. Is the service needed?
2. Is the applicant qualified to provide the service?
3. Does the applicant have the financial ability to provide the service?
4. Is the applicant's proposal economically feasible? and
5. Does the service promote the public interest?

Commission reject Evergy Missouri West's application for a CCN, recommends that the Commission order Evergy Missouri West to improve the economic analyses provided in support of future CCN applications, and recommends that the Commission not make a decision on the determination of decisional prudence of the Persimmon Creek Wind project if it approves Evergy Missouri West's request.

Q. Is Staff generally opposed to additions of renewable resources to the generation fleets of Missouri investor-owned utilities?

A. No. Staff recognizes that the electric utilities that provide service in Missouri should be evaluating the move to more renewables as generation needs are identified; however, Staff is opposed to utilities continuing to add generating assets to rate base without proper justification.

Q. Which of the Tartan factors will be discussed within your testimony?

A. I will discuss the interrelation of the factors regarding need and public interest.

Q. How is the remainder of your testimony organized?

A. The remainder of my testimony is broken into five sections.

Section I. explains the importance of the demonstration of need prior to approval of a CCN application. Section I. includes subsections that explain why demonstration of need is an important consideration in the context of a CCN application due to the monopoly status of Evergy Missouri West, policy implications, and the promotion of public interest.

Section II. Describes the Economic Analysis of Persimmon Creek including subsections regarding RTO participation implications, historical market revenue, and potential for negative revenue, nodal price differences, Evergy Missouri West's economic analysis, and potential mitigation of exposure to market energy costs.

Section III. Explains why corporate renewable goals should not be misconstrued as a system need to be funded by ratepayers.

Section IV. Provides reasons for the Commission to not make a decision on the determination of decisional prudence of the Persimmon Creek Wind project if the CCN is approved.

Section V. Provides Staff's conclusions and a summary of Staff's recommendations.

I. IMPORTANCE OF THE DEMONSTRATION OF NEED

Q. Why is the demonstration of need a critical piece of the evaluation of a CCN for an electric generating resource?

A. Generally speaking, it is imperative that any new project that is going to be paid for by captive customers only be undertaken if there is an actual need of the asset in providing electric service to those customers. The demonstration of the need of a given project is important to consider for several key reasons including: monopoly status of Evergy Missouri West, policy implications, and determination that the project promotes the public interest. The identification of "need" also allows Staff to analyze the project on a comparative basis. My testimony expands on each of these reasons in more detail below.

Evergy Missouri West should be able to clearly articulate and demonstrate the physical needs of the ratepayers to be fulfilled through the purchase of the Persimmon Creek wind project (or any project) prior to being granted approval of the CCN. In contrast to the integrated resource plan ("IRP") modeling exercise,[7] in its CCN application, Evergy Missouri West is requesting approval of a specific generating asset, in a specific location. All of these factors

[7] Staff witness Brad J. Fortson's rebuttal testimony discusses the IRP in more detail.

should be included in the analysis and justification that demonstrate that the Persimmon Creek wind facility is the most reasonable solution to meet the identified needs of Evergy Missouri West ratepayers at this time.

Q. Has Evergy Missouri West demonstrated that the Persimmon Creek Wind project is needed?

A. No. As discussed in the rebuttal testimony of Staff witness Claire Eubanks, Evergy Missouri West has not demonstrated that this project is necessary to continue to serve ratepayers. Persimmon Creek will not resolve Evergy Missouri West's alleged capacity need[8] and Evergy witness Messamore admits that wind resources provide the least accredited capacity benefit of all resources reviewed.[9] The graphic below is an excerpt from her testimony describing the accredited capacity value of various resource types.

Resource Type	Accredited Capacity Value (% Accreditation Assumed)	Typical Energy Production (% Net Capacity Factor)	Fixed Cost of Energy?
Wind	10%	45%	Yes
Solar	50%	25%	Yes
Natural Gas Combustion Turbine	100%	10%	No
Natural Gas Combined Cycle	100%	65%	No
Capacity Market Purchase (Bilateral Capacity Contract)	100%	NA	No

Ms. Messamore's testimony discusses Evergy Missouri West's energy need as a need to mitigate market purchased power costs, but Persimmon Creek's generation profile is not particularly well suited to provide such mitigation in the time periods when market prices and Evergy Missouri West's load are highest.[10]

[8] Evergy Missouri West meets the SPP resource adequacy requirements on a combined basis with Evergy Metro.
[9] Pages 13 and 14 of the supplemental direct testimony of Kayla Messamore.
[10] This topic is discussed in the Economic Analysis section of my testimony.

Monopoly Status of Evergy Missouri West

Q. Why does Evergy Missouri West's status as a monopoly in providing electricity to a service territory matter?

A. Evergy Missouri West's ratepayers are captive because they do not generally have a choice of their electric provider and are required to pay the Commission approved tariffed rates for use of the service. In return, Evergy Missouri West is tasked with building and maintaining generation that is sufficient to serve the needs of the ratepayers. Evergy Missouri West will ultimately seek recovery of and a return on the initial investment for the Persimmon Creek project. These costs will be borne by its captive ratepayers who do not have a say in the generation procurement plans of the company. Due to its status as a monopoly, once the plant is included in Evergy Missouri West's rates, shareholders will be insulated from the risk that the revenues from the wind facility do not exceed the costs. That risk is borne by the captive ratepayers.

Q. How do the economic risks of Evergy Missouri West compare to an independent power producer ("IPP")[11] when deciding to add generating facilities?

A. One of the fundamental differences between investments in supply-side resources by an investor-owned utility ("IOU") and an IPP is the assumption of risk. When an IPP makes a decision to purchase or build a resource based upon assumed revenues in excess of costs of the facility, the IPP owners carry the risk that the investment decision is uneconomic. The IPP is subject to competition and does not have a captive set of ratepayers from which to recover the investment. The IPP relies solely on revenues generated by the plant through market

[11] Independent power producers own/operate electric generating units with the intention to sell the electricity produced to utilities, end-users, or within RTO integrated markets.

sales or contractual agreements. The economic risk may act as an upper limit on the amount of investment that an IPP is willing to assume.

Q. What entity currently owns the Persimmon Creek wind asset?

A. The current owner of the Persimmon Creek wind asset is Scout Clean Energy, an IPP. Scout Clean Energy is an independent power producer that made the decision to sell the asset that has been operating a little over four years.

Q. Should Evergy Missouri West's ratepayers be required by pay for an asset that is not an economically efficient use of resources, or is not in the public interest?

A. No. Captive ratepayers should not be expected to shoulder the risk that an electric generating plant, poorly justified by flawed modeling analysis, is uneconomic.

Q. Are there solutions to avoid this unnecessary risk to ratepayers?

A. Yes. The Commission's role as the regulator of the monopoly is a key protection against the introduction of unnecessary risk, by utility management, on behalf of ratepayers. The Commission has typically exercised this role through the application of the Tartan factors when considering the request to build new generating facilities. By ensuring that all of the Tartan factors are met by the utility and ensuring that the utility provides all crucial supporting analysis that establishes needs, economic feasibility, and promotion of the public interest. If the Commission determines that adding additional renewable resources (or any new generating resource) is appropriate but recognizes that the potential risk of uneconomic outcomes should not be borne solely by ratepayers, it is within the Commission's discretion to condition approval of the CCN. One potential solution is for the Commission to condition any potential approval of an asset with a hold harmless provision that would shift some of the risk of an uneconomic outcome back to shareholders and away from the captive customers.

Policy Implications

Q. Are there policy implications of approving a CCN for electric generating assets that exceed the needs of ratepayers?

A. Yes. Allowing a monopoly utility to add generating assets to rate base untethered to ratepayer needs could result in substantial increases in rates and unnecessary risk for ratepayers, and unwarranted profits for utility shareholders. Demonstration of need can act as an upper limit to the amount of rate base additions of generating resources and the associated costs that ratepayers are expected to bear. This upper limit is necessary since Evergy Missouri West's shareholders do not carry the risk that the Persimmon Creek Wind project is ultimately uneconomic. Again, that risk is borne by ratepayers. Absent this upper limit tethered to the demonstration of ratepayer needs, Evergy Missouri West may continue to add costs to its rate base, increasing shareholder returns as well as ratepayer risk.

Q. Evergy witness Kayla Messamore further describes Evergy Missouri West's need for the Persimmon Creek project as an avenue to "mitigate exposure to market energy costs."[12] Is Persimmon Creek a good supply-side resource to mitigate exposure to market energy costs?

A. No. Exposure to market energy costs to serve load is necessarily related to the ratepayer demand and the market prices that occur at a given point in time. The mitigation of this exposure by a given supply-side resource is then also related to the timing of energy generated and market prices at the generation node. Market prices vary by time and location. Therefore, the value of energy produced by supply-side resources also varies based upon time, location, and other variables.

[12] Page 5 of the supplemental direct testimony of Kayla Messamore.

Q. Does the energy production from the Persimmon Creek wind project align well with the load of Evergy Missouri West's ratepayers?

A. No. Persimmon Creek has historically produced more energy during the overnight hours when Evergy Missouri West's load is relatively low. Conversely, the energy production of Persimmon Creek is relatively low during the periods of time when Evergy Missouri West's load is relatively high. I discuss this concept more thoroughly in Section II. Economic Analysis of my testimony.

Q. Is it relevant in this case whether a supply-side resource can be a prudent investment for rate-regulated Missouri utility to mitigate exposure to market energy costs?

