

**PUBLIC VERISON**

**BEFORE THE STATE CORPORATION COMMISSION  
OF THE STATE OF KANSAS**

---

**DIRECT TESTIMONY OF**

**JASON O. HUMPHREY**

**ON BEHALF OF EVERGY METRO, INC., EVERGY KANSAS  
CENTRAL, INC. AND EVERGY KANSAS SOUTH, INC.**

---

**IN THE MATTER OF THE APPLICATION OF EVERGY  
KANSAS METRO, INC., EVERGY KANSAS SOUTH, INC.  
AND EVERGY KANSAS CENTRAL, INC. TO MAKE CERTAIN  
CHANGES IN THEIR CHARGES FOR ELECTRIC SERVICE  
PURSUANT TO K.S.A. 66-117.**

**Docket No. 23-EKCE-775-RTS**

**April 25, 2023**

1 **I. INTRODUCTION**

2 **Q: Please state your name and business address.**

3 A: My name is Jason Humphrey. My business address is 818 S Kansas Ave. Topeka, KS  
4 66612.

5 **Q: By whom and in what capacity are you employed?**

6 A: I am employed by Evergy Kansas Central, Inc. I serve as the Vice President, Development  
7 and Assistant Treasurer for Evergy Metro, Inc. d/b/a as Evergy Kansas Metro (“EKM”),  
8 Evergy Kansas Central, Inc. and Evergy South, Inc., collectively d/b/a as Evergy Kansas  
9 Central (“Evergy Kansas Central” or “EKC”), Evergy Missouri West, Inc. d/b/a Evergy  
10 Missouri West (“Evergy Missouri West” or “EMW”), and Evergy Metro, Inc. d/b/a Evergy  
11 Missouri Metro (“Evergy Missouri Metro”) (the operating utilities of Evergy, Inc.)

12 **Q: Who are you testifying for?**

13 A: I am testifying on behalf of EKC.

14 **Q: What are your responsibilities?**

15 A: My responsibilities include the acquisition and construction of renewable and conventional  
16 assets for the Evergy operating utilities. This includes the preparation and evaluation of  
17 requests for proposal, negotiation of contracts, monitoring of asset construction, and the  
18 eventual commercial operation of the assets. In addition, as Assistant Treasurer I am  
19 responsible for cash management and corporate finance functions of Evergy and its related  
20 companies.

21 **Q: Please describe your education, experience, and employment history.**

PUBLIC VERISON

1 A: I graduated magna cum laude from the Kansas State University in May 2008 with a  
2 Bachelor of Science degree in Mechanical Engineering with a Nuclear Engineering option.  
3 I also received a Master of Business Administration degree with honors from Baker  
4 University in May 2017. I joined Evergy Kansas Central as a Power Plant Engineer in June  
5 2008. I was later named Supervisor, Electrical Maintenance in March 2011, and Plant  
6 Manager, Emporia Energy Center in May 2012. In May 2013 I was named Director of  
7 Natural Gas Fired Generation which oversaw all of Westar's natural gas and oil fired  
8 powerplant operations. Starting in August of 2015, I served as Director of Performance  
9 Excellence and later became Director of Integration Success upon the formation of Evergy  
10 in June 2018. In May 2020 I was named Senior Director, Finance and in December 2020 I  
11 was named Assistant Treasurer. In September 2021 the position of Senior Director of  
12 Renewables was added to my responsibilities. In January of 2023 I was promoted to Vice  
13 President, Development & Assistant Treasurer.

14 **Q: Have you previously testified in a proceeding at the Kansas Corporation Commission**  
15 **("Commission" or "KCC") or before any other utility regulatory agency?**

16 A: Yes. I have provided testimony on Nuclear Decommissioning Trust costs and investment  
17 requirements regarding the Wolf Creek Nuclear Generating Station to both the KCC and  
18 the Missouri Public Service Commission ("MPSC"). I also submitted testimony before the  
19 MPSC on Evergy Missouri West's Winter Storm Uri securitization petition and its  
20 Persimmon Creek Wind Farm application.

21 **Q: What is the purpose of your direct testimony?**

22 A: The purpose of my direct testimony is to:

PUBLIC VERISON

- 1 • provide a detailed overview of the Persimmon Creek Wind Farm project and asset
- 2 (“Project,” “Persimmon Creek” or the “Asset”) which Evergy Kansas Central is
- 3 acquiring,
- 4 • provide a detailed timeline and overview of the competitive renewable wind energy
- 5 Request for Proposal (“RFP”) that led to the acquisition of Persimmon Creek,
- 6 • provide a detailed timeline and explanation for EKC’s selection and purchase of the
- 7 asset,
- 8 • provide an explanation of how the acquisition transaction is structured,
- 9 • describe the supply chain environment and inflation in the larger macro-economic
- 10 environment throughout the timeline of the Project acquisition,
- 11 • detail the Project’s economics and how they compared to alternatives considered in the
- 12 2021 RFP process and subsequent 2023 Evergy All-Source RFP,
- 13 • discuss technical aspects of the Project including transmission considerations, and the
- 14 operations plan for the Asset,
- 15 • furnish a description and timeline of the Inflation Reduction Act (“IRA”) and its key
- 16 provisions for utility scale renewable energy projects, and
- 17 • explain how the passage of the IRA might impact the Persimmon Creek analysis.

18 **Q: Are you sponsoring any exhibits with your direct testimony?**

19 A: Yes, I am sponsoring **Confidential Exhibit JOH-1** – October 2021 Wind RFP Short-List  
20 Selection Presentation & Alpha Assignments; **Confidential Exhibit JOH-2** – October  
21 2021 Updated Short-List Results; **Confidential Exhibit JOH-3** – Persimmon Creek  
22 Membership Interest and Purchase Agreement (MIPA); **Exhibit JOH-4** – Persimmon  
23 Creek Transaction and Organization Chart; **Exhibit JOH-5** – Asset Plans and

1 Specifications; **Confidential Exhibit JOH-6** – 2021 & 2023 Wind RFP Short List IRA  
2 pro-forma; **Confidential Exhibit JOH-7** – Persimmon Creek Commissioning Engineering  
3 Report; **Confidential Exhibit JOH-8** – Persimmon Creek Technical Diligence Memo;  
4 **Confidential Exhibit JOH-9** – Persimmon Creek Transmission Analysis.

