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Witness:	Jason Humphrey
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Case No.:	EA-2026-0343
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BEFORE THE MISSOURI PUBLIC SERVICE COMMISSION

CASE NO. EA-2026-0343

DIRECT TESTIMONY

OF

JASON HUMPHREY

ON BEHALF OF

EVERGY MISSOURI METRO & EVERGY MISSOURI WEST

Kansas City, Missouri
August 2026

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DIRECT TESTIMONY

OF

JASON HUMPHREY

Case No. EA-2026-0343

I. INTRODUCTION

Q: Please state your name and business address.

A: My name is Jason Humphrey. My business address is 1200 Main, Kansas City, Missouri 64105 and 818 S. Kansas Ave, Topeka, Kansas 66612.

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

A: I am employed by Evergy Kansas Central, Inc., and serve as Vice President, Development for Evergy Kansas Central, Inc. and Evergy Kansas South, Inc., collectively d/b/a as Evergy Kansas Central ("Evergy Kansas Central"), Evergy Metro, Inc. d/b/a Evergy Kansas Metro ("Evergy Kansas Metro"), Evergy Metro, Inc. ("Evergy Metro") d/b/a Evergy Missouri Metro ("Evergy Missouri Metro," or "EMM") and Evergy Missouri West, Inc. d/b/a Evergy Missouri West ("Evergy Missouri West" or "EMW"), the operating utilities of Evergy, Inc. ("Evergy").

Q: On whose behalf are you testifying in this docket?

A: I am testifying on behalf of Evergy Missouri Metro and Evergy Missouri West (collectively, the "Applicants").

Q: What are your responsibilities as Vice President of Development for the Evergy operating utilities?

A: My responsibilities include the development, acquisition, construction, and commissioning of generation assets, both renewable and conventional, for Evergy Missouri Metro, Evergy Missouri West, and the other Evergy operating utilities. These responsibilities encompass

early-stage development in support of self-developed and third-party developed projects, the preparation and evaluation of requests for proposal, negotiation of contracts, monitoring of asset construction, and eventual testing and commissioning of the assets ahead of commercial operation. Upon commissioning, these assets are transferred to our generation operations team under Evergy's Senior Vice President of Generation.

Q: Please summarize your educational background.

A: I graduated magna cum laude from Kansas State University in May 2008 with a Bachelor of Science degree in Mechanical Engineering with a Nuclear Engineering option. In May 2017, I received a Master of Business Administration degree with honors from Baker University.

Q: Please summarize your relevant employment experience.

A: I joined Evergy Kansas Central as a Power Plant Engineer in June 2008 and was later named Supervisor, Electrical Maintenance in March 2011 and Plant Manager, Emporia Energy Center in May 2012. In May 2013, I was named Director of Natural Gas Fired Generation, which involved oversight of all of Evergy Kansas Central's natural gas and oil-fired power plant operations. Beginning in August 2015, I served as Director of Performance Excellence and became Director of Integration Success upon the formation of Evergy in June 2018. In May 2020, I was named Senior Director Finance and, in December 2020, became Assistant Treasurer. In September 2021, the position of Senior Director of Renewables was added to my responsibilities. In January 2023, I was promoted to Vice President, Development & Assistant Treasurer. The Assistant Treasurer position was removed from the scope of my responsibilities in October 2023 in order to enhance

oversight and focus on the significant amount of generation development included in our integrated resource plans ("IRP") over the next decade and beyond.

Q: Have you previously testified before the Missouri Public Service Commission ("Commission" or "PSC") or before other utility regulatory bodies?

A: Yes. Most recently, I provided testimony in support of a Certificate of Convenience and Necessity ("CCN") for the Mullin Creek #2 generation unit in No. EA-2026-0154. I have also provided testimony in support of the CCN for the McNew and Chisholm Trail (formerly Viola) combined-cycle natural gas-fired plants and the Mullin Creek #1 simple-cycle plant in No. EA-2025-0075, and in support of the CCN for the Foxtrot and Sunflower Sky solar facilities in No. EA-2024-0292. I previously provided testimony in support of Evergy Missouri West's Winter Storm Uri securitization petition and the CCN for the acquisition of the Persimmon Creek wind farm. I also submitted testimony regarding Nuclear Decommissioning Trust costs and investment requirements for the Wolf Creek Nuclear Generating Station to both this Commission and the Kansas Corporation Commission.

Q: What is the purpose of your direct testimony in this docket?

A: The purpose of my testimony is to provide an overview of the two generation resources that are the subject of this Application; to describe, in general terms, the process that led Evergy Missouri Metro and Evergy Missouri West to select those resources; to provide additional context and support for the Applicants' CCN Application; and to explain how the IRP process connects to generation planning and to the decision to build these resources now.

Q: What do the Applicants request in this case?