A. As Staff's analysis is done on a particular project or resource basis, the premise that supply-side resources in general *could* hypothetically mitigate exposure to market energy costs is outweighed by the fact that **this specific** supply-side resource does not mitigate exposure to market energy costs when Evergy Missouri West's demand and market prices are highest. The Persimmon Creek wind project is not likely to be a reasonable hedge against market costs to serve load and Evergy Missouri West's supportive economic analysis is flawed and unreliable.

Q. Are there policy implications of approving a CCN that is justified based upon the concept of mitigation of market energy costs to serve load?

A. Yes. Mitigation of market energy costs is not equivalent to a physical need for energy production.[13] If a given resource is not necessary to meet a physical need,[14] ratepayers run the risk that the resource is ultimately uneconomic without the opportunity to realize

[13] Ms. Messamore notes this on page 5 of her supplemental direct testimony and I discuss this more thoroughly in Section II: subsection "Implications of RTO Participation" of my testimony.
[14] As Ms. Messamore indicates is the case for Persimmon Creek.

physical benefits. Reliance on mitigation of market energy costs to justify a given project magnifies the importance of the accuracy and reliability of the assumptions underlying the economic analysis of the project.

Q. Is it reasonable to expect ratepayers to pay for Persimmon Creek based upon the analysis of Evergy Missouri West?

A. No. Evergy Missouri West has not reasonably demonstrated that Persimmon Creek will result in ratepayer benefits that exceed the costs. To lock ratepayers into paying for assets that are primarily justified by faulty economic analysis, which does not fulfill a clearly identified need, is an unnecessary risk to ratepayers and a benefit to Evergy Missouri West's shareholders. System needs, both at the utility level and the regional transmission organization ("RTO") level, will undoubtedly change over time. SPP requirements and the SPP market dynamics are reasonably expected to change. The costs and capabilities of various supply-side technologies, including battery storage, will change. Tax benefits of various supply-side technologies are likely to change. The ultimate results of all of these variables almost certainly differs from the assumptions relied upon in Evergy Missouri West's IRP.[15]

Promotion of the Public Interest

Q. Does this project promote the public interest?

A. No.

Q. Why is the identification of need important for the determination that a given project promotes the public interest?

[15] As discussed later in my testimony, Evergy Missouri West's IRP analysis also includes assumption flaws regarding Persimmon Creek that are unreasonable.

A. The identified need provides a basis from which a given project should be compared. Given the monopoly status of the utility, Evergy Missouri West has a perverse incentive to increase rate base additions beyond ratepayers' needs, or in an inefficient manner, so long as it can expect to receive recovery of those costs. A key role of the Commission is to thwart this incentive through regulation. The need being fulfilled necessarily drives the comparison to other resources and resource types when determining if the project is an economically efficient solution to the meet the identified needs of ratepayers. In short, in order to find the appropriate solution, the first step is to identify the problem or need. The criteria and review of the economic efficiency from the ratepayers' perspective will necessarily vary based upon the attributes sought and the needs that must be fulfilled by the resource.

Q. Please elaborate on how the promotion of the public interest is related to the demonstration of need and the economic efficiency for a generating asset.

A. When additions of generating assets are tied to the physical needs of ratepayers, and the economic efficiency of fulfilling the identified ratepayer need of that asset is demonstrated, the public interest is promoted. The utility has an obligation to ensure that its customers receive safe and adequate service and because ratepayers receive use of the asset that fulfills the identified need, in return, the utility receives recovery of and a return on the required investment. Both sides of the equation stand to benefit from the addition of the asset. At the end of the useful life of the asset, ratepayers can expect to have received the physical benefits required to meet a need perceived prior to construction of the asset, even if it does not end up being the most economically beneficial choice of assets.

However, when the asset is not necessary, ratepayers carry the unnecessary risk that the asset is uneconomic without the guarantee of physical benefits. When the asset is not an

economically efficient solution to the identified need, ratepayers carry the risk of paying for multiple assets to meet the same identified need, or for assets that will not produce revenues in excess of the costs. In these instances, the IOU still stands to benefit from the additional rate base. This potential outcome is one-sided and should be avoided if possible.

Q. What types of needs exist for a new electric generating resource?

A. There are a variety of types of needs that may be identified that will be unique to the utility and its system. For example, utilities may be required to build or attain additional assets to meet requirements of state and federal laws and regulations. A utility may require an asset in order to improve system reliability or avoid outages. If the utility is a member of an RTO, there may be fines or penalties for not being able to demonstrate the ability to meet the RTO resource adequacy requirements.[16]

Q. Does Evergy Missouri West have a need for capacity to meet SPP resource adequacy requirements?

A. If Evergy Missouri West were required to meet the SPP resource adequacy requirements on a stand-alone basis, then the Company would have a capacity shortfall. However, as discussed in Claire Eubanks' rebuttal testimony, Evergy Missouri West and Evergy Metro meet SPP's resource adequacy requirements on a combined basis.

Q. Should the Persimmon Creek wind project be considered an improvement justifying its cost?

A. No. The potential ratepayer benefits of the Persimmon Creek wind project are largely uncertain and based upon variables beyond the control of Evergy Missouri West or its

[16] These typically include a comparison of the expected load during system peaks compared to available capacity of utility during a given period of time.

ratepayers. It is a risky proposition to approve a project when the perceived "improvement" is based upon flawed economic analyses, reliant on potential benefits that are uncertain, and premised on sales to users of electricity beyond the service territory of the incumbent utility. The future revenues from the project are unknown, uncertain, and largely depend on the SPP market results over the life of the asset. SPP market revenues are volatile and variable based on time, location, dispatchability of a resource, transmission losses, and congestion. This fact is further supported by the inclusion of market revenues in Evergy Missouri West's Commission approved Fuel Adjustment Clause. However, the costs of the project and recovery of those costs from ratepayers, including a return on the investment, are relatively certain. The project is not particularly well suited to meet the alleged capacity need nor is it a resource that is particularly well suited to mitigate market energy costs for Evergy Missouri West during the periods of highest demand and market costs.

Q. Please summarize your testimony regarding the importance of the demonstration of need within the context of a CCN application.

A. Evergy Missouri West is a monopoly and its purpose is to serve the needs of its captive ratepayers. In return for the ratepayer use of Evergy Missouri West's assets, the Company expects recovery of and a return on its investment in those assets. One key part of the Commission's role as regulator of the monopoly utility is to ensure that the utility does not abuse its power. The Commission can prevent the introduction of unnecessary ratepayer risk and the recovery of unwarranted shareholder profits by requiring clear demonstration of ratepayer needs being met through the project in concert with demonstration that the other Tartan factors are met in an economically efficient manner.

II. ECONOMIC ANALYSIS OF PERSIMMON CREEK

Q. What does Evergy Missouri West project as the overall cost of the Persimmon Creek wind project?

A. "The purchase price of Persimmon Creek is $245,700,000, plus working capital adjustments and adjustments for PTC value, both to be finalized at closing."[17]

Q. What does Evergy Missouri West project as the annual revenue requirement impact of the Persimmon Creek Wind farm?

A. Table 1 below provides Evergy Missouri West's estimated Annual Total Revenue Requirement in dollars and on a dollar per MWh generated basis:[18]

Table 1: Annual Revenue Requirement

**

[redacted]

**

The values included within the table above account for Evergy's expected value of production tax credits ("PTC") and Evergy's projected production from Persimmon Creek. As

[17] Application of Evergy Missouri West for an Operating Certificate of Convenience and Necessity.
[18] Evergy Missouri West response to Staff data request 0005.

I will discuss in more detail later in this section,[19] both of these values are likely overstated and unreliable. The result of lower values for each of those factors would result in higher annual revenue requirements on both a dollar value basis and a dollar per MWh basis. The light orange highlight in the table indicates years that Persimmon Creek will no longer be eligible for PTCs. This table clearly demonstrates that as the PTCs drop off, the project economics change substantially. Because Evergy Missouri West is purchasing an asset that has already been operating for more than four years, the potential value added from PTCs occurs for a shorter period than if Evergy Missouri West acquired a new asset that was eligible for the credits.

Q. Will Evergy Missouri West's acquisition of the Persimmon Creek Wind project benefit ratepayers economically?

A. Based on Staff's review of the analysis provided by Evergy Missouri West, it does not appear that it will. The information provided by Evergy Missouri West to date indicates that the modeling analysis relied upon to attempt to justify the acquisition is flawed and unreliable. Whether the project benefits ratepayers economically is dependent on several factors including overall cost of acquiring and maintaining the asset, market revenues from the asset, and value of production tax credits received. Market revenues and ratepayer realized benefits of the production tax credits will need to exceed the overall cost over the asset's life in order to ultimately be economic from a ratepayer perspective.

Q. What are market revenues?

A. Within the context of this testimony, I will refer to market revenues from a given electric generating resource as the product of energy production[20] and locational marginal price.

[19] This also includes Table 9 that provides an updated summary of the revenue requirement based upon Evergy Missouri West's response that has been updated to reflect an updated capacity factor assuming that the asset does not generate when real-time market prices are below $(26)/MWh until 2028 and $0/MWh thereafter.
[20] Typically megawatt hours (MWh).

When referring to historical information for Persimmon Creek, Staff's analysis of market revenues accounts for revenues[21] in both the SPP day-ahead and real-time markets. When referring to Evergy Missouri West's projections, market revenue only accounts for the product of projected production and projected market price.[22]

Q. What is a locational marginal price?

A. SPP defines locational marginal price ("LMP") as "The market-clearing price for Energy at a given Price Node equivalent to the marginal cost of serving demand at the Price Node while meeting SPP Operating Reserve requirements."[23] Stated simply, an LMP is the price of one MWh of energy at a given location at a given point in time. Locational marginal prices are made up of three components: the marginal energy component, the marginal congestion component, and the marginal loss component. As the name suggests, LMP varies by location based upon system conditions. LMP also varies across time in a given location based upon system conditions.