5 **Q: Please describe your role specific to this Project.**

6 A: My role was to lead the Request for Proposal (“RFP”) and negotiations that would result  
7 in the acquisition of wind resources to satisfy the needs identified in the Integrated  
8 Resource Plan (“IRP”). I was the primary negotiator with Persimmon Creek and the other  
9 alternatives evaluated during negotiations.

10 **II. OVERVIEW OF THE PROJECT AND THE RFP PROCESS**

11 **Q: Please provide a detailed overview of the Asset being acquired.**

12 A: Persimmon Creek is a 198.6 MW, 80 wind-turbine generator (“WTG”), wind generation  
13 facility located in parts of Woodward, Ellis and Dewey Counties in Oklahoma near the  
14 town of Vici. The Asset became commercially operational in August 2018. It interconnects  
15 to the grid via a shared substation and point of ultimate electrical interconnection at the  
16 Woodward District substation owned by Oklahoma Gas and Electric Co. (“OG&E”). Of  
17 the 80 WTGs installed and operational today, seven units have a 2.3-megawatt (“MW”) capacity,  
18 and 73 units have a 2.5-MW capacity. The bulk of the equipment is common  
19 between the two different sized WTGs. A description of the Project is contained in **Exhibit**  
20 **JOH-5.**

21 **Q: How has Persimmon Creek operated since becoming commercially operational in**  
22 **2018?**

PUBLIC VERISON

1 A: Persimmon Creek has performed very well in the Southwest Power Pool since becoming  
2 commercial in 2018. Operating power plants are often measured by their net capacity factor  
3 (“NCF”) which is the ratio of the number of megawatt-hours (“MWhs”) produced versus  
4 the theoretical maximum number of MWhs produced. For instance, if a 100 MW nameplate  
5 capacity generator were to run for all 8,760 hours of the year at full nameplate capacity, it  
6 would produce 876,000 MWhs for the year. This would represent the denominator in the  
7 net capacity factor equation. However, if the wind farm net generated 300,000 MWhs for  
8 the year, its NCF would be 300,000 MWhs/876,000 MWhs or 34.25%. Since it began  
9 commercial operations, Persimmon Creek has shown itself to be a very robust and  
10 successful operating asset. Over the Project’s history, it has operated at approximately a  
11 50% NCF. It has achieved this capacity factor through two major winter storms  
12 notwithstanding any startup issues or maintenance downtime at the plant.

13 **Q: What process did Evergy pursue in this case to obtain renewable energy resources to**  
14 **serve its customers?**

15 A: Initially under Evergy’s IRP, renewable and specifically wind resource additions were  
16 identified as part of the preferred plan in 2024 and 2025. Therefore, EKC and the other  
17 Evergy operating utilities initiated a competitive RFP process for wind generation  
18 resources on Evergy’s public website. The objective was to obtain potential resource  
19 additions that would be in operational service by the end of 2026. Developers with assets  
20 in the Southwest Power Pool (“SPP”) region were invited to participate. The RFP allowed  
21 for a variety of different stages of development to be considered. Responses were received  
22 for development sites where Evergy would be required to complete the engineering,  
23 procurement, and construction (“EPC”) portion of the contract, and from proposals for

PUBLIC VERISON

1 build transfer agreements where a developer would complete the early-stage development,  
2 as well as the EPC portion. Responses also were received from owners of assets where  
3 construction and permitting had already taken place, and the asset was operating in the  
4 marketplace.

5 **Q: How was the RFP administered and distributed?**

6 A: After the RFP was posted on its public website, Evergy took a broad approach and  
7 contacted developers it knew had developments or assets within the SPP footprint. We also  
8 widely distributed a press release for the RFP to cast the widest net possible in search of  
9 projects that might be attractive to customers. The RFP followed the schedule shown below,  
10 with negotiations to be completed in the first half of 2022.

Milestone	Completed by Date
Issue RFP	October 18, 2021
Submit Appendix A and B with intent to bid	October 29, 2021
Pre-bid conference	November 4, 2021
Submit all questions	November 15, 2021
Bids due	November 23, 2021
Short list selected	December 17, 2021
Final negotiations complete	Q1-Q2 2022
Expected Notice to Proceed (NTP) for 2024 Commercial Operation Date (“COD”)	Q1-Q2 2023
Preferred COD #1	June, 2024
Preferred COD #2	December, 2025
Latest COD	December, 2026

1 **Q: Please describe in general terms the responses to the RFP.**

2 A: Evergy received responses to the RFP from eleven different developers offering more than  
3 twenty different projects or project constructs. The offers included (1) early-stage  
4 developments where land leases and potential interconnection queue positions could be  
5 purchased, (2) build transfer agreements, and (3) existing operational project sites. The  
6 projects had various CODs ranging from 2018 to 2025 or later depending on progression  
7 through the SPP's Generator Interconnection queue, also known as the Definitive  
8 Interconnection System Impact Studies ("DISIS") process. See **Confidential Exhibit**  
9 **JOH-1.**

10 **Q: How did Evergy evaluate the projects?**

11 A: Evergy performed a qualitative and quantitative evaluation of all project proposals based  
12 on the various factors outlined in Section 7 of the RFP. The first stage of evaluation  
13 involved examining the price and non-price factors that would contribute to the overall  
14 ranking of the projects. The Levelized Cost of Energy ("LCOE"), a good comparative  
15 metric of the levelized energy cost of an asset, was analyzed for the price factor. All projects  
16 were wind generators, so the capacity accreditation was assumed to be ~10% until firm  
17 transmission was secured. Non-price factors included development and operational team  
18 experience, technical and value attributes, environmental risk, conformity to pro-forma  
19 agreements, and development milestones. All members of Evergy's evaluation sub-teams  
20 voted either "Yes" or "No" on whether to short list a particular site. Best and final offers



1 were then requested, and the final shortlist was selected for detailed evaluation and possible  
2 negotiations. See **Confidential Exhibits JOH-1 and JOH-2.**

3 **Q: How were the LCOEs calculated?**

4 A: The LCOEs for the short-listed assets were developed using a full-revenue requirements  
5 model for each wind plant. A levelized revenue requirement was then calculated. Finally,  
6 the levelized revenue requirement was divided by the expected annual energy production  
7 at P50 for the pre-COD assets and actual production MWhs for the operational assets to  
8 generate a \$/MWh LCOE value. The LCOE for Persimmon Creek for Evergy Kanas  
9 Central and supporting calculations are shown in the workpapers of Company Witness Mr.  
10 John Grace.