A: The Applicants individually seek CCNs for two generation resources (the "Projects") based upon their respective ownership share: (1) an approximately 710-megawatt ("MW") advanced class combined-cycle gas turbine ("CCGT") electric generating plant known as Buchanan Bluffs Energy Center Unit 2, to be located in Buchanan County, Missouri, and to be owned 50% by Evergy Missouri Metro and 50% by Evergy Missouri West; and (2) an approximately 109 MW battery energy storage system ("BESS") known as the Foxtrot BESS Project, to be located in Jasper County, Missouri, on the site of the Foxtrot Solar Project, which was granted a CCN by the Commission in Case No. EA-2024-0292 on July 31, 2025, and to be owned 100% by Evergy Missouri West. Together, these resources reflect the near-term additions identified in the Applicants' most recent Preferred Plans, including EMW's August 2026 Revised Resource Plan.

Q: Why are two different resource types presented in the Application?

A: These resources are near-term additions drawn from the Applicants' most recent 2026 Preferred Plans, as revised, and each fills a distinct role in a diversified portfolio. Buchanan Bluffs Energy Center Unit 2 adds firm, dispatchable capacity and high efficiency energy that both utilities need. The Foxtrot BESS Project adds flexible, high-accreditation storage for Evergy Missouri West at a site where it is already the owner of a solar farm under construction today. Requesting the CCNs in the Application permits the Commission to recognize how each resource is part of Evergy's "all-of-the-above" resource generation strategy to provide its customers with safe and adequate service at affordable rates.

II. CONNECTION BETWEEN THE IRP PROCESS AND GENERATION PLANNING

Q: Please describe in general terms the IRP process Evergy uses for its Missouri utilities.

A: Fundamentally, the IRP process is a tool we use to evaluate the most efficient and effective way to serve Evergy's customers' energy and capacity needs over a 20-year horizon, while bearing in mind that the future is inherently uncertain. A detailed discussion of the IRP process is included in the direct testimony of Cody VandeVelde (Senior Director, Strategy and Long-Term Planning and Energy Resource Management).

Q: What purposes does the IRP process serve?

A: Integrated resource planning allows a utility to make informed decisions about the resources needed to meet its customers' changing capacity and energy demands. The IRP process provides a holistic and integrated view, allowing utilities to select the most cost-effective and resilient resource mix over the long term, rather than simply defaulting to the cheapest resources in the short term. In the final analysis, the IRP process helps ensure reasonably efficient generation resources that provide safe and adequate service at just and reasonable rates for both current and future Evergy customers. In doing so, the analysis balances production-cost modeling while sequencing steel-in-the-ground resource additions, so Evergy can maintain firm, dispatchable capacity to ensure a watt-for-watt replacement as older units retire.[1]

Q: How does IRP analysis affect near-term generation-development decisions?

A: IRP analysis is an essential part of long-term generation planning. However, ensuring there are adequate resources to meet near-term customer demands involves more than simply adding a certain number of megawatts. To meet the energy needs of customers, resource

[1] See Mo. Rev. Stat. § 393.401. All statutory citations are to the Missouri Revised Statutes (2016), as amended.

adequacy also must consider supply diversity with respect to both technology type and operational characteristics, as well as the ability to get a project constructed. Within the parameters of the IRP, we must have the flexibility to make construction or "build-level" decisions and adjustments to optimize short-term resource acquisitions. A host of build-level considerations must be evaluated. These include, but are not limited to, procurement lead times; project maturity; purchase contracts; siting and permitting challenges; transmission-system constraints; and leveraging scale to provide cost synergies.

Q: What role does the generation development team play in the IRP process?

A: Evergy's generation development department participates in the IRP process as a key source of input assumptions. It helps to formulate assumptions related to cost, performance, and lead times for new supply-side resource options. I have participated personally as a member of the larger IRP steering team to help provide leadership and insight into what happens after selection of the preferred plan, including the filing of CCN cases.

Q: How is Evergy managing the large volume of supply-side resources identified in the Preferred Plans?

A: The generation development department was created with a dedicated executive to focus on bringing new supply-side resources into the portfolios of the Evergy operating utilities, including EMM and EMW, and to help manage the significant supply-side resources identified across all jurisdictions in their respective Preferred Plans. Evergy has substantial internal and external expertise with respect to the commercial, technical, and construction skills, knowledge, and ability needed to bring new power plants online.

Q: What information supported the cost, performance, and lead-time assumptions used in the IRPs?

A: The inputs came from a wide range of private and public industry sources. The primary sources for these inputs were the natural gas and solar projects approved by the Commission in our No. EA-2025-0075 and No. EA-2024-0292 CCN cases, the 2025 All-Source RFP and subsequent vendor discussion, and Evergy's ongoing self-development efforts. Additionally, we have followed the publicly available case filings by other electric utilities regarding their development projects involving similar technology options.

Q: What are Evergy's long-term generation-planning objectives?