The variation of LMP by time and location means that energy produced, or consumed, at the same location in different hours can have very different values. Likewise, energy produced, or consumed, in different locations at the same time can have very different values.

Q. What are market energy costs?

A. Within the context of this testimony, I will refer to market energy costs as the product of the load of Evergy Missouri West ratepayers and the LMP at the Evergy Missouri West load node.[24,25]

[21] Revenues can be both positive and negative based upon the LMP.
[22] According to Evergy Missouri West's second supplemental response to Staff data request 0051, "The Evergy IRP Model does not differentiate between day-ahead and real-time dispatch or prices."
[23] https://www.spp.org/glossary/
[24] A specific electrical bus location in the SPP EMS transmission model for which a settlement price is calculated.
[25] https://www.spp.org/glossary/

Q. Why are market revenues and costs especially relevant within the context of this CCN case?

A. As pointed out by Evergy witness Messamore, one of Evergy Missouri West's primary justifications for this project is to hedge market energy-costs with Persimmon Creek revenues. Thus it is imperative to review the revenues and costs to determine if it will be a good hedge since there is no physical need for this acquisition. Thus, the market revenues from Persimmon Creek will ultimately determine whether the acquisition was economic from the perspective of ratepayers. Market costs will be incurred on behalf of ratepayers regardless of the decision to acquire Persimmon Creek, but the ability of Persimmon Creek to mitigate those costs will depend on the timing of energy production and subsequent market revenues. There are several other reasons,[26] and I will provide more context for each of the issues identified as they relate to the Persimmon Creek Wind project in the subsequent subsections:

1. RTO Participation Implications;
2. Historical Market Revenue;
3. Potential for Negative Revenue;
4. Nodal Price Differences;
5. Evergy's Economic Analysis;
6. Potential Mitigation of Exposure to Market Costs;

RTO Participation Implications

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

A. Yes. Evergy Missouri West participates in the Southwest Power Pool ("SPP").

[26] Staff has focused on issues identified that are most relevant to this case, but other reasons likely exist.

Q. If Evergy Missouri West is granted the CCN for the Persimmon Creek wind project, will Evergy Missouri West ratepayers be served by cleaner generating resources?

A. No. Evergy Missouri West and Persimmon Creek both currently participate in SPP. The electricity needed to serve the load of Evergy Missouri West's ratepayers is purchased through SPP markets regardless of the generation resource mix owned. SPP dispatches the generation throughout its footprint based upon a security constrained economic dispatch ("SCED")[27] model and a real-time SCED algorithm. [28,29] Subsequently, all of Evergy Missouri West's generating units are bid into and dispatched by SPP markets based upon results of the SCED, which account for the loads of the SPP footprint. In other words, Evergy Missouri West's existing resources will continue to be dispatched by the SPP SCED regardless of what entity owns Persimmon Creek Wind. Since Persimmon Creek is already operational, the change in ownership will have very little, if any, effect on the generation fleet serving the SPP footprint and Evergy Missouri West's customers.

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

A. Yes. An important distinction between renewable resources and the existing fossil-fueled generation in SPP is the ability to dispatch based upon market and system conditions.

Q. Can you provide a high level overview of how the trends of increased renewable generation additions and accelerated fossil-fueled generation retirements working in concert may impact SPP market prices?

[27] https://www.spp.org/markets-operations/

[28] 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.

[29] KA-01112 (SPPenergy.org)

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.[30] During periods of high SPP market prices and system reliability needs, renewables cannot be dispatched beyond what current weather conditions allow 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 wind projects, generation tends to be highest overnight and reduced during the day. The result of the inability to dispatch, and the dependence on weather, is that production of wind facilities in a geographic region will tend to ebb and flow with weather instead of market price signals. With those two factors in mind, the high-level result of an increased renewable penetration in SPP along with accelerated retirements of dispatchable fossil-fuel plants is likely to result in increased price volatility, with periods of over-supply[31] of electricity during some periods and insufficient supply in others. The figures below are simple supply and demand curves, likely to be found in most Economics 101 courses that demonstrate the effect that these two changes can have on the market price in these two scenarios.[32]

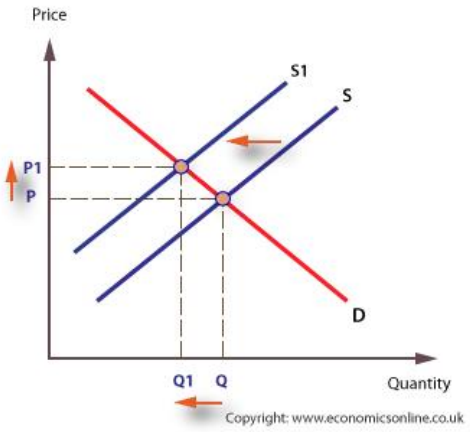
continued on next page

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

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

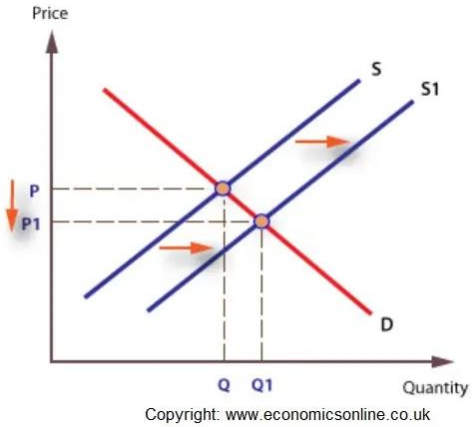
[32] Staff notes that the demand for electricity is much more inelastic than the curve shown in the figures. The figures are intended to be illustrative only.

Figure 1: Supply decrease[33]



As can be seen in Figure 1, as supply decreases and demand remains constant, similar to what may occur when relatively more renewables are 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[34]



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

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

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. Is a wind facility ideal to meet summer peak demands?

A. No. Wind facilities are particularly poorly suited to provide summer capacity compared to alternative resources. The energy production of Persimmon Creek is discussed in more detail in the subsection of my testimony titled Potential Mitigation of Exposure to Market Costs.

Q. How does Evergy Missouri West's SPP participation relate to the CCN application?

A. Evergy Missouri West's load will continue to be served by various resources within the SPP footprint based upon the SCED that already includes Persimmon Creek. Renewable resources can provide low variable-cost energy, but the production is dependent on weather as opposed to market prices and system needs. Furthermore, as penetration of renewable generation increases and dispatchable generation retirements are accelerated, the market prices to serve load is likely to become more volatile over time.

Historical Market Revenue

Q. How long has the Persimmon Creek Wind farm been operational in SPP?

A. Through discovery in this case, Evergy Missouri West provided production and LMP data for Persimmon Creek since November of 2018.

Q. Please provide a summary of the market revenue for Persimmon Creek to date.

A. Table 2 below provides a summary of the day-ahead ("DA") and real-time ("RT") market revenue, production, and the average annual revenue per MWh generated for Persimmon Creek through December 1, 2022.[35]

Table 2: Market Revenue

**

**

Q. How do the historical market revenues from Persimmon Creek compare to Evergy Missouri West's annual projected revenue requirement?

A. The historical market revenues are insufficient to offset Evergy's projected annual revenue requirements for all but one year of the asset's life. If annual market revenues do not exceed the annual revenue requirement of the asset, ratepayers will experience increased rates without the benefit of revenues that offset those increased costs. Even assuming that the revenues from Persimmon Creek are consistent with the best revenue year to date results in revenues that are insufficient to offset the increased rate base throughout nearly the entirety of the asset's life. As I stated before, this does not account for Evergy Missouri West's overstated

[35] The production and LMP data was provided in response to Staff data request 0049 in this case.

assumed production from Persimmon Creek that could result in a larger revenue deficit realized by ratepayers.

Potential for Negative Revenue

Q. What are negative market revenues?

A. Within the context of this testimony, I will refer to negative market revenues as the costs incurred due to dispatch or energy production from the asset during a period of negative LMPs. Negative LMPs can occur for a variety of reasons and the propensity of their occurrence varies by time, location, and market conditions. A simplified view of the negative LMPs is that the market is providing an economic signal to curtail energy production in a given location. Producing energy during periods of negative LMPs results in a negative revenue, or cost, equal to product of energy produced (MWh) and the LMP ($/MWh).

Q. Why would a generation owner continue to produce energy if the result is a negative revenue?

A. There are several reasons that this phenomenon may happen, but one reason that this occurs is the eligibility of a renewable generating resources to create tax benefits through PTCs. PTCs are premised upon the number of MWh produced by eligible assets. In some instances, an owner of a generating asset may be willing to continue to produce electricity at a loss in an attempt to maximize the PTC value. The number of hours that SPP pricing nodes realize negative LMPs varies by location. Furthermore, the severity of the negative LMP can also vary based upon system conditions and location.