11 **Q: Describe the next steps in the process.**

12 A: After the short list was identified, projects were prioritized for negotiation based on their  
13 potential commercial operations dates, their refined LCOEs based on the best and final  
14 offers, and responses to questions and answers submitted in early 2022. Based on the  
15 responses to Evergy's questions and updated cost factors, model sites were selected for  
16 targeted commercial discussions. Two sites with 2024 CODs were selected to move  
17 forward with detailed negotiations: Persimmon Creek and Project "D" identified in  
18 **Confidential Exhibit JOH-1.**

19 **Q: Did Persimmon Creek offer the best balance of costs and other factors used to  
20 evaluate the RFP?**

21 A: Yes, it did. Persimmon Creek has a project LCOE of \$28.03/MWh, which was the lowest  
22 LCOE of all the projects in the 2021 RFP. Persimmon Creek remains highly competitive  
23 with the projects Evergy has begun to evaluate from its recently released 2023 All-Source

1 RFP. Persimmon Creek presented fewer risks from an inflation, permitting, supply chain,  
2 labor availability, and construction perspective because it was already operational and  
3 offered an extremely well performing asset with a proven operational Net Capacity Factor  
4 of 50.5%. See **Confidential Exhibit JOH-6**.

5 **Q: Was Persimmon Creek identified as the least cost resource to meet customer needs**  
6 **under the Company's Integrated Resource Planning analysis?**

7 A: Yes. The Company's 2021 IRP had selected wind in the preferred plan for the 2024 resource  
8 addition, and Persimmon Creek was the lowest cost resource both from a \$/kilowatt  
9 capacity standpoint and a LCOE standpoint from that RFP. While there are competitive  
10 options potentially available in the 2023 RFP, none of those options have been through a  
11 contracting and diligence process and were just recently short-listed for evaluation. In  
12 addition to the long and uncertain process of performing diligence and negotiating a  
13 contract, there is still substantial inflation, permitting, supply chain, labor availability, and  
14 construction risk associated with those other projects.

15 **Q: What was the timeline of the final negotiation for Persimmon Creek?**

16 A: Between June and August of 2022, Evergy and the primary asset owner, Scout Clean  
17 Energy ("Scout") worked on finalizing the definitive agreement for the purchase of  
18 Persimmon Creek which is the Class B MIPA attached to my direct testimony as  
19 **Confidential Exhibit JOH-3**. Other associated agreements were finalized during this time  
20 and the MIPA and associated agreements were executed on August 8, 2022.

21 **Q: You stated that Persimmon Creek was initially intended to be used to meet the**  
22 **demands of EMW. When did that change?**

1 A: Evergy’s IRP process had identified EMW as the operating utility with the greatest need at  
2 the time and the entity that would potentially realize the most benefit from the Asset. EMW  
3 originally submitted an application to the MPSC for an Operating Certificate of  
4 Convenience and Necessity (“CCN”) for Persimmon Creek. However, at the conclusion of  
5 the CCN proceeding the MPSC imposed unprecedented conditions on the issuance of the  
6 CCN that would have altered how rates have traditionally been set in Missouri. Those  
7 conditions would have precluded EMW from earning a fair and just return on its  
8 Persimmon Creek investment.

9 **Q: Since the MPSC granted EMW’s request for a CCN for the Persimmon Project, why**  
10 **is the Asset now being transferred to EKC?**

11 A: A number of important factual changes have emerged since EMW was initially identified  
12 as the potential owner of Persimmon Creek. First, EKC has experienced significant and  
13 exciting economic development announcements. As testified by Ms. Messamore, these  
14 announcements have been headlined by a Panasonic battery facility to be constructed near  
15 DeSoto, Kansas. Negotiations involving these economic development opportunities  
16 regularly include questions about Evergy’s renewables plans and convey a desire on the  
17 part of developers to support the transition away from fossil resources.

18 In addition to load growth driven by economic development, a second significant  
19 factual change, which is also discussed by Ms. Messamore, is the SPP increase in reserve  
20 margin requirements from 12% to 15%. This change, of course, increases Evergy’s need  
21 for capacity.

22 A third significant circumstance has been the volatility of natural gas and energy  
23 prices experienced in the time between October of 2021 when the RFP was initiated and

1 today. Zero fuel cost, renewable resources, are some of the most cost-effective energy  
2 resources available on the market today. Persimmon Creek and other zero fuel cost  
3 resources provide economic protection against multiple, uncertain fuel cost and availability  
4 futures. This is one reason wind was selected in the IRP and why the IRP outcome is further  
5 enhanced when comparing the Persimmon Creek Asset specifics versus the generic  
6 resource initially modeled in the IRP.

7 **Q: Does the 2022 IRP support the inclusion of Persimmon Creek in EKC's rates and**  
8 **resource plan?**

9 A: Yes, as described by Witness Messamore. Persimmon Creek is expected to bring  
10 approximately \$150 million in Net Present Value Revenue Requirements ("NPVRR")  
11 reduction benefits to customers over the 20-years studied in the 2022 IRP when giving  
12 effect to inclusion of Persimmon Creek in the portfolio versus a base assumption of no  
13 change. In the 2022 IRP, EKC has identified a need for 350 MW of wind generation in  
14 2025. This Project satisfies approximately 57% of that identified need.

15 **III. THE TRANSACTION AND ECONOMIC ANALYSIS OF THE PROJECT**

16 **Q: How have supply chain issues and economic inflation affected renewable asset**  
17 **procurement as the Company evaluated responses to the RFP?**

18 A: Global supply chain disruptions, shortages due to the Covid-19 pandemic, and global  
19 inflation have resulted in longer lead times and shortages of both material and labor  
20 resources. These impacts have been particularly acute in the renewable energy space.  
21 Global steel production, electrical power transformer manufacturing, and the availability  
22 of skilled labor have been particularly hard hit by supply chain disruptions. Steel indices

1 have seen 100% to 185%<sup>1</sup> increases since the start of the pandemic, and southeast Asian  
2 shipping costs have risen sharply - with 250% to 1,000% increases.<sup>2</sup> Many of the RFP  
3 participants were forced to increase their prices during the procurement process because of  
4 these disruptions along with general wage and price inflation. These price increases were  
5 reaffirmed in our recently received 2023 RFP proposals.