A: Our planning reflects four overarching objectives:

1. Ensuring system reliability;
2. Meeting increased capacity and energy requirements economically;
3. Addressing economic development needs; and
4. Ensuring a resilient generation portfolio through an all-of-the-above fuel supply strategy.

The Applicants recognize that the future is inherently uncertain. Their most recent 2026 Preferred Plans represent an efficient and effective mix of generation assets that each utility can individually utilize to meet the demands of customers over multiple futures. Instead of going "all-in" on a specific asset type, the plans provide energy and capacity in varied forms including combined-cycle and simple-cycle natural gas generation, solar, battery energy storage, and demand-side management ("DSM"). These plans take an "all-of-the-above" approach to a resource mix which allows EMM and EMW to satisfy Southwest Power Pool, Inc.'s ("SPP") resource adequacy requirements through a

diversified portfolio of supply-side and demand-side assets. Moreover, the Projects, based on EMM's and EMW's ownership, are an important near-term step in their resource planning to provide flexible, reliable, and dispatchable generation to their customers at affordable rates.

Q: Are these objectives reflected in the Applicants' Preferred Plans?

A: Yes. Evergy Missouri Metro's and Evergy Missouri West's preferred portfolios incorporate a multi-faceted approach to addressing these objectives. The Applicants recognize the future is inherently uncertain, but their 2026 IRP Annual Updates filed on May 7, 2026, as well as EMW's August 2026 Revised Resource Plan filed on August 31, 2026, help to address that uncertainty. The upshot is that the IRP Preferred Plans and implementation timeline reflect the Applicants' commitment to ensuring they have the ability to meet their customers' electricity needs – and can do so in a way that is both economical and responsible. As the Commission is well aware, a host of factors ranging from supply-chain considerations to market and demand conditions affect both the timing and magnitude of generation construction decisions. As revealed through Evergy's coordinated utility planning process, there is a manifest need for firm dispatchable resources across the entire Evergy service area and, in fact, across the entire SPP footprint. Because the SPP wholesale electricity market is tightening, "doing nothing" is not a viable long-term option. Today SPP needs "dispatchable generation for times when the wind isn't blowing and the sun isn't shining" to counteract 'renewables' variability."[2]

The need for dispatchable generation and the demand for its capacity was recently underscored by former SPP Senior Vice President of Operations Bruce Rew at the

[2] See Southwest Power Pool, "Our Generational Challenge: A Reliable Future for Electricity" at 3, 12 (2024).

Commission's May 21, 2025, public meeting. He stated that "load-responsible entities [like Evergy Missouri Metro and Evergy Missouri West] are identifying … resources that can come on at any time, that there's a need for that and a benefit going forward. And I think that's why we're seeing an increase in the natural gas generation in our queue."[3] He concluded: "So, I think the load-responsible entities are responding based on what we see in the real-time operations, and the need for additional gas and other generation that can be run at any time, whether … that's summer and winter, and at all temperatures." Id. But a portfolio built solely on natural gas concentrates risk on a single fuel commodity and forgoes the value of fuel-free energy and available tax credits. Pairing gas with storage spreads execution and commodity risk across resource categories and produces a more resilient plan for customers which is the goal of the all-of-the-above approach.

Q: How have recent cold-weather events shaped this diversified approach?

A: Recent winter events have repeatedly shown the importance of a diversified asset portfolio. During Winter Storm Uri in February 2021, the natural gas system was constrained, and the wind fleet was iced, so the grid leaned heavily on plants with on-site or firm fuel. During Winter Storms Elliott (December 2022) and Gerri (January 2024), the wind portfolio throughout SPP performed much better and was a great help to the energy supply of the grid. Importantly for Evergy, the generation resources that had on-site fuel or firm natural-gas transportation were generally available to support our customers during those events. As discussed further below, the addition of a battery system will provide substantial benefits in providing customers with adequate service during winter storms.

[3] See Statement of Bruce Rew at 1:25:44-26:54, Public Meeting MTGR-2025-0005 (Mo. P.S.C., May 21, 2025).

III. THE PROJECTS, NEED, AND EVERGY'S GENERATION STRATEGY

Q: How do the Projects relate to Evergy Missouri Metro's 2026 Preferred Plan?

A: As discussed by Mr. VandeVelde, Evergy Metro's 2026 Preferred Plan (Plan ACAA) called for the near-term development of solar, battery storage, and combined-cycle natural gas capacity.

Evergy Missouri Metro's 50% share of Buchanan Bluffs Energy Center Unit 2 (355 MW) corresponds to its half of the 710 MW combined-cycle addition in 2032. The CCGT will provide "technology and fuel diversity that hedges against execution risk in any single resource category and positions the Company to adapt as market conditions, tax policy, and customer commitments evolve."[4]

Q: Was Plan ACAA the lowest-cost plan?