Q. How frequently have negative LMPs occurred at the Persimmon Creek SPP pricing node?

A. The graphic below provides a summary by year of the number of hours in which negative LMPs occurred at the Persimmon Creek SPP pricing node and Table 3 illustrates the same information on a percentage basis.[36]

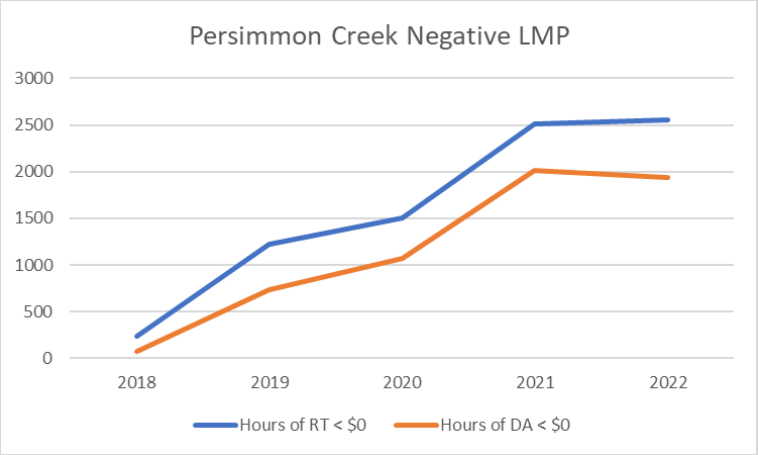


Table 3: Negative LMP Intervals

	% Negative RT	% Negative DA
2018	16%	5%
2019	14%	8%
2020	17%	12%
2021	29%	23%
2022	32%	24%

Q. What trends do the illustrations above represent?

A. The illustrations indicate a trend of increases[37] in each year of the realization of negative LMPs for the Persimmon Creek SPP pricing node. In 2022, nearly one third of the hours resulted in negative real-time LMPs and nearly one fourth of the hours resulted in negative day-ahead LMPs.

[36] Note that the values for 2018 only includes pricing from November and December of 2018 and the values for 2022 only includes information through December 1, 2022.
[37] Both in the number of hours and on a percentage basis.

Q. What is likely to occur if the trend of increasing intervals of negative pricing continues?

A. Either the asset will generate at a loss more frequently, or the production will need to be curtailed to minimize the losses, resulting in fewer PTCs all else being equal.

Nodal Price Differences

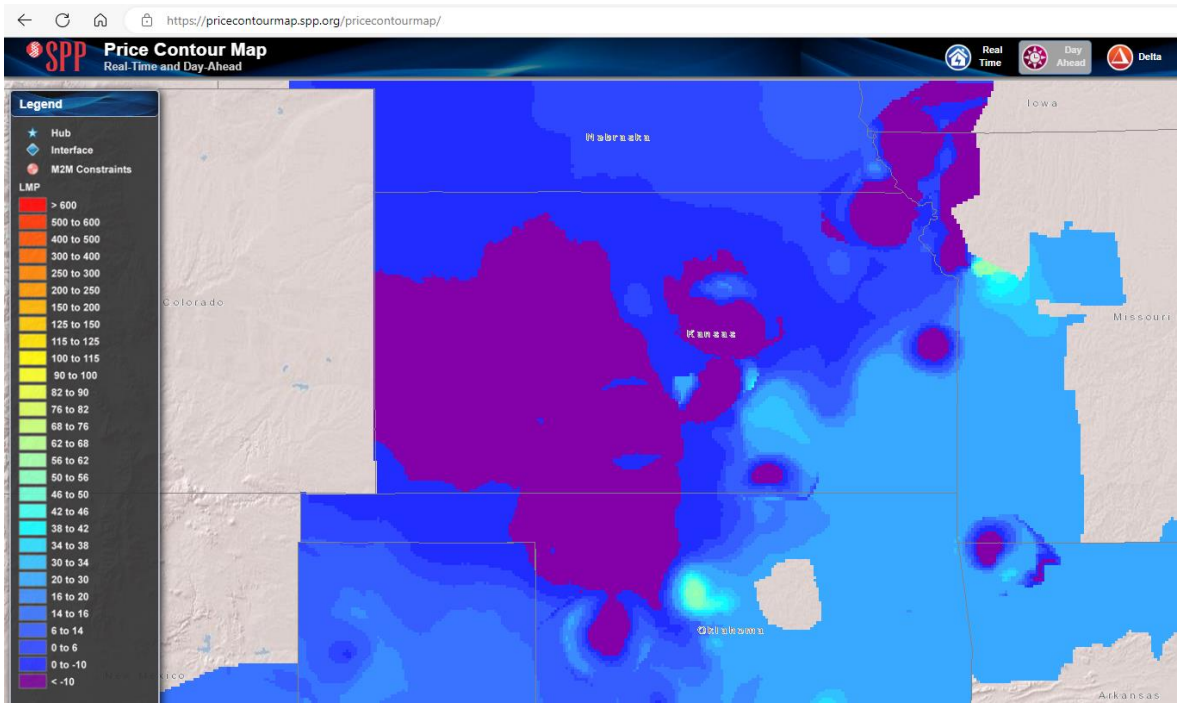
Q. What is a nodal price differential?

A. Within the context of this testimony, I will refer to nodal price differentials as the occurrence of differences in prices between two or more SPP settlement nodes over a given period of time. As discussed previously, LMPs vary by time and location. When LMPs are generally depressed in one location over another, the result is that the revenues from generation is also depressed, all else being equal. Furthermore, if LMPs for the Evergy Missouri West load node are typically higher than those for the generation node, the resulting market cost to serve load may exceed the expected revenue from the generation asset. Lower nodal LMPs at the generation node compared to the load node results in a negative nodal price differential. Said another way, negative nodal price differentials require the generating asset to produce more energy to offset the cost of serving Evergy Missouri West's load, all else being equal.

Q. Are nodal price differentials limited to comparisons of generation nodal LMPs and load node LMPs?

A. No. Nodal price differentials can also occur between different generation node locations. Since LMPs vary by time and location, energy produced in one location can provide a different value in terms of market revenue than others. Not all energy produced in

the SPP footprint has the same value. The screenshot[38] below provides a visual representation of the nodal pricing differentials for a given point in time.



In the image above, the areas shaded purple are experiencing negative LMPs while other areas (shaded light blue and teal), some of which are proximal to the negative prices, have a much higher LMP in the same time interval.

Evergy's Economic Analysis

Q. How did Evergy Missouri West evaluate the economics of the decision to acquire the Persimmon Creek Wind asset?

A. Evergy Missouri West primarily relied upon the results of the Company's Integrated Resource Plan ("IRP"), the levelized cost of energy ("LCOE"), and the cost per

[38] https://pricecontourmap.spp.org/pricecontourmap/

kW of nameplate capacity.[39] I will explain the flaws that Staff has identified within each of the analyses of Evergy Missouri West that make the results unreliable.

Evergy Missouri West's IRP

Q. Do any other Staff witnesses discuss Evergy Missouri West's IRP?

A. Yes. Brad Fortson provides testimony regarding Evergy Missouri West's IRP process. His testimony discusses the concerns that Staff has raised within recent IRP dockets as well as the economics of recent Evergy Missouri West decisions to enter into multiple purchased power agreements.

Q. How do the flaws that Staff identified in Evergy Missouri West's IRP analysis affect the results of the analysis?

A. Evergy Missouri West's IRP analysis includes several assumption flaws that make the results unreliable as justification for the Persimmon Creek Wind project. Each of the assumption flaws identified impact either the production of the wind asset, the market revenues from the asset, the market cost to serve Evergy Missouri West's load, or a combination of all three metrics.

Negative Market Prices

Q. Please describe the first flaw in Evergy Missouri West's IRP analysis.

A. The first flaw that I will discuss is related to the subsection of my testimony titled "Potential for Negative Revenue." Evergy's IRP analysis relies upon a set of market price scenarios to determine the expected revenue from various resources. Evergy Missouri West's IRP analysis drastically underestimates the propensity for the negative LMPs at the Persimmon Creek SPP node.

[39] Evergy Missouri West refers to this as the cost of installed capacity.

Q. How did you determine the number of hours that Evergy Missouri West's IRP analysis assumed negative LMPs for Persimmon Creek?

A. Through discovery in this case, Staff requested that Evergy Missouri West provide the "Assumed locational marginal price by hour and by year for each planned electric generating unit addition in Evergy's most recent integrated resource plan filing preferred resource plan." Evergy's response to Staff data 51 request[40] included the assumed market prices for Evergy Missouri West's load node, a generic new build node, and a generic wind build node for each of the nine pricing scenarios described in the IRP.

Staff then calculated the probability weighted average market price for each of the three "nodes" for each hour based upon Evergy Missouri West's IRP probability assumptions. Staff then determined the number of hours in each year between 2022 and 2025 as a sanity check for the assumption of negative pricing intervals. The assumed number of negative pricing hours for each "node"[41] based upon the probability weighted average market prices are included in Table 4 below.

continued on next page

[40] Evergy Missouri West's response states in part that: "Nine pricing scenarios were developed to represent each level of Natural Gas Price forecast (low, mid, high) and CO2 Tax Forecast (low, mid, high), consistent with the identified critical uncertain factors in the IRP. Locational marginal prices were calculated for representative locations, including specific coal resource locations, load zones, a representative wind zone, and generation zones for all other resources. All new wind resources were modeled at the wind price and all other new resources (Solar, CC, and CT) were modeled at the Metro generation zone price. New resources were not assumed to be in specific locations because the IRP models generic additions and utilizes joint planning among the utilities. Location is a consideration as the plan is executed and Evergy evaluates specific projects."

[41] The nodes discussed here and in the context of the IRP are hypothetical.

Table 4: IRP Negative Pricing Hours

**

**

Q. How does the number of assumed hours of negative LMP assumed for Evergy Missouri West's IRP compare to the actual number of negative pricing hours realized at the Persimmon Creek SPP pricing node?