6 **Q: Have there been other public announcements of renewables that are representative of**  
7 **how markets have moved?**

8 A: Yes. On June 1, 2022, American Electric Power (“AEP”) subsidiary Southwestern Electric  
9 Power Company (“SWEPCO”) announced it was acquiring 200 MW of solar and 799 MW  
10 of wind generation resources from Invenegy. This 999 MW of total generation were valued  
11 at \$2.2 billion, representing an installed cost of a combined \$2,202/kW.<sup>3</sup> Notably, 598.4  
12 MW of the generation are located in Oklahoma.

13 Subsequently, on November 17, 2022, AEP’s Public Service Company of  
14 Oklahoma (“PSO”) announced it was acquiring 995.5 megawatts of combined wind and  
15 solar plants in Texas and Kansas for \$2.47 billion, or \$2,480/kW.<sup>4</sup> These projects are  
16 expected to reach commercial operation between April and December 2025. While there  
17 are differences from site to site that would account for a portion of the price difference  
18 between the AEP PSO and AEP SWEPCO projects, the continued inflationary environment  
19 experienced between June and November 2022 is a likely cause of the 12.6% price  
20 escalation per kilowatt installed.

---

<sup>1</sup> <https://fred.stlouisfed.org/graph/?g=SFP5>

<sup>2</sup> <https://www.scmp.com/economy/china-economy/article/3159054/china-shipping-southeast-asia-sees-prices-surge-tenfold>

<sup>3</sup> <https://www.prnewswire.com/news-releases/swepco-seeks-approval-for-three-new-wind-and-solar-projects-301557960.html>

<sup>4</sup> <https://www.aep.com/news/releases/read/8743/PSO-Files-Proposal-to-Increase-Power-Supply-and-Stabilize-Customer-Bills>

1 **Q: What has economic inflation been between 2021 and 2023?**

2 **A:** General inflation has hit historic highs that have not been seen since the 1980's. By January  
3 2022, the inflationary rate was over 7% and in June the year-over-year Consumer Price  
4 Index inflation measure hit 9.1% - the highest level since 1979. While the metric has begun  
5 to come down since that historic June measure, the most recent number was still above the  
6 5% mark in March of 2023. This measure remains well above the Federal Reserve's long-  
7 term target of 2-3%.<sup>5</sup>

8 **Q: Did Evergy experience any effects of this inflation during the 2021 Wind RFP?**

9 **A:** Yes. Two of the short-listed projects experienced price increases of 10% through April 2022  
10 (when negotiations ceased) and another project had increased nearly 20% by July 2022  
11 (when negotiations ceased).

12 **Q: Has this price inflation affected wind turbine generator manufacturers specifically?**

13 **A:** It certainly has. According to a recent S&P Capital IQ article, wind-turbine manufacturers  
14 have continued to increase prices throughout the RFP timeline and Persimmon Creek  
15 negotiations. In fact, the three major European wind-turbine generator manufacturers are  
16 all currently offering turbines at a price that is ~\$850/kW or higher for just the WTGs.

17 **Q: Has Persimmon Creek been affected by any of these macro-economic factors?**

18 **A:** No, it has not. Unlike the other assets that were considered in the short list for the 2021  
19 RFP and reaffirmed in our 2023 RFP, Persimmon Creek did not experience the inflation,  
20 supply chain and post-covid recovery inflationary pressures. The price that Evergy was  
21 able to negotiate in June of 2022, with the execution of the term sheet and signed letter of  
22 intent, has stayed constant and unaffected by the continued inflationary environment.

---

<sup>5</sup> <https://www.bls.gov/charts/consumer-price-index/consumer-price-index-by-category-line-chart.htm>

1 **Q: How was the value of the Persimmon Creek Wind Farm determined?**

2 A: The valuation process began when wind was identified as part of the preferred plan in the  
3 Evergy Operating Company IRPs. Ms. Messamore describes in detail how Persimmon  
4 Creek is consistent specifically with EKC's most recent IRP. While EKC is also likely to  
5 benefit from the addition of solar, the immaturity of solar generation development in the  
6 SPP confirms that wind generation is the better choice until 2026.

7 Irrespective of generation source, Persimmon Creek was the best offer among all  
8 offers received in the competitive, arms-length RFP process. Persimmon Creek is a 100%  
9 production tax credit ("PTC") qualified, robustly operating asset with a historical operating  
10 Net Capacity Factor near 50%. Through the competitive RFP process, and from a risk,  
11 inflation, permitting, supply chain, labor availability, and construction perspective with a  
12 contractual purchase price of \$245,700,000 that led to a \$1,247/kW installed value and a  
13 levelized cost of energy of \$28.03/MWh, Persimmon Creek proved to be the most attractive  
14 offer received by Evergy.

15 Finally, there is the value of utility ownership of the Project. By owning this Asset,  
16 the Company controls a prime wind location and has the ability to improve, repower, and  
17 control the site and its interconnection. This is unlike a power purchase agreement ("PPA")  
18 where the utility only has firm off-take rights for the energy produced from the site and has  
19 no decisional authority or control over the maintenance, operation, and strategic decisions  
20 for the Asset. This control is not just for the duration of a PPA or some other financial  
21 contract, but for the life of the site itself. Because Evergy has an interest in the long-term  
22 energy production of the region, it is important for the Company to invest in assets like  
23 Persimmon Creek.

1 **Q: What PTC benefits are available for the Project?**

2 A: Persimmon Creek, with a commercial operation date in 2018, is eligible for 100% PTC  
3 benefits through its first ten years of life. In 2022 the IRS released guidance that the PTC  
4 is worth \$26.00/MWh.

5 **Q: What is the purchase price and how is Evergy recommending Persimmon Creek be  
6 included in rates?**

7 A: The purchase price for the Persimmon Creek Wind Farm is \$245,700,000 plus working  
8 capital adjustments and adjustments for PTC value, both to be finalized at closing. EKC is  
9 requesting the KCC approve inclusion of the Asset in rates at a levelized cost structure as  
10 described by Mr. John Grace.