A: No. As EMM's 2026 IRP Annual Update states, "[w]hile Plan ACAA is not the absolute lowest-cost plan on a probability-weighted net present value revenue requirements ('NPVRR') basis, the cost difference relative to the lowest-ranked plans is less than $15 million — or less than 0.05% of the 20-year revenue requirement. Evergy Metro selected Plan ACAA as the Preferred Plan because it represents the best risk-adjusted portfolio when factoring the practical realities of project execution, including the concentration risk of co-locating two major thermal projects in a single construction year, growing permitting challenges for solar development in Missouri, and the superior winter capacity contribution of battery storage during Evergy Metro's most acute deficit years."[5]

[4] See EMM 2026 IRP Annual Update at 5, In re Evergy Missouri Metro's 2026 Integrated Resource Plan Annual Update Filing, No. EO-2026-0188 (May 7, 2026), ("EMM IRP Annual Update").
[5] See EMM 2026 IRP Annual Update at 5.

Q: How does Buchanan Bluffs Energy Center Unit 2 relate to Evergy Missouri West's 2026 Preferred Plan?

A: Evergy Missouri West's 2026 Preferred Plan (Plan ADAA) filed in its May 2026 IRP Annual Update and the August 2026 Revised Resource Plan identifies a 50% ownership share of a 710 MW (355 MW) CCGT (Buchanan Bluffs Energy Center Unit 2) in 2032 as its next new resource following the five resources the Commission recently approved in Nos. EA-2024-0292 (Sunflower Sky and Foxtrot Solar Project) and EA-2025-0075 (Chisholm Trail, McNew, and Mullin Creek #1 generation facilities). Buchanan Bluffs Energy Center Unit 2 will be "a critical addition that addresses the residual capacity gap emerging as large load customers ramp to steady-state consumption which approaches 800 MW of peak demand by 2032."[6]

Q: Does EMW need Foxtrot BESS?

A: Yes. As discussed by Cody VandeVelde (Senior Director, Strategy and Long-Term Planning), EMW's August 2026 Revised Resource Plan identified the need for Foxtrot BESS to provide safe and adequate service, particularly to large load customers. Evergy Missouri West needs the additional capacity provided by Foxtrot BESS Project because EMW amended the energy supply agreement ("ESA") of a large load customer which increased its total peak demand by 75 MW which increases its overall system demand to a level that drives the IRP model to select a battery.

Q: What is driving the need to build these resources now?

A: As discussed further by Mr. VandeVelde, Evergy's utilities as a whole are facing the unprecedented impact of new methods of capacity accreditation, increased demand, and

[6] Id. at 111.

increased reserve-margin requirements. This combination is a call to action for utilities, particularly ones such as Evergy Missouri Metro and Evergy Missouri West, to bring energy and capacity resources to bear for their customers.

While the ultimate build plan must be balanced across many stakeholders and goals, the overwhelming conclusion is that Evergy is in a construction phase. Evergy has undertaken a thoughtful, measured, and planned approach to adding new generation, and this application continues the diligent approach reflected in Evergy's recent Commission approved CCN proceedings, Nos. EA-2024-0292, EA-2025-0075, and now pending No. EA-2026-0154. Moreover, building now supports Governor Kehoe's economic development objectives and enables Evergy to provide safe and adequate service to large-load customers while preserving reliability and affordability for all customers in the utilities' service territory. The alternative is a fully reactionary approach where future cost increases and the availability of attractive projects are not known. These risks are especially acute when siting new generation projects as lead times for critical equipment are long and grid interconnection timelines are lengthy. Finally, proceeding now mitigates further construction cost escalation and timing risks, preserving affordability for all customers while meeting Evergy's resource adequacy obligations in a timely manner.

Q: Are there other risks and impediments to development that present important factors in this decision-making process to move forward with these resources now?

A: Yes, there are a number of conflicting factors that must be considered. Importantly, as the development of generation assets speeds up, resistance to such developments has also increased. Substantial risks related to land use restrictions, local governmental and community restrictions and resistance to generation development, particularly to renewable

generation from wind, solar, and battery facilities, further limits the available opportunities for much-needed development. Currently, about one-fifth of Kansas counties have either a prohibition or moratorium on wind, solar and/or battery facilities. This number changes as new counties adopt moratoriums, and existing moratoriums are replaced with regulations. In Missouri, of the thirty-seven counties that are within SPP's footprint, there are five active prohibitions or moratoriums on wind, solar and/or battery facilities. Additionally, there was proposed legislation during the 2026 sessions in both the Kansas and Missouri State Houses that would have significantly impacted the ability to site new generating projects. These bills ultimately did not become law this year, but we do anticipate continued attempts to limit the ability to develop the resources that our customers need and our regulators require.

A. Buchanan Bluffs Energy Center Unit 2

Q: What role does Buchanan Bluffs Energy Center Unit 2 play in the Applicants' portfolios?