A. The Persimmon Creek SPP pricing node has historically realized negative pricing intervals substantially more frequently[42] than the assumed "generic wind build node" utilized in Evergy Missouri West's IRP analysis that the Company relies upon in an attempt to justify the CCN for Persimmon Creek. For example, in 2021 and 2022 the Persimmon Creek SPP node realized negative LMPs in more than 2,500 hours in the real-time market and about 2,000 hours in the day-ahead market in each year while the IRP assumes less than ** [redacted] ** such hours occur each year between 2022 and 2025.[43] The result is that Evergy Missouri West's IRP drastically underestimates the propensity for negative market prices in the analysis of the economics of the Persimmon Creek Wind project. Furthermore, the IRP assumed that over

[42] See Table 3 and the associated graphic above that depicts the historical negative pricing intervals.
[43] Staff did not review the number of negative hours in each year throughout the entire planning horizon.

time, the occurrence of negative market prices ** [redacted] **

Q. How did Evergy Missouri West's IRP analysis account for negative pricing intervals?

A. My understanding from a conversation with Evergy's Manager of Fundamental Analysis, Kelli Merwald,[44] is that the Evergy Missouri West IRP assumes that the resource ** [redacted] ** if Persimmon Creek continues to generate during periods of negative LMPs as it has to date.

Q. What is the result of Evergy Missouri West's underestimation in the number of hours that negative market prices are realized at the Persimmon Creek generation node and ** [redacted] ** that will occur during periods of negative pricing?

A. The market revenues from Persimmon Creek included in Evergy Missouri West's IRP are drastically overstated. Not only has Evergy Missouri West underestimated the frequency of negative market prices, but the Company also compounded this flaw in the analysis by ** [redacted] **. By overestimating the revenue from Persimmon Creek, Evergy Missouri

[44] Evergy Missouri Wests second supplemental response to Staff data request 0051 also states, in part: ** [redacted] **

West's IRP provides an unrealistic view of the project revenues of the facility, and the results should not be relied upon to justify approval of the CCN in this case.

Q. Will Persimmon Creek continue to operate during periods of negative LMPs?

A. Yes. ** [redacted] **[45]

Capacity Factor

Q. What is a capacity factor?

A. The capacity factor for a given resource is the ratio of actual electricity generated divided by the maximum electricity that could have been generated at continuous full operation over the same period. Stated simply, an annual capacity factor provides an indication of the actual generation compared to the maximum on a percentage basis.

Q. What is the capacity factor for Persimmon Creek?

A. The historical capacity factors for Persimmon Creek are provided in Table 5 below.

continued on next page

[45] Evergy Missouri West's second supplemental response to Staff data request 0051 in this case.

Table 5: Persimmon Creek Capacity Factors[46]

**

**

Q. How does the total capacity factor shown in Table 5 above compare to the assumed capacity factor utilized by Evergy Missouri West's IRP?

A. The actual capacity factor is about ** ■■ ** lower than the capacity factor utilized by Evergy Missouri West in the IRP and Evergy Missouri West's LCOE analysis. While this difference can make a material change in the overall market revenue, there are other more concerning issues with the assumption. The capacity factors listed in Table 5 occurred while Persimmon Creek is still eligible to generate PTCs meaning that the asset frequently generated during negative LMP periods. In 2028, when the asset is no longer PTC eligible, it will likely be imprudent to generate during such periods of negative LMPs. Furthermore, the capacity factors above include periods of energy production when the Persimmon Creek LMP was less than the value of PTCs. Considering the number of hours that the Persimmon Creek SPP node has experienced negative LMPs, the capacity factors are likely to reduce dramatically

[46] Note: The Capacity Factor for 2022 and the total only include the production and maximum production through December 1, 2022.

in 2028 through the end of the asset life and will likely reduce upon Evergy Missouri Wests acquisition of the asset.

Q. What would the capacity factor of Persimmon Creek have been if the asset had not generated during periods of negative LMPs?

A. Table 6 below provides Staff's estimate of the historical capacity factors of Persimmon Creek assuming the asset is curtailed during periods of negative LMPs. These values are representative of the expected generation once the asset is no longer PTC eligible.

Table 6: Persimmon Creek Capacity Factor (Curtailed LMP <$0)

**

**

Table 7 below provides Staff's estimate of the historical capacity factors of Persimmon Creek assuming the asset is curtailed during periods of LMP less than $(26.00). These values are representative of the expected generation while the asset is PTC eligible.

continued on next page

Table 7: Persimmon Creek Capacity Factor (Curtailed LMP <$(26.00))

**

**

Q. How was the Persimmon Creek capacity factor utilized by Evergy Missouri West in the IRP analysis?

A. Evergy Missouri West ** ** [47] to produce the expected output of Persimmon Creek in each year of the asset life. This approach does not take into account the fact that after the asset is no longer PTC eligible, the asset should no longer be generating during periods of negative pricing. The approach also does not account for the likely reduction in capacity factor upon Evergy Missouri West's acquisition of the asset due to potential prudence disallowances for generating at a loss in excess of the PTC value.

Q. Are Staff's concerns alleviated if the IRP assumes ** **?

[47] Second supplemental response to Staff data request 0051.

A. No. Because of Evergy Missouri West's use of the elevated capacity factors to ** [redacted] ** the model inappropriately overestimates the expected generation from Persimmon Creek throughout the entire asset life, including those hours when market prices are assumed to be positive.

Q. What is the result of the flawed capacity factor assumption for Persimmon Creek in the IRP analysis?

A. Again, the result is an overestimation of the expected market revenue from Persimmon Creek meaning the results of the analysis are unreliable and should not be used as justification for approval of the CCN.

Q. Is the flawed capacity factor assumption limited to Evergy Missouri West's IRP analysis and results?

A. No. Evergy Missouri West also utilized an assumed capacity factor of ** [redacted] ** in its estimation of the LCOE of the asset which is discussed in the next subsection of my testimony.

Q. On page 16 of Ms. Messamore's supplemental direct testimony she states:

> **Ultimately, if wind projects available at that time were not comparable to what was modeled (e.g., they were more expensive or had lower capacity factors), EMW would evaluate delaying the addition** and replacing the capacity with an alternative source (likely additional market capacity purchases given most other options could not be available by 2024). Importantly for the evaluation of Persimmon Creek, in the case of energy, a delay in the resource addition simply extends EMW's exposure to market prices and delays their access to the resource's energy revenue. **This means that if actual project costs are higher than forecasted in the IRP and/or SPP energy prices are expected to be lower, we could delay the addition of the resource and reevaluate in a future IRP**. **[Emphasis added.]**

Considering the assumption flaws utilized in its IRP, how should Evergy Missouri West resolve the issue?

A. Since the assumption flaws discussed in this testimony result in overstated market revenue from Persimmon Creek in the IRP results, Staff recommends that Evergy Missouri West delay the addition, rescind the CCN application, and reevaluate utilizing reasonable assumptions. This approach is similar to the route discussed by Ms. Messamore, but impacts on potential market revenues and the effects of the recently passed Inflation Reduction Act of 2022 should also be part of the decision making process.

Levelized Cost of Energy

Q. What is a levelized cost of energy ("LCOE")?

A. At a high level, an LCOE is metric that divides the total cost of a generating asset by the expected energy production of that asset to generate a $/MWh value. Stated another way, an LCOE is an estimate of the revenue required per MWh generated to break even on the investment.

Q. How did Evergy estimate the LCOE of the various projects considered prior to the decision to acquire Persimmon Creek?

A. Based on Evergy's testimony,

> The final LCOEs for the short-listed assets were developed using a full-revenue requirements model for the wind plant. From there a levelized revenue requirement was calculated. Finally, the levelized revenue requirement was divided by the expected annual MWhs to generate a $/MWh LCOE value.[48]

Q. How did Evergy Missouri West utilize the capacity factor in the LCOE analysis for Persimmon Creek?

[48] Direct testimony of Jason Humphrey in this case.

A. Evergy Missouri West used the capacity factor to estimate the ** [redacted] ** over the remaining life of the asset. As I discussed previously in my testimony, Evergy Missouri West's capacity factor assumption is overstated, especially in the years that Persimmon Creek is no longer eligible for PTCs.

Q. Did Evergy Missouri West include potential value added from tax benefits of PTCs in the LCOE calculation?

A. Yes.

Q. What is the result of Evergy Missouri West's utilization of the capacity factor in the LCOE analysis?

A. Evergy Missouri West's estimation of the LCOE is underestimated meaning that the results appear more favorable than will likely occur. Staff identified two issues with Evergy Missouri West's utilization of the inflated capacity factor in the LCOE calculation. The first issue is that the inflated capacity factor is used to estimate overall energy production that is used as the denominator in the LCOE calculation. The second issue with the utilization of the inflated capacity factor is that it likely overestimates the value of PTC for Persimmon Creek through 2028. Table 8 below provides a comparison of Evergy Missouri West's estimates for levelized revenue requirement,[49] average annual production, and LCOE to those same estimates accounting for more reasonable capacity factor estimates.[50] Table 9 provides the annual revenue requirements provided by Evergy Missouri West,[51] updated to account for reduced capacity factor.[52]

[49] Response to Staff data request 0005.
[50] The updated capacity factor information in the table below provides updated information from Evergy Missouri West's estimates that includes Staff's calculation of the Persimmon Creek historical capacity factor.
[51] Response to Staff data request 0005.
[52] The updated capacity factor information in the table below provides updated information from Evergy Missouri West's estimates considering Staff's calculation of the Persimmon Creek historical capacity factor.

Table 8: Persimmon Creek LCOE comparison

**

**

Table 9: Annual Revenue Requirement (updated Capacity Factor)

**

**

Note that the Revenue Requirement/MWh values exceed the historical average revenue/MWh of Persimmon Creek.