11 **Q: How has the acquisition of Persimmon Creek Wind Farm been structured?**

12 A: The acquisition of Persimmon Creek is structured as a MIPA, pursuant to which EKC will  
13 purchase all the membership shares in Persimmon Creek Wind Farm 1, LLC (“PC1”). PC1  
14 is the project company that owns Persimmon Creek and the shared generator  
15 interconnection facilities. Please refer to **Confidential Exhibit JOH-3**. PC1 is being  
16 acquired solely to acquire the Asset, similar to the acquisition structure commonly utilized  
17 for the acquisition of individual renewable energy projects. PC1 is the project company  
18 that owns all of the wind facilities and possesses the real estate leases and easements, the  
19 applicable contracts pertaining to the wind facilities (such as the asset management and  
20 operations and maintenance agreements), the operating permits and licenses, and other  
21 wind farm assets.

22 The MIPA was signed by EMW on August 8, 2022, with closing to occur upon  
23 satisfaction of certain conditions precedent. The contract included assignment rights



1 permitting its assignment to investment grade affiliates of EMW. Once the conditions are  
2 met for closing, the contract will be assigned to EKC and closed into the entity.

3 Persimmon Creek, as an operating wind generating facility, had “upstairs” tax  
4 equity investors in place at a higher corporate level. The tax equity investors provide  
5 capital, principally in exchange for monetizing the tax benefits generated by the wind farm,  
6 namely the PTCs allowable under Section 45 of the Internal Revenue Code and accelerated  
7 tax depreciation. This type of financing structure is common in wind farm investments and  
8 effectively allows the owner to finance the wind farm on a cost-effective basis by allocating  
9 the tax benefits from the wind farm to a party that can most efficiently utilize them.

10 **Q: What is the corporate structure of PC1?**

11 A: PC1 is wholly-owned by a holding company, “PC1 Holdco, LLC” (“PC1 Holdco”). The  
12 tax equity investors hold their interests at that holding company level, in the form of “Class  
13 A” interests, while the “Class B” interests are held by GSQ, LLC (“GSQ”), a joint venture  
14 of affiliates of Scout Clean Energy, LLC (“Scout”) and Elawan Wind Energy North  
15 America, Inc. (“Elawan”). GSQ is the signatory to the MIPA. **Exhibit JOH-4** depicts these  
16 entities. A condition to closing under the MIPA is that GSQ ensures that the tax equity  
17 interests are taken out in their entirety prior to EKC’s acquisition of PC1. To this end, the  
18 Class A and Class B members in PC1 Holdco have executed a separate purchase agreement  
19 (the “Class A MIPA”) whereby GSQ will acquire the Class A interests held by the tax equity  
20 investors immediately prior to the closing, such that GSQ is able to ensure that EKC  
21 acquires 100% of the interests in PC1. EKC has contracted to purchase the interests in PC1,  
22 as opposed to the equity interests in PC1 Holdco, so that EKC will not incur any residual

1 liability to the tax equity investors that potentially could exist from purchasing PC1  
2 Holdco.

3 **Q: What will happen to the PC1 entity after the close of the transaction?**

4 A: Once EKC acquires the equity interests in PC1, there is no longer a need for EKC to hold  
5 Persimmon Creek in a separate legal entity. Because EKC desires to hold Persimmon Creek  
6 directly immediately following the closing of the transaction, EKC plans to effect a short-  
7 form merger of PC1 with and into EKC, with EKC surviving the merger, in order to  
8 consolidate the assets of PC1 with those of EKC. An organizational chart for this  
9 transaction is attached as **Exhibit JOH-4**.

10 **Q: Are there any other terms of the transaction?**

11 A: Yes. As part of the MIPA, Evergy has put in place a representation and warranty insurance  
12 policy, a commonly used risk mitigation measure, to provide certain protections for EKC  
13 resulting from potential breaches of the seller's representations and warranties under the  
14 MIPA. The policy was bound at signing and will be effective as of the closing. The closing  
15 of the transaction is subject to certain conditions precedent, including receipt of antitrust  
16 clearance under the Hart-Scott-Rodino Antitrust Improvements Act, approval of the  
17 Federal Energy Regulatory Commission ("FERC") under section 203 of the Federal Power  
18 Act, and other various conditions for the seller including the execution of the Class A, Tax-  
19 Equity investor MIPA. Given the uncertainty of the Missouri operating CCN process, in  
20 order to preserve optionality for eventual ownership of this compelling Asset in another  
21 legal entity, Evergy took the step to file FERC 203 authority for EKC in addition to the  
22 initially contemplated authority of EMW.

23 **Q: What kinds of risks are associated with this Project?**

1 A: One of the reasons this Project was selected was the lack of risk versus other offerings  
2 received in the RFP process. As a fully constructed operating site, the permitting, supply  
3 chain, and construction risks present with early development and build-transfer style  
4 projects are essentially non-existent with the Asset. To ensure the reliable and continuous  
5 operation of the site, the Company intends to maintain the General Electric (“GE”) Full  
6 Service Agreement (“FSA”) and a risk reduced post-closing transition plan for balance of  
7 plant maintenance and asset management where the existing service providers will be  
8 maintained for at-least six months as Evergy transitions to self-performance of these items.  
9 As with any operating asset, there is risk from a severe weather event, catastrophic  
10 equipment failure, or unforeseen operational issues. If one of those events were to occur,  
11 EKC will avail itself of all the available cures, including Evergy’s experience owning wind  
12 resources, a robust property insurance program, service contracts including the GE FSA,  
13 and existing vendor relationships from Evergy’s other owned wind resources. These risks  
14 exist with any operating generation asset. Persimmon Creek, however, is uniquely  
15 positioned to avoid the macro-economic risks of global supply chains, permitting, land  
16 acquisition, and construction risk.

17 **IV. TECHNICAL AND TRANSMISSION ASPECTS OF THE PROJECT**

18 **Q: Has Persimmon Creek been evaluated from a technical standpoint and, if so, in what**  
19 **condition was it found to be?**

20 A: Persimmon Creek went through an independent engineer evaluation during the site  
21 commissioning in 2018. During the technical due diligence process undertaken while  
22 negotiating the MIPA, Evergy engaged an independent engineer to perform technical  
23 diligence on the site. While there were minor items identified during the inspection, the

1 overall assessment found the site facilities to be in good condition. The site was constructed  
2 with contemporary industry practices and review of the as-built drawings and site  
3 observations did not identify any significant concerns. These reports are provided as  
4 **Confidential Exhibits JOH-7 and JOH-8.**

5 We have also had the opportunity to review turbine level historical data and it was  
6 found that this is an extremely well performing site at a wind turbine generator level. The  
7 data reviewed shows strong performance across the installed turbine fleet with 90%+ site-  
8 wide turbine availability and net capacity factors of approximately 50%.