A: As an approximately 710 MW CCGT, Buchanan Bluffs Energy Center Unit 2 will provide firm, dispatchable generation when it comes online in 2032 that complements the Applicants' intermittent resources and their aging fleet. It will supply efficient, low-cost energy in Missouri for all Evergy Missouri Metro and Evergy Missouri West customers.[7] The unit is "designed to be highly available and will have firm fuel supply, [and] a 3% outage rate was applied for accreditation purposes."[8]

[7] See EMM 2026 IRP Annual Update at 6-7; EMW 2026 IRP Annual Update at 7.
[8] See EMM 2026 IRP Annual Update at 50; EMW 2026 IRP Annual Update at 50.

Q: Are the Applicants qualified to operate natural gas-fired facilities?

A: Yes. Evergy Missouri Metro and Evergy Missouri West have natural-gas power plants in their ownership portfolio today. Some of the units have operated for over 50 years, which is an indication of the quality of maintenance and care of ownership that Evergy has for its equipment. Additionally, the Company is very familiar with the maintenance practices for a majority of the equipment found within CCGT power plants, including rotating equipment such as motors and pumps, and electrical equipment such as switchgear and transformers. It is true that Evergy's utilities do not yet have advanced-class combustion turbines in their operating fleet today, but they soon will with the units approved in No. EA-2025-0075.

Moreover, Buchanan Bluffs Energy Center Unit 2 will be a continuation of the "design once, build many" generation methodology discussed by Kyle Olson (Senior Director of Conventional Generation Projects). Mr. Olson's direct testimony describes how Evergy will continue to utilize the expertise of Burns & McDonnell ("B&M") as the project's Owner's Engineer ("OE"), the same Power Island Equipment ("PIE") manufacturer Mitsubishi Power Americas, and the same Engineer, Procure and Construct ("EPC") contractor Kiewit Power Constructors Company which the Commission approved in No. EA-2025-0075 and which is currently proposed in No. EA-2026-0154 (Mullin Creek #2).

Q: Why are the Applicants pursuing an advanced-class combustion turbine rather than older E- or F-class technology?

A: Advanced-class turbines offer better heat rates, lower capital cost per kilowatt, and the greatest operational flexibility, with emissions-compliant minimum loads down to roughly

35% of output. That wide operating range is increasingly important as more intermittent resources come onto the grid because it lets a dispatchable unit respond efficiently when customer needs are highest.

Q: What is Applicants' strategy to procure natural gas for use at the Buchanan Bluffs Energy Center Unit 2 facility?

A: The fuel supply plan for Buchanan Bluffs Energy Center Unit 2 is discussed in detail in the direct testimony of JP Meitner, Evergy's Director of Market Operations. The location of this CCGT unit in Buchanan County presents an opportunity from a gas acquisition and supply standpoint as it will be built near the Rockies Express ("REX") natural gas pipeline which traverses the county. The REX Pipeline is a bidirectional, East/West pipeline, which transports gas from the east and west. East gas is primarily from the Marcellus Shale formations in and around Pennsylvania. West gas is primarily from the supply hubs in the Colorado and Wyoming region. It is owned by Tallgrass Energy Partners, L.P. and is operated by Tallgrass NatGas Operator, LLC.

The Applicants intend to solicit proposals for interconnection to the interstate natural gas system which will include the REX Pipeline. As Evergy does not currently buy gas from the REX Pipeline, the opportunity to procure fuel from this source for Buchanan Bluffs Energy Center Unit 2, as well as for the proposed Buchanan Bluffs Energy Center Unit 1 (to be owned and operated by Evergy Kansas Central) would diversify the fuel supply portfolio of both EMM and EMW.

Q: How does Buchanan Bluffs Energy Center Unit 2 position the Applicants for environmental requirements?

A: Evergy continuously monitors environmental regulations that may affect its generation fleet. Recent regulatory developments include more stringent federal standards for fine particulate matter (PM2.5), updated emissions requirements for combustion turbines, and new rules governing water discharges and coal combustion residuals. These changes collectively reflect an evolving regulatory framework across air, water, and waste programs that will influence future power generation. Evergy also continues to track broader policy developments, including ongoing changes to federal greenhouse gas regulations for the power sector. While some of these requirements remain in flux, they are incorporated into the Applicants' long-term planning and evaluation processes.

These evolving regulations highlight the importance of proactive planning. By pursuing a CCN for Buchanan Bluffs Energy Center Unit 2, Evergy Missouri Metro and Evergy Missouri West are advancing a project designed with modern technology and emissions controls that is well positioned to meet current and future environmental rules. Buchanan Bluffs Energy Center Unit 2 uses advanced combustion turbine technology and advanced emissions controls designed to minimize emissions while still providing firm, dispatchable power capable of responding to our customers' need for safe and adequate service. Moreover, by obtaining CCNs now to build firm, dispatchable generation, the Applicants create adequate flexibility to retire or replace less efficient generation assets over time on a reliable, watt-for-watt basis.[9]

[9] See Mo. Rev. Stat. § 393.401.