Q. Was Evergy Missouri West's flawed capacity factor assumption limited to the analysis for Persimmon Creek?

A. No. Evergy assumed consistent energy production throughout the asset life to evaluate the LCOE of multiple projects associated with the response to the Company's request

for proposals. However, Persimmon Creek is an asset that has already been operating more than four years and the eligibility window for PTCs is relatively shorter than several other projects reviewed meaning that the actual capacity factor for Persimmon Creek is likely to reduce much sooner than other projects.

Q. How does the recently passed Inflation Reduction Act of 2022 ("IRA") impact the results of Evergy Missouri West's LCOE analysis given the capacity factor assumption flaws identified by Staff?

A. The analysis provided by Evergy Missouri West witness Jason Humphrey in his supplemental direct testimony to purportedly account for the impact of the IRA does not account for the assumption flaws discussed by Staff. The IRA potentially magnifies the capacity factor assumption flaw issue because additional resources are eligible for full PTC value over a longer period of time.[53] The IRA also includes modifications to the tax code related to solar resources, namely the availability of PTCs for solar resources. ** [redacted] ** The changes that have and will continue to occur as a result of the IRA, in addition to the various assumption flaws identified by Staff, warrant additional analysis by Evergy Missouri West prior to building or acquiring another generating resource.

Q. In her supplemental direct testimony, Ms. Messamore states:

> Q: What is the relationship between the IRP assessment of new resource additions and actual resource procurement?
>
> A: As I mentioned above, the Preferred Plan is used to develop an Implementation Plan, but the resource additions identified in the IRP

[53] Persimmon Creek will only produce PTCs for less than 6 years compared to other alternatives, potentially including solar facilities, which may be eligible to receive PTCs for the full 10-year term. It is unreasonable to not consider the material impact of these changes in the tax code on the economics of the potential projects considered.

> are not set in stone. The long-term resource plan identified in the IRP is typically made up of "generic" resource additions which are all assumed to have the same cost, risk, and performance. This means that nuances of specific projects must be evaluated through actual resource procurement and adjustments made to the plan when identified project assessments deviate materially from what was assumed in the IRP.

Does Evergy Missouri West's LCOE analysis consider nuances of specific projects?

A. No. Like most metrics, LCOE has it has shortfalls. Particularly relevant to this case is the fact that LCOE does not account for differences in the value of energy produced. Since SPP LMPs vary by time and location, the subsequent market revenues also vary by those same factors. Furthermore, capacity factors change overtime, especially for renewable resources with PTC eligibility that does not extend for the life of the asset. Evergy Missouri West's LCOE estimations do not account for these variables, but the results of the market revenues from any project will ultimately decide the economic outcome of the decision from the ratepayers' perspective.

Cost of Capacity

Q. How does Evergy Missouri West characterize the cost of capacity for Persimmon Creek?

A. Mr. Humphrey provides the installed value of the Persimmon Creek wind farm is $1,247/kW.[54] However, this does not account for the expected asset life, ** [redacted] **[55], or the accredited capacity of the resource, ** [redacted] **[56] of the nameplate capacity is expected be accredited by SPP for resource adequacy purposes.

Q. Is installed capacity cost per kW a particularly useful metric when considering options to meet potential resource adequacy capacity needs?

[54] Direct Testimony of Jason Humphrey, page 9, line 19.
[55] Evergy response to Staff data request 0005.
[56] Evergy response to Staff data request 0046.

A. No. When accounting for the capacity accreditation assumptions, the accredited capacity cost of the project is roughly ** [redacted]. **[57] Staff does not have the most recent responses to Evergy Missouri West's capacity RFP, however, the Company currently purchases capacity ** [redacted] **[58]

Q. What is the goal of SPP as it relates to resource adequacy?

A. From SPP,

> SPP's goal is to support the achievement of resource adequacy by ensuring there is enough capacity available to meet the needs of all end-use customers in SPP. SPP staff and the Supply Adequacy Working Group (SAWG) are responsible for the development and implementation of policies and processes to ensure the reliable supply of capacity necessary to meet demand and supply adequacy requirements/methodologies in SPP.[59]

Q. What is accredited capacity?

A. At a high level, the accredited capacity of a resource is the amount of capacity that SPP determines a given resource can provide during a period of peak demand, typically in the summer months. The accredited capacity of a given generating resource is used by a load responsible entity,[60,61] such as Evergy Missouri West,[62] to comply with SPP's resource adequacy requirements.

Q. How does accredited capacity of a given resource compare to the nameplate, or installed, capacity of that resource?

A. The accredited capacity is a fraction of the nameplate capacity.

[57] Accredited capacity cost divided by the expected life of the asset.
[58] Evergy response to Staff data request 0065 in Case No. ER-2022-0130.
[59] https://www.spp.org/engineering/resource-adequacy/
[60] "An Asset Owner with registered load in the Integrated Marketplace."
[61] attachment aa tariff.pdf (spp.org)
[62] Evergy Missouri West and Evergy Metro meet the SPP resource adequacy requirements on a combined basis.

Q. How does SPP determine the accredited capacity for wind resources?

A. My understanding is that SPP has begun to utilize a methodology called Effective Load Carrying Capability ("ELCC") to determine the accredited capacity for renewable generation resources. SPP produced a report titled "2020 ELCC Wind and Solar Study Report" in July of 2021. The executive summary of the report includes, in part, the following information pertaining to wind resources:

> As retirements of conventional resources and the penetration of renewable resources in the SPP Balancing Authority Area (BAA) footprint increases over time, it becomes critical to correctly assess the capacity value of renewable resources. Over-valuing renewable resources' contribution can result in lower levels of system reliability and increased risks of potential unserved load; while under-valuing can result in additional cost…
>
> The 2020 ELCC study results indicate that with increasing penetrations of wind and solar resources, the capacity value provided by those resources, on a percent or per MW of nameplate capacity generally tends to decrease…

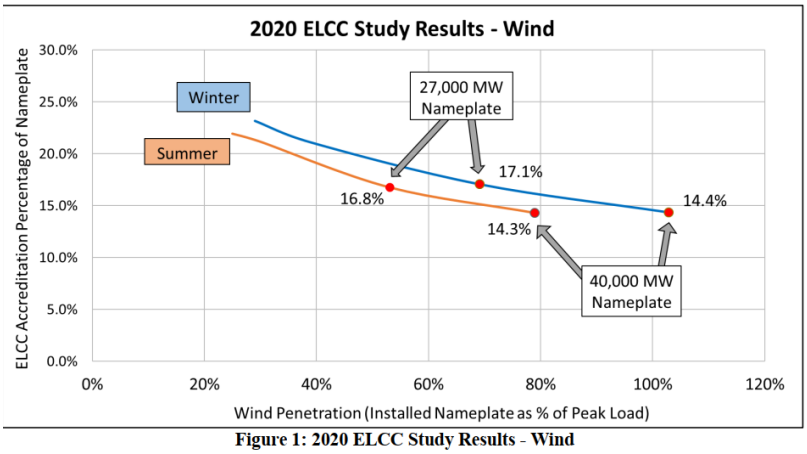


Figure 1: 2020 ELCC Study Results - Wind

The figure above demonstrates that as wind penetration continues to increase in the SPP footprint, the expected capacity accreditation of those resources is expected to decline.

Q. If Evergy Missouri West needs capacity to meet SPP resource adequacy requirements, is the acquisition of Persimmon Creek an efficient way to do so?

A. No. If capacity is necessary to continue to serve Evergy Missouri West's ratepayers, I expect that on a dollar per kW-accredited basis, there are far cheaper options available at this time.

Potential Mitigation of Exposure to Market Costs

Q. Evergy Missouri West witness Kayla Messamore describes Persimmon Creek as a "a zero-marginal cost energy resource which helps offset EMW's exposure to market energy prices."[63] Will the acquisition of Persimmon Creek limit Evergy Missouri West's exposure to market energy prices?

A. Not directly. Due to Evergy Missouri West's participation in SPP, the Company will be responsible for market energy costs to serve the load of ratepayers regardless of the acquisition of Persimmon Creek. While it is possible for generating resources to act as a hedge against high market energy prices under the right circumstances, Persimmon Creek does not appear to be very well suited to do so for Evergy Missouri West. Ideally, in order to maximize the mitigation of exposure to market energy costs, the energy production of a resource would be highest when nodal market prices are high and ratepayer demand is high.

Q. Does the timing of energy production from Persimmon Creek align well with Evergy Missouri West's load?

A. No. The figure below provides a graphical representation of the average energy production of Persimmon Creek by hour in the months of July and August compared to the Evergy Missouri West load during those same months.

[63] Page 21 of the supplemental direct testimony of Kayla Messamore.