9 **Q: Does Persimmon Creek have Cold Weather operations packages?**

10 A: Yes. The GE WTGs at the site include a cold-weather package that is capable of operating  
11 down to five degrees below zero Fahrenheit. Additionally, the WTG lubricants have been  
12 switched to Mobil SHC 681 from Mobil 460 red grease in the 2.5 MW models as it has a  
13 better cold weather operating profile. The 681 grease was designed by Mobil to have “high  
14 performance...specially designed to exceed the demanding requirements of wind turbine  
15 applications at extreme temperatures.”<sup>6</sup>

16 **Q: Is Persimmon Creek capable of providing dependable utility service?**

17 A: Yes. Persimmon Creek has been in SPP wholesale power generator service since it was  
18 commissioned in 2018. The Asset was constructed in accordance with industry standard  
19 practice, has operated without significant issues, and has had the Original Equipment  
20 Manufacturer performing wind turbine generator maintenance since COD. The  
21 independent technical evaluation of the site, both at commissioning and through Evergy’s  
22 diligence revealed no major issues. Evergy has also been provided, and is providing as part

---

<sup>6</sup> <https://www.mobil.com/en-us/grease/pds/gl-xx-mobil-shc-grease-681-wt>

1 of this filing, significant technical information including the as-built drawings for the  
2 Project. Both the high site availability numbers and the high historical net capacity factor  
3 give operational, not speculative, credence to these findings.

4 **Q: Please describe Evergy's experience with wind generation operations.**

5 A: Evergy owns and operates a combined 579 MW of wind generation today across its Evergy  
6 EKC and EKM operating companies. Spearville Units 1 and 2, located in Ford County,  
7 Kansas, about two hours away from Persimmon Creek, are owned and operated by EKC  
8 and utilize General Electric wind turbines. Although those turbines are an older vintage,  
9 they are similar in technology to the GE turbines at Persimmon Creek, and they will offer  
10 transferrable and geo-graphically proximate maintenance and operational knowledge  
11 throughout the Evergy fleet. Evergy's operating utilities have successfully owned and  
12 operated a variety of traditional and renewable assets for many years.

13 **Q: How does EKC plan to operate and maintain Persimmon Creek?**

14 A: After the post-closing transition period, EKC plans to perform the majority of the balance  
15 of plant maintenance at the site itself. This includes the primary ancillary systems that  
16 support the WTGs. Consistent with the historical operations of the plant, EKC plans to  
17 keep the current GE Full-Service Agreement in place which will ensure that the WTGs are  
18 maintained as they have been historically. This will give EKC sufficient time to transition  
19 to self-performed maintenance as it becomes familiar with the newer vintage of WTGs at  
20 Persimmon Creek. In the event of a large-scale equipment failure or defect, the Full-Service  
21 Agreement provides contractual assurance on parts availability, the expertise of the  
22 manufacturer, and the skilled craft personnel to maintain and repair the affected items.

1 **Q: Does the location of Persimmon Creek affect costs associated with operations and**  
2 **maintenance?**

3 A: EKC believes that the location of Persimmon Creek will not have a significant impact on  
4 its operation and maintenance costs. The Project is located in the western Kansas and  
5 Oklahoma wind corridor where wind farms are routinely operated and maintained by  
6 electric utilities. EKM's Spearville wind farm in Ford County, Kansas is approximately  
7 two hours away via good highway access from Persimmon Creek. As I noted previously,  
8 Persimmon Creek is located in Woodward, Ellis and Dewey Counties, Oklahoma.

9 **Q: What transmission infrastructure is in place for Persimmon Creek?**

10 A: Power from the turbines is collected at the Project-owned substation via an underground  
11 34.5 kV medium voltage ("MV") collection system, stepped-up at the Project substation  
12 via the main power transformer to 345 kV high voltage ("HV") and transmitted over a  
13 Project-owned three-mile 345 kV overhead transmission line to the 345 kV Guthrie  
14 Switchyard. At this point, the Project's power is aggregated with the power output of  
15 another wind project and is then transmitted over another approximately 11-mile 345 kV  
16 transmission line to the point of interconnection ("POI") at the 345 kV Woodward District  
17 substation owned by Oklahoma Gas and Electric Company ("OG&E"). The Project is  
18 interconnected to the SPP transmission system.

19 **Q: Did EKC produce analysis on curtailment and transmission risk for Persimmon**  
20 **Creek versus alternatives?**

21 A: Yes. The Company worked with a nationally leading provider of generation evaluation as  
22 reflected in **Confidential Exhibit JOH-9**. What the analysis showed was that Persimmon  
23 Creek offered the least curtailment, the least transmission risk to EKC. This analysis,

1 combined with the LCOE analysis, was performed specifically to compare Persimmon  
2 Creek to actual available alternatives and it was found that Persimmon Creek had the best  
3 attributes.

4 **Q: What transmission arrangements will be pursued to get Persimmon Creek energy**  
5 **from Oklahoma to EKC customers?**

6 A: Shortly after Evergy Kansas Central acquires the generating asset, we plan to pursue SPP  
7 Firm Network service from the POI to EKC's load zone through the proper SPP process.  
8 Firm Network service is not required for Persimmon Creek to serve EKC load, but it will  
9 help with additional capacity accreditation for the site. Firm transmission can take the  
10 assumed capacity accreditation level from the ~10% of nameplate reflected in our initial  
11 assumptions and increase it; potentially as much as doubling the accredited capacity of the  
12 acquisition. To get firm transmission service, the Company will submit Persimmon Creek  
13 to an Aggregate ("Ag") study which will define any costs/fees associated with allocating  
14 the network service, at which time EKC has the right to accept the charges and procure the  
15 service. The Ag study is completed twice every year and EKC plans to submit for  
16 Persimmon Creek at its first opportunity in May of this year. Results should be known by  
17 the end of 2023.