Q: Did the Applicants' 2026 IRPs identify construction costs for natural gas plants as a critical uncertain factor?

A: Yes. The 2026 IRPs identified and tested construction and interconnection costs for natural gas plants as a critical uncertain factor. Evergy therefore monitored a range of cost outcomes for CCGT technologies in its planning analysis.

Q: What cost and timing risks affect Buchanan Bluffs Energy Center Unit 2?

A: Turbine and EPC costs and the availability of equipment are the principal risks. Any delay in Buchanan Bluffs Energy Center Unit 2 will significantly jeopardize EMM's and EMW's ability to finalize procurement of the key Power Island Equipment (discussed at length by Mr. Olson), secure an Engineering, Procurement, and Construction contractor, and to navigate likely supply chain complications. Assuming that the necessary equipment and materials can be procured, a delay will undoubtedly lead to substantial cost increases which will challenge the Company's ability to finance the underlying transactions and lead to significant affordability issues for EMM's customers. As stated in the Applicants' 2026 IRP Update: "Costs for new gas turbines have increased since the 2025 Annual Update due to supply and demand forces including supply chain issues, inflation, prices of metals and other components, limited manufacturing capabilities, and expectations for strong demand growth across the country and internationally due to advanced manufacturing, AI, and datacenter investment."[10] The IRP Updates further noted that "[i]n 2025 S&P Global reported long wait times of 5-7 years for gas-turbine orders and cost increases of over 200% compared to a few years ago," and that "[t]otal costs for new natural gas-fired additions are expected to be about 20-25% higher than forecasted in the 2025 Annual Update."[11]

[10] See EMM 2026 IRP Update at 18; EMW 2026 IRP Update at 18.
[11] Id.

The most fundamental risk to the Applicants' and their customers is not moving forward with Buchanan Bluffs Energy Center Unit 2, given that the site of the plant has been selected, gas turbine slots have been secured, and a thoughtful approach to engineering, procurement, and construction is being pursued. If delays are encountered, we risk suffering the consequences of further cost inflation and supply chain constraints in a new-build environment with significant demand for electricity and new generation throughout the United States. The planning environment continues to evolve and is becoming increasingly dynamic. This means the value of moving forward with new, flexible resources is at a premium. The addition of this new, flexible resource allows us to focus on reliability and affordability while adapting to fast-changing environmental, technological, and market opportunities and challenges. Continued delay also risks missing near-term in-service windows for announced large-load customers, compressing schedules, and raising execution risk. Early action helps mitigate cost escalation, supply-chain risk, and interconnection congestion. In short, deferral of Buchanan Bluffs Energy Center Unit 2 is not a viable option.

Q: Do you anticipate continued development activity for natural gas fired generation in the United States?

A: Yes. According to S&P Global, the U.S. power sector is planning 155 GW of fossil fuel capacity to meet rising demand.[12] This number is further supported by the fact that GE Vernova, one of the three primary natural gas fired original equipment manufacturers, has recently reached a 116 GW backlog of turbine orders.[13] Based on this activity, the price

[12] US Power Sector Planning 155 GW of Fossil Fuel Capacity to Meet Rising Demand, Susan Dlin & Karin Rives, *Market Intelligence, S&P Global Energy*, April 15, 2026.
[13] https://www.utilitydive.com/news/ge-vernova-gas-turbine-backlog-climbs-to-116-gw/826039/

escalation that Evergy has seen in the market over the last few years, the need for firm-dispatchable generation called for by the SPP, and the substantial NPVRR[14] benefit of Buchanan Bluffs Energy Center Unit 2, it is important to move now while turbine slots and EPC availability are strong at a site that was contemplated to support two advanced class combined-cycle units from inception.

B. Foxtrot BESS Project

Q: What value does the Foxtrot BESS Project provide Evergy Missouri West?

A: A battery energy storage system stores energy and dispatches it when the grid needs it most. The Foxtrot BESS Project will enhance Evergy Missouri West's grid reliability and flexibility. As discussed by Mr. VandeVelde, it also provides essential summer and winter capacity accreditation under SPP's ELCC framework during Evergy West's most acute winter capacity deficit years.[15] Pairing battery storage with the solar facility now being constructed at Foxtrot will also help diversify Evergy's supply-side resources while retaining and attracting large-load customers who are interested in pursuing clean energy opportunities presented by BESS and solar generation.

Q: Is Foxtrot BESS needed to serve Missouri West customers?

A: Yes. As identified in EMW's August 2026 Revised Resource Plan and discussed by Mr. VandeVelde and Mr. Gladhill, Foxtrot BESS is essential to providing current and future large load customers with safe and adequate service as part of Missouri West's total supply side portfolio. With the addition of the modified ESA, Missouri West's total system demand caused the updated capacity expansion model to select a battery.