Figure 3: Production and Load

**

**

The figure above demonstrates that the production of Persimmon Creek is relatively low when the load of Evergy Missouri West's ratepayers is relatively high. Market prices are generally elevated during periods of peak consumption in the summer months, in part, due to the increased demand for electricity for air-conditioning. The figures below demonstrate that the average LMP of the Evergy Missouri West load node follows that trend on both a monthly basis and an hourly basis within the months of July and August.

continued on next page

Figure 4: Average Monthly Real-time LMP for Evergy Missouri West

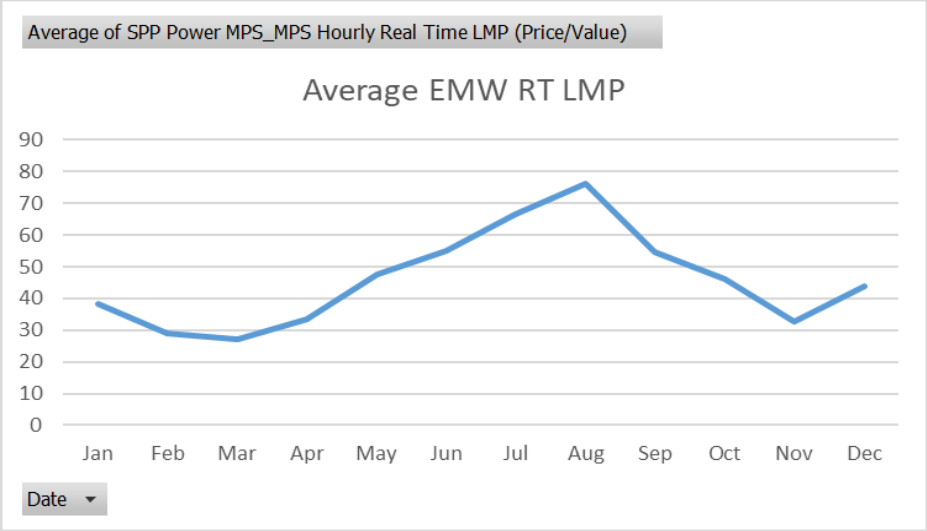
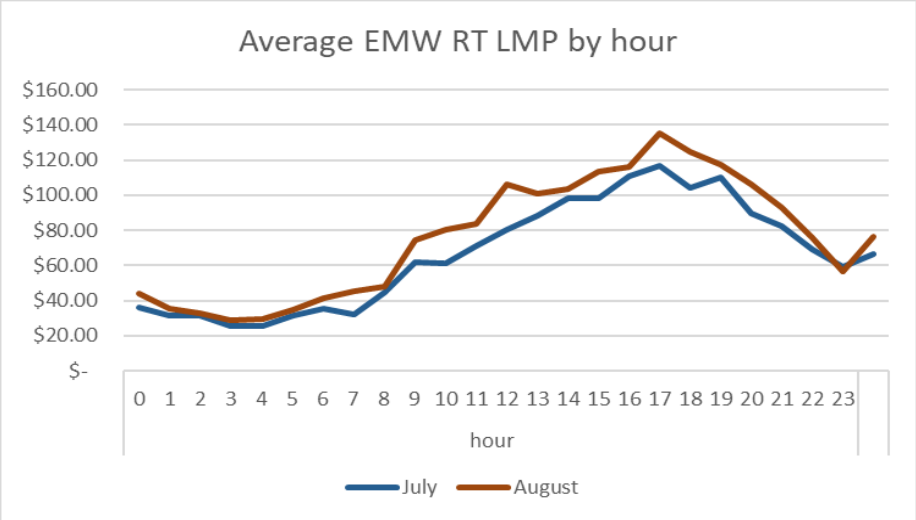


Figure 5: Average Hourly RT LMP for Evergy Missouri West



When Evergy Missouri West's demand and SPP real-time market prices are relatively high, the market cost to serve load follows. Persimmon Creek is unlikely to provide a good hedge against high market costs to serve load due to the historically low energy production during the periods of highest demand and market prices.

Summary of Economic Analysis of Persimmon Creek

Q. Please summarize Staff's conclusions regarding the Economic Analysis of Persimmon Creek.

A. The historical revenue of Persimmon Creek indicates that the market revenues are unlikely to exceed the revenue requirement associated with the project. This means that if the asset is included in rates, ratepayers are expected to pay more for the asset through rates than the offsetting market revenues from Persimmon Creek. The SPP node for Persimmon Creek has experienced increased hours of negative market prices since 2018, which will result in negative market revenue, or added costs, if the asset generates in those hours. Evergy Missouri West's economic analyses of Persimmon Creek are flawed and unreliable.

If additional capacity is necessary to meet SPP resource adequacy needs of Evergy Missouri West, Persimmon Creek is likely a poor solution on a dollar per kW-accredited basis.

Persimmon Creek is not likely to be a good hedge against exposure to market energy costs. Energy production from Persimmon Creek is relatively low when the load of Evergy Missouri West's ratepayers is relatively high. Market prices are generally elevated during periods of peak consumption in the summer months, in part, due to the increased demand for electricity for air-conditioning. Persimmon Creek is unlikely to provide a good hedge against high market costs to serve load during these periods.

Q. Does Staff have any recommendations for the Commission based upon Evergy Missouri West's assumptions flaws regarding future CCN applications?

A. Yes. Staff recommends that the Commission order Evergy Missouri West to provide resource specific economic analysis utilizing reasonable assumptions beyond the IRP results, LCOE estimates, and installed capacity costs in support of future CCN applications.

The analysis should address concerns raised by Staff in this testimony, including but not limited to, differences in energy production and market prices based upon time and location as well as expected changes to capacity factors after PTC eligibility. References to generic IRP analysis, LCOE estimates, and installed capacity costs are not sufficient to support a CCN application for assets that cost in excess of $100 million.

III. CORPORATE RENEWABLE GOALS

Q. Should corporate renewable goals be construed to rise to the level of a requirement necessary to meet the needs of all ratepayers?

A. No. While corporate renewable goals of Evergy Inc. may be laudable, they should not be misconstrued as a need to be paid for by all Evergy Missouri West ratepayers. Evergy Inc. is an entity that is not regulated by the Commission and is the parent company of Evergy Missouri West.[64,65] Achievement of Evergy Missouri West's parent company's corporate renewable goals should not be shouldered by Missouri ratepayers unless ratepayer's needs are being fulfilled economically.

Q. Isn't Evergy Missouri West required to meet the Missouri Renewable Energy Standard ("RES") requirements?

A. Yes, but Evergy Missouri West has already procured resources[66] that will satisfy the Missouri RES requirements for years to come.

Q. Do Evergy Missouri West ratepayers desire to be served through more renewable generation?

[64] An organization chart for Evergy, Inc. is attached as Confidential Schedule JL-r2.
[65] Evergy Missouri West response to Staff Data Request No. 32 in Case No. ER-2022-0130.
[66] Either owned renewable generation or through entering long-term purchased power agreements.

A. It is likely that a subset of Evergy Missouri West ratepayers would like to be served by more renewable generation and less fossil-fueled generating resources. However, I expect that it is unlikely for most of those ratepayers to understand the implications of Evergy Missouri West's SPP participation on the generation fleet serving their load, the dispatchability of generation resource types, or the cost implications of adding substantial investments in renewables to rate base without offsetting revenues.

Q. Are there customers that would prefer to be served exclusively by fossil-fueled resources that are dispatchable to meet market prices and system needs?

A. Probably. However, it would also not be appropriate for Evergy Missouri West to justify the addition of a large coal-fired plant, to be paid by all ratepayers, based primarily on that subset of ratepayers' desires.

Q. Do all customers want to have safe and reliable service when they need it?

A. Yes.

IV. REASONS TO NOT MAKE A DECISION ON THE PRUDENCY OF THE PROJECT

Q. If the CCN application is approved, does Staff recommend that the Commission make a finding of decisional prudence on the acquisition of the Persimmon Creek project in this case?

A. No. The determination of the prudence of a given project has typically been reserved for general rate cases. General rate cases include several advantages for Commission consideration when compared to the proceedings in a CCN docket. First, the case timeline for a general rate case is much longer, which allows for a more thorough discovery process for all parties. Next, general rate cases typically include additional interveners with a wide variety of

interests. Finally, and most importantly, in a general rate case all parties to the case are provided the opportunity to file Direct, Rebuttal, and Surrebuttal testimony, which affords a more substantial record for the Commission to consider all factors and costs prior to making a prudency determination on a plant that costs hundreds of millions of dollars that will be recovered from ratepayers for 15+ years. In contrast, Staff and other parties to this case are limited to filing rebuttal testimony, which is responsive to the application and direct testimony of the Evergy Missouri West,[67] and surrebuttal, which will only respond to the rebuttal testimony of the other parties.

Q. Does the acquisition of Persimmon Creek appear to be a prudent decision?

A. Based on the information that Evergy Missouri West has provided and Staff has reviewed, the acquisition does not appear to be a prudent decision. The historical revenues from Persimmon Creek ** [redacted] ** the economic analyses provided by Evergy Missouri West are flawed, and deciding to move forward with the acquisition based upon the results of such analysis introduces unnecessary risk for ratepayers.

Q. Are there other reasons for the Commission to not make a decision on the prudency of this decision in this case?

A. Yes. The Commission does not need to make this determination in the context of this case. As stated in the various Staff witness' testimony:

1. A general rate case provides the Commission with a better opportunity to consider all factors and costs for the prudency determination;

[67] Including Evergy Missouri West's witnesses supplemental direct testimonies.

2. Evergy Missouri West has not clearly identified the need being fulfilled through this purchase, and Staff has identified deficiencies in the reasoning for the alleged needs;
3. The Persimmon Creek wind facility is not particularly well-suited to meet summer capacity needs;
4. Evergy Missouri West's lack of identified need calls into question the economic efficiency of the project;
5. Evergy Missouri West's lack of identified need calls into question the promotion of public interest of the project;
6. The historical market revenue from Persimmon Creek indicates that the revenues from Persimmon Creek are unlikely to exceed the revenue requirement of the asset;
7. Evergy Missouri West's economic analyses include flaws in the assumptions necessary to estimate revenues from the Persimmon Creek wind project making the resulting analyses a poor justification of the project;
8. Aside from the aforementioned flaws from Evergy Missouri West's IRP analysis, the analysis is based upon generalities and not project specific.

V. CONCLUSION

Q. Please briefly summarize your testimony and provide the Staff recommendations discussed throughout your testimony.

A. Staff recommends that the Commission reject Evergy Missouri West's application for a CCN. Evergy Missouri West's application and the supporting testimony do not justify the Persimmon Creek Wind project based upon clearly identified needs, which is a critical component of the Tartan factors.[68] The Persimmon Creek Wind project is likely a poor

[68] 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).

choice for the alleged capacity need or to mitigate exposure to market energy costs for a variety of reasons including location, resource type, and timing of expected generation.

The historical revenue of Persimmon Creek indicates that the market revenues are unlikely to exceed the revenue requirement associated with the project. This means that if the asset is included in rates, ratepayers are expected to pay more for the asset through rates than the offsetting market revenues from Persimmon Creek. The SPP node for Persimmon Creek has experienced increased hours of negative market prices that will result in negative market revenue, or added costs, if the asset generates in those hours. Evergy Missouri West's economic analyses of Persimmon Creek do not appropriately account for the negative market prices making the results flawed and unreliable.

Persimmon Creek is not likely to be a good hedge against exposure to market energy costs. Energy production from Persimmon Creek is relatively low when the load of Evergy Missouri West's ratepayers is relatively high. Market prices are generally elevated during periods of peak consumption in the summer months, in part, due to the increased demand for electricity for air-conditioning. Persimmon Creek is unlikely to provide a good hedge against high market costs to serve load during these periods.

If additional capacity is necessary to meet SPP resource adequacy needs of Evergy Missouri West, Persimmon Creek will not fulfill that need and is likely a poor solution on a dollar per accredited kW basis.

One key part of the Commission's role as regulator of the monopoly utility is to ensure that the utility does not abuse its power. While corporate renewable goals may be laudable, they should not be misconstrued as a need to be paid for by all ratepayers.

The Commission can prevent the introduction of unnecessary ratepayer risk and the recovery of unwarranted shareholder profits by rejecting Evergy Missouri West's CCN application.

Q. Please provide a summary of Staff's recommendations in this case.

A. Staff recommends that the Commission reject Evergy Missouri West's application for a Certificate of Convenience and Necessity ("CCN").

Given the complexity and volume of the analysis necessary to evaluate the economics of a given project and the risks borne by ratepayers, if Evergy Missouri West provides updated analysis in subsequent rounds of testimony in this case, Staff recommends that the Commission reject the application and allow Evergy Missouri West to file a new application for a CCN based upon the updated analyses. This approach would provide Staff and other parties to this case time to review the analyses and respond accordingly, providing for a more substantial and complete record for the Commission's determination.[69] Alternatively, Staff recommends that the Commission extend the procedural schedule in this case including the opportunity for responsive testimony. This approach would provide Staff and other parties to this case a bit more time to review the analyses and respond, providing for a more substantial and complete record for the Commission's determination.

Staff recommends that the Commission order Evergy Missouri West to provide resource specific economic analysis utilizing reasonable assumptions beyond the IRP results, LCOE estimates, and installed capacity costs in support of future CCN applications. The analysis should address concerns raised by Staff in this testimony, including but not limited to,

[69] Ibid.

differences in energy production and market prices based upon time and location as well as expected changes to capacity factors after PTC eligibility.[70]

If the Commission determines that approval of the CCN is appropriate, Staff recommends that the Commission not make a decision in this case regarding Evergy Missouri West's decisional prudence of the Persimmon Creek Wind Project and include the following conditions in the order approving the CCN:

1. Staff recommends that the Commission order that the in-service criteria contained in attachment SEL-2 to Shawn Lange's rebuttal testimony are appropriate for use in a future case to determine whether the Persimmon Creek project is in-service. Staff prefers to have in-service criteria that the parties can agree to prior to the case(s) in which the plant is put into rate base, it is unclear whether that will happen in this case.[71]
2. ** [redacted] **[72]
3. Staff recommends that the Commission order Evergy West to track the PTCs accrued on its books so that they too are available for the Commission's consideration in Evergy West's next rate case.

[70] Ibid.
[71] Rebuttal testimony of Shawn Lange.
[72] Ibid.

4. Staff recommends that the Commission hold Evergy Missouri West's ratepayers harmless if the costs of Persimmon Creek exceed the market revenues and ratepayer realized tax benefits.

If the Commission determines that approval of the CCN is appropriate, it does not need to make a determination on the decisional prudence of the project. As stated in the various Staff witness' testimony:

1. A general rate case provides the Commission with a better opportunity to consider all factors and costs for the prudency determination;
2. Evergy Missouri West has not clearly identified the need being fulfilled through this purchase;
3. The Persimmon Creek wind facility is not particularly well-suited to meet summer capacity needs;
4. Evergy Missouri West's lack of identified need calls into question the economic efficiency of the project;
5. Evergy Missouri West's lack of identified need calls into question the promotion of public interest of the project;
6. The historical market revenue from Persimmon Creek indicates that the revenues from Persimmon Creek are unlikely to exceed the revenue requirement of the asset;
7. Evergy Missouri West's economic analyses include flaws in the assumptions necessary to estimate revenues from the Persimmon Creek wind project making the resulting analyses a poor justification of the project;
8. Aside from the aforementioned flaws from Evergy Missouri West's IRP analysis, the analysis is based upon generalities and not project specific.

Q. Does this conclude your rebuttal testimony?

A. Yes it does.

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the Matter of the Application of Evergy Missouri West, Inc. d/b/a Evergy Missouri West for Permission and Approval of a Certificate of Public Convenience and Necessity Authorizing It to Purchase, Own, Operate, Maintain and Otherwise Control and Manage an Existing Wind Generation Facility in Oklahoma	)))))))	Case No. EA-2022-0328

AFFIDAVIT OF J LUEBBERT

STATE OF MISSOURI)
) ss.
COUNTY OF COLE)

COMES NOW J LUEBBERT and on his oath declares that he is of sound mind and lawful age; that he contributed to the foregoing *Rebuttal Testimony of J Luebbert*; and that the same is true and correct according to his best knowledge and belief.

Further the Affiant sayeth not.

J LUEBBERT

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 13th day of January 2023.

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

Case Participation of

J Luebbert

Case Number	Company	Issues
EO-2015-0055	Ameren Missouri	Evaluation, Measurement, and Verification
EO-2016-0223	Empire District Electric Company	Integrated Resource Planning Requirements
EO-2016-0228	Ameren Missouri	Utilization of Generation Capacity, Plant Outages, and Demand Response Program
ER-2016-0179	Ameren Missouri	Heat Rate Testing
ER-2016-0285	Kansas City Power & Light Company	Heat Rate Testing
EO-2017-0065	Empire District Electric Company	Utilization of Generation Capacity and Station Outages
EO-2017-0231	Kansas City Power & Light Company	Utilization of Generation Capacity, Heat Rates, and Plant Outages
EO-2017-0232	KCP&L Greater Missouri Operations Company	Utilization of Generation Capacity, Heat Rates, and Plant Outages
EO-2018-0038	Ameren Missouri	Integrated Resource Planning Requirements
EO-2018-0067	Ameren Missouri	Utilization of Generation Capacity, Heat Rates, and Plant Outages
EO-2018-0211	Ameren Missouri	Avoided Costs and Demand Response Programs
EA-2019-0010	Empire District Electric Company	Market Protection Provision
GO-2019-0115	Spire East	Policy
GO-2019-0116	Spire West	Policy
EO-2019-0132	Kansas City Power & Light Company	Avoided Cost, SPP resource adequacy requirements, and Demand Response Programs
ER-2019-0335	Ameren Missouri	Unregulated Competition Waivers and Class Cost Of Service
ER-2019-0374	Empire District Electric Company	SPP resource adequacy
EO-2020-0227	Evergy Missouri Metro	Demand Response programs
EO-2020-0228	Evergy Missouri West	Demand Response programs
EO-2020-0262	Evergy Missouri Metro	Demand Response programs
EO-2020-0263	Evergy Missouri West	Demand Response programs

Case Number	Company	Issues
EO-2020-0280	Evergy Missouri Metro	Integrated Resource Planning Requirements
EO-2020-0281	Evergy Missouri West	Integrated Resource Planning Requirements
EO-2021-0021	Ameren Missouri	Integrated Resource Planning Requirements
EO-2021-0032	Evergy	Renewable Generation and Retirements
GR-2021-0108	Spire Missouri	Metering and Combined Heat and Power
ET-2021-0151	Evergy	Capacity costs
ER-2021-0240	Ameren Missouri	Market Prices, Construction Audit, Smart Energy Plan, AMI
ER-2021-0312	Empire District Electric Company	Construction Audit, Market Price Protection, PISA Reporting
EO-2022-0193	Empire District Electric Company	Retirement of Asbury
ER-2022-0129	Evergy Missouri Metro	MEEIA annualization
ER-2022-0130	Evergy Missouri West	MEEA annualization, Schedule SIL revenue and incremental costs
EF-2022-0155	Evergy Missouri West	Customer event balancing
EC-2022-0315	Evergy Missouri West	Compliance with Stipulation and Agreement, Commission Order, and Schedule SIL
GR-2022-0179	Spire Missouri	Compressed Natural Gas
EA-2022-0244	Ameren Missouri	Huck Finn Solar CCN
EA-2022-0245	Ameren Missouri	Boomtown Solar CCN

SCHEDULE JL-r2

HAS BEEN DEEMED

CONFIDENTIAL

IN ITS ENTIRETY