18 Evergy included Persimmon Creek in the second Ag Study in 2022 for the Metro  
19 & Missouri West Network Integration Transmission Service ("NITS") and results of that  
20 study were released in 2023. The study showed modest upgrades were required for firm  
21 transmission service. The study must be re-run for the EKC NITS, but it provides  
22 confidence that the costs to obtain future firm transmission service will be reasonable and  
23 likely justified based on the increased capacity accreditation expected to be obtained.

1 **Q: Does Persimmon Creek fulfill the need identified in the Company’s IRP and provide**  
2 **EKC with the best asset acquisition opportunity from the competitive RFP?**

3 A: Yes. As shown by the many reasons I discuss above, Persimmon Creek offers EKC long-  
4 term ownership of a highly efficient and productive renewable resource at a competitive  
5 price with a reduced risk profile compared to alternatives in the marketplace. As explained  
6 by Company witness Kayla Messamore, EKC identified wind as part of the 2022 Preferred  
7 Plan for EKC. This plan is further enhanced by the acquisition of Persimmon Creek,  
8 resulting in an NPVRR reduction of ~\$150M versus a plan where no renewables are added  
9 beyond what is included in the fleet today. This purchase will provide valuable energy and  
10 capacity to the Company, as well as access to a 100% PTC qualified renewable energy  
11 resource. The acquisition of Persimmon Creek is clearly in the best interest of EKC and its  
12 customers, as well as in the public interest generally.

13 **V. IMPACT OF THE INFLATION REDUCTION ACT OF 2022**

14 **Q: In 2022, the Inflation Reduction Act (“IRA”) was passed. Can you please briefly**  
15 **describe the IRA and its implications, if any, for Persimmon Creek?**

16 A: The IRA is federal legislation signed into law after the Persimmon Creek contract was  
17 executed. The IRA offers a number of programs designed to target different sectors of the  
18 US economy. Within the energy security and climate change portion of the legislation,  
19 nearly \$369 billion is set aside to address these issues with the majority of the spending  
20 coming in the form of tax incentives for clean energy and energy storage projects.

21 **Q: What are the key provisions of the IRA for utility scale renewable energy projects?**

22 A: The biggest benefit to utility scale renewable energy projects comes in the form of tax  
23 credits for the projects. Those tax credits can come in two forms, PTCs, which are applied



1 to the energy production of the site and earned over ten years and Investment Tax Credits  
 2 (“ITCs”), which are applied to the qualified initial investment costs of an eligible project.

3 The IRA restores the PTC and ITC tax benefits back to their historical maximum  
 4 value assuming some Prevailing Wage and Apprenticeship requirements are met  
 5 throughout the project construction and at least the first five years of operation. This means  
 6 that there will be opportunity for renewable projects to qualify for 100% PTC, worth  
 7 \$26/MWh in 2022 dollars, or an ITC equal to 30% of the project’s qualified capital costs<sup>7</sup>.

8 A high-level, representative matrix view of the tax provisions is found below.

9

<b>Qualification Criteria</b>	<b>ITC Value (% of qualified project cost)</b>	<b>PTC Value (% of historical maximum)</b>
IRA Baseline tax incentive	6% of qualified spend	20% PTC/MWh (\$5.20/MWh)
Prevailing Wages & Apprenticeship	5x ITC multiplier (30% ITC on qualified spend)	5x PTC multiplier (100% PTC) (\$26/MWh)
Domestic Content	+10% ITC Bonus	+10% PTC Bonus
Energy Communities	+10% ITC Bonus	+10% PTC Bonus

10 In addition to the tax incentives for the projects directly, tax attribute transferability was  
 11 also included in the legislation. In cases where the project owner lacks sufficient cash tax  
 12 ability to efficiently monetize the credits, the transferability provisions will allow the entity

---

<sup>7</sup> There are also bonus categories available for projects which add a 10% bonus multiplier. For utility-scale projects, the bonus categories are for domestically sourced materials called “domestic content” and location within energy communities.

1 generating the tax credits through the renewable energy project to monetize those credits  
2 more efficiently by selling them to another entity. The transferability provisions no longer  
3 require the complexity or expense of an equity stake in the project. Finally, there is a  
4 provision for standalone or grid-charged storage to benefit from a 30% ITC as well.

5 **Q: How long will the key provisions of the IRA be in place for the utility scale renewable**  
6 **energy projects?**

7 A: The tax provisions of the IRA are intended to stay in place for at least 10 years from passage  
8 of the law. Credits are set to phase out the later of 2032 or when emission targets are  
9 achieved (i.e., the electric power sector emits 75% less carbon than 2022 levels). Likely  
10 this will mean that projects that have started construction or safe harbored materials will  
11 have 100% PTC or 30% ITC eligibility if placed into service before 2035 (pending  
12 additional guidance from the Department of the Treasury).

13 **Q: Are all the qualification guidelines for the tax benefits of the IRA known?**

14 A: No, they are not as of early April 2023. While the industry is still awaiting other answers  
15 on aspects of tax qualification under the IRA, the Department of the Treasury did issue  
16 initial guidance on the IRA's wage and apprenticeship provisions on November 29, 2022.  
17 On April 4<sup>th</sup>, 2023, the IRS published additional guidance about the Energy Community  
18 concepts. Based on discussions the Company had with IRS industry representatives in  
19 March of 2023, full guidance is expected by the end of Q3 2023.

20 **Q: Does Evergy anticipate benefiting from the renewable energy provisions of the IRA?**

21 A: Yes. While not impacting the already 100% PTC qualified Persimmon Creek project,  
22 Evergy anticipates participating heavily in renewable projects that will benefit from the  
23 IRA. The 2023 IRP filing will include the effects of the IRA and will be filed with the KCC

1 in June. All else being equal, the IRA will benefit customers significantly through lower  
2 costs of these resources utilizing the enhanced tax credits offered in the IRA.

3 **Q: How does the Persimmon Creek wind farm benefit from the IRA?**

4 A: Persimmon Creek does not directly benefit from the IRA as the wind farm has been in-  
5 service since 2018 and currently benefits from existing PTCs that match the level available  
6 to similar projects under the IRA. Said another way, Persimmon Creek already receives  
7 PTCs at 100% value which is the same as a new project constructed in the IRA that qualifies  
8 under the prevailing wage and apprenticeship requirements. Persimmon Creek is also  
9 insulated from any supply chain or inflationary demand pressures that may present with  
10 the passage of the IRA which is expected to result in increased demand for renewables.