[14] Net present value of utility revenue requirement. See IRP Rule 22.070(3).
[15] See Evergy Missouri West 2026 Revised Resource Plan at 3-4 (Aug. 2026).

Q: What benefit does Evergy Missouri West receive by locating the Foxtrot BESS on Foxtrot Solar Project's site?

A: Locating the BESS at the existing Foxtrot Solar Project site, which is already owned by EMW, allows it to use interconnection infrastructure that is already in place which reduces the development timeline by roughly two to three years and is price advantaged compared to the generic battery resource used in the 2026 Annual Update to the IRP.[16] Additionally, a storage facility of this general size occupies "a compact physical footprint" of "typically 5–10 acres for 150 MW" and the Foxtrot site is well suited to accommodating the BESS project. [17]

Q: What are the tax-credit considerations for the Foxtrot BESS Project?

A: As discussed by Evergy witness John Grace (Senior Director, Corporate Planning & Financial Management) in his direct testimony, Foxtrot BESS is expected to qualify for a 50% Section 48E investment tax credit — a 30% base credit plus a 10% energy-community bonus and 10% credit by utilizing domestic content — which reduces the effective capital cost by approximately 50%, with the benefit received upfront in the first year of operation.[18]

IV. COMPETITIVE PROCUREMENT AND THE REQUEST-FOR-PROPOSAL PROCESS

Q: Are you familiar with the Commission's CCN Rule under Section 393.170.1?

A: Yes. The Commission's CCN Rule requires a CCN for an electric utility to construct an electric generating plant under Section 393.170.1. Such "construction" or "line" CCNs are

[16] See EMM 2026 IRP Annual Update at 118-119.
[17] Id. at 119.
[18] See EMW 2026 IRP Annual Update at 46.

required when an electric generating plant is expected to serve Missouri customers and be included in retail rate base. See 20 CSR 4240-20.045(1)(A)1, (1)(B)1, and (2)(A)2.

Q: How is the IRP process relevant to the CCN standard in Missouri?

A: The CCN Rule and associated Tartan[19] factors contemplate consideration of the utility's most recent preferred plan and resource acquisition strategy. Subsection (6)(G) of the CCN Rule requires the application to describe how the proposed asset relates to the electric utility's adopted preferred plan under 20 CSR 4240-22. As discussed in this testimony and by Mr. VandeVelde, the Applicants' 2026 IRP Annual Updates and EMW's August 2026 Revised Resource Plan have identified the need for these assets.

Q: How does the CCN Rule treat competitive bidding?

A: The CCN Rule contemplates an overview of the utility's plan for competitive bidding for the design, engineering, procurement, construction management, and construction of the asset, although competitive bidding itself is not required. From a generation planning perspective, the relevant question is whether the Applicants tested the market and pursued a reasonable resource acquisition process for each Project.

Q: What procurement approach are the Applicants using for Buchanan Bluffs Energy Center Unit 2?

A: For Buchanan Bluffs Energy Center Unit 2, the Applicants are continuing the self-development approach they used for the combined-cycle and simple-cycle resources approved in No. EA-2025-0075 and pending in No. EA-2026-0154, as discussed further by Mr. Olson. Consistent with prior All-Source RFPs, the market has not produced competitive bids for firm, dispatchable natural gas generation of this kind in Missouri, so

[19] In re Tartan Energy Co., No. GA-94-127, 1994 WL 762882 at 3 (1994) ("Tartan").

self-development remains the reasonable path. This approach reflects Evergy's "design once, build many" philosophy that leverages proven technology designs, contracting strategies, and prior development work to improve schedule adherence, cost control, and long-term interoperability across units.

Q: Have the Applicants selected an OE for the Buchanan Bluffs Energy Center Unit 2?

A: Yes. As discussed in the testimony of Mr. Olson, Evergy will be contracting with Burns & McDonnell Engineering Co., Inc. ("B&M") as the OE for the Buchanan Bluffs Energy Center Unit 2. B&M is also serving as the OE for Evergy's development of the Chisholm Trail and McNew CCGTs which the Commission approved in No. EA-2025-0075. B&M will also serve as OE for the development by Kansas affiliate Evergy Kansas Central of Buchanan Bluffs Energy Center Unit 1 at the same facility in the same location in Buchanan County, Missouri. Evergy's working relationship with B&M through all of these advanced class gas turbine projects including CTs and CCGTs projects is important. It helps promote efficiencies, creates economies of scale, and aligns with the objectives of the "design once, build many" strategy that the Applicants have advocated before the Commission in recent proceedings.

Q: Have the Applicants selected a Power Island Equipment (PIE) supplier for the Buchanan Bluffs Energy Center Unit 2?

A: Yes, and as Mr. Olson discusses in his testimony, Evergy will be contracting with Mitsubishi as the PIE designer and constructor. During the design process for the Chisholm Trail and McNew plants, the Applicants conducted competitive solicitations for its PIE contractor, which ultimately resulted in the selection of Mitsubishi. In 2025, Evergy entered into Reservation Agreements ("RAs") for two additional combined cycle units of

the same design as Chisholm Trail and McNew. These RAs are contemplated to become equipment contracts with the same terms and conditions as the previous units. These were strong commercial terms that were established during the prior Power Island RFP and are being honored as part of our Master Agreement with Mitsubishi. As a result, EMM and EMW will again be contracting with the same PIE supplier that is providing PIE for the Chisholm Trail and McNew CCGTs.

Q: Have the Applicants selected an EPC contractor for the Buchanan Bluffs Energy Center Unit 2?

A: Yes, and as Mr. Olson discusses in his testimony, EMM and EMW will be contracting with Kiewit Power Contractors ("Kiewit") as the EPC contractor. Following the RFP and subsequent selection of Kiewit as the EPC for Chisholm Trail, McNew, and Mullin Creek, Evergy negotiated a master service agreement with Kiewit that defined key contractual terms such as limitation of liability, liquidated damages, change order processes, insurance, owner's rights, and schedule, performance and cost guarantees. Kiewit has indicated they will honor the terms of the master agreement for Buchanan Bluffs Energy Center Unit 2 and, as a result EMM and EMW will again be contracting with the same EPC supplier as the CCGTs in Nos.EA-2025-0075 and EA-2026-0154.

Q: How was the Foxtrot BESS Project selected?

A: As discussed in the direct testimony of Evergy witness John Carlson (Director, Project Management & Controls), Foxtrot BESS will be developed and built by Invenergy, LLC and its affiliates, and Evergy Missouri West will acquire the property through a build transfer agreement ("BTA"). Upon construction completion, EMW will merge the asset into its generation portfolio. The Foxtrot BESS was bid into Evergy's 2025 All-Source

RFP, and at its pricing, location, and development maturity represents a natural fit in EMW's portfolio alongside the Foxtrot Solar Project site.

Q: Does co-locating the Foxtrot BESS Project with the Foxtrot Solar Project affect procurement and development?

A: Yes. As Mr. Carlson explains, by co-locating storage at an existing generation site like Foxtrot Solar Project, the BESS project will incur no interconnection costs, will avoid the expense of new substation and transmission equipment, and will benefit from SPP's Surplus Interconnection Service. The project will locate on a site with familiar landowners and on a construction site with known site conditions. Ultimately the cost, speed, and certainty with which Evergy Missouri West can construct and ultimately place this BESS system into beneficial use make it a clear choice.

V. CONCLUSION

Q: Please summarize your testimony.

A: Yes. My testimony explains why Evergy Missouri Metro and Evergy Missouri West are requesting Certificates of Convenience and Necessity for two generation resources identified in their most recent resource plans: the Buchanan Bluffs Energy Center Unit 2 facility and the Foxtrot BESS Project. The testimony describes how these resources were selected through the integrated resource planning process, the role each resource plays in the Applicants' portfolios, and why the Applicants believe these investments are necessary to provide safe and adequate service to customers.

My testimony also explains the relationship between the IRP process and generation development. While the IRP identifies the resource types and timing needed to meet future energy and capacity requirements, successful implementation requires

consideration of specific project attributes. Through that process, the Applicants have selected these specific resources.

With respect to the individual projects, Buchanan Bluffs Energy Center Unit 2 is a jointly owned, advanced-class combined-cycle natural gas facility that will provide efficient, firm, dispatchable generation capable of supporting reliability, economic development, and growing customer demand. The Foxtrot BESS Project will provide flexible capacity and operational support to Evergy Missouri West while leveraging the existing Foxtrot Solar Project site to reduce development costs and timelines. Together, these projects advance the Applicants' "all-of-the-above" generation strategy and provide complementary resources that enhance reliability and portfolio diversity.

Finally, my testimony addresses the importance of moving forward with these projects now. The Applicants are operating in an environment characterized by increasing electricity demand, tightening reserve margins, changing capacity accreditation requirements, long equipment lead times, and continued construction cost escalation. Delaying these projects would increase execution risk, jeopardize critical procurement opportunities, and ultimately increase costs for customers. For these reasons, I conclude that Buchanan Bluffs Energy Center Unit 2 and the Foxtrot BESS Project represent prudent, timely, and necessary investments that will help ensure the Applicants can continue to provide reliable and affordable electric service to their customers.

Q: Does this conclude your direct testimony?

A: Yes.

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of the Application of Evergy Metro, Inc., d/b/a/ Evergy Missouri Metro and Evergy Missouri West, Inc. d/b/a Evergy Missouri West For Permission and Approval of Certificates of Convenience and Necessity Authorizing them to Construct, Install, Own, Operate, Manage, Maintain, and Control Natural Gas and Solar Electrical