11 **Q: Has Evergy evaluated the effects of the IRA on the short-listed projects in the 2021  
12 and 2023 Wind RFP?**

13 A: Yes. Though the IRA was not known or available to these projects during the evaluation  
14 period for the 2021 RFP, we did run pro-forma analysis on the IRA impacts on other short-  
15 listed projects from the RFP. The results of this analysis are provided as **Confidential**  
16 **Exhibit JOH-6**. We have also included a high-level look at the 2023 RFP results for wind  
17 and how they benefit from the IRA. It is important to note that none of these projects have  
18 been fully negotiated with contractual terms, so risks and uncertainty that would potentially  
19 come if an agreement can't be reached is unknown.

20 **Q: What was the basis of the project costs used to evaluate the IRA impacts?**

21 A: Though current pricing for these 2021 RFP projects is likely higher today due to increased  
22 demand for renewables as well as ongoing inflationary pressures, we used the most recent  
23 project pricing available from negotiations. By July 2022 Evergy had ceased negotiations

1 with other counterparties due to the drastic upward pricing pressure that projects were  
2 facing as evidenced by our experience with Proposal B. Costs for the project associated  
3 with Proposal B had increased nearly 20% through July compared to the original offer in  
4 the RFP. Likewise, Proposal D which was already a substantially higher \$/kW and LCOE  
5 project, increased ~10% through April 2022 compared to the original offer. These projects  
6 incurred significant price inflation through the negotiations as the post-Covid supply  
7 chains, limited labor pool and commodity and interest rate inflation took hold in the larger  
8 markets. All these elements drove project costs higher prior to the potential incremental  
9 demand-related impacts on project costs which may result from the passage of the IRA.

10 **Q: How does Persimmon Creek compare to the other short-listed alternatives if you**  
11 **adjust them for the benefits of the IRA?**

12 A: Persimmon Creek remains the most cost-effective option for customers even after  
13 recalculating LCOEs for other competing RFP projects assuming the benefits of the IRA  
14 were available. For the 2024 eligible projects, Persimmon Creek represented the lowest  
15 \$/kW installed and lowest LCOE cost of alternatives when applying the IRA impacts. For  
16 the 2025 short listed project, Persimmon Creek is within a few \$/MWh on an LCOE basis  
17 to the lowest cost alternative when applying the IRA impacts. It is important to note that  
18 for the 2025 alternative, the project costs are based on mid-2022 pricing.

19 As part of the normal course of business of working with suppliers, Evergy received  
20 an unsolicited offer for another wind farm that was slated to go operational prior to 2026  
21 and is contemporary to the other wind farms evaluated in the RFP. The cost of the farm  
22 was over \*\* [REDACTED] \*\* (vs \$1,250/kW for Persimmon Creek) and had an LCOE of  
23 \*\* [REDACTED] \*\* when applying the IRA impacts (versus \$28.03/MWh for Persimmon

1 Creek). The construction costs of \*\*[REDACTED]\*\* in this unsolicited offer are in line with  
2 the other market precedent, which is AEP's agreement with Invenergy for 999 MW of  
3 combined wind and solar for \$2.2B. This set of projects totaling 999 MW reflects a  
4 construction cost of \$2,202/kW, which is lower than a more recent market precedent  
5 discussed later in my testimony of \$2,480/kW. These alternates are reflected in

6 **Confidential Exhibit JOH-6.**

7 **Q: How does the IRA impact the decision to purchase Persimmon Creek?**

8 A: The IRA is a very exciting development for our customers and should make access to  
9 renewable resources more cost effective prospectively. However, even when considering  
10 the recent passage of the IRA and its effects, Persimmon Creek is still the right decision  
11 for Evergy at this time. Just as a new build would be under the IRA, Persimmon Creek is  
12 100% PTC qualified and has a proven operating track record. While I acknowledge  
13 Persimmon Creek will benefit from the PTCs under EKC's ownership for approximately a  
14 six-year duration rather than ten, it is important to bear in mind that the LCOE metric takes  
15 this duration difference into account. LCOEs reflect the impact of the differences in  
16 duration of tax benefits as well as depreciable asset lives. For the LCOE calculations  
17 performed as part of this RFP as well as in the case of the pro-forma IRA impacts on LCOE,  
18 only the 20-year depreciable life of the asset was used to determine the LCOE. This means  
19 that for new builds, the total capital cost is depreciated over a 20-year life, but in the case  
20 of Persimmon Creek the remaining life and depreciation of the capital cost was reflected  
21 at 16 years. Even with the shorter timeline of PTC qualification in EKC's ownership and  
22 the fewer number of years to depreciate the capital cost, Persimmon Creek remains a clear  
23 winner on an LCOE basis. Moreover, taking into consideration the full breadth of its

PUBLIC VERSION

1 advantages which include the unique, fully de-risked nature of the asset with permitting,  
2 construction, and interconnection already complete, the low \$/kW installed cost negotiated  
3 as well as its low levelized cost of energy, Persimmon Creek is a highly compelling  
4 opportunity for EKC customers.

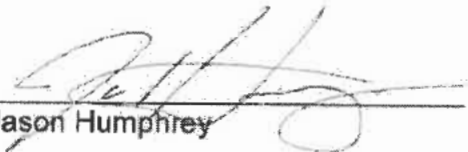
5 **Q: Does that conclude your testimony?**

6 **A:** Yes, it does.

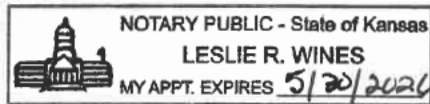
STATE OF KANSAS                    )  
  ) ss:  
COUNTY OF SHAWNEE            )

**VERIFICATION**

Jason Humphrey, being duly sworn upon his oath deposes and states that he is the Vice President Development and Assistant Treasurer, for Evergy, Inc., that he has read and is familiar with the foregoing Direct Testimony, and attests that the statements contained therein are true and correct to the best of his knowledge, information and belief.

  
\_\_\_\_\_  
Jason Humphrey

Subscribed and sworn to before me this 24 day of April, 2023.



  
\_\_\_\_\_  
Notary Public

My Appointment Expires: May 30, 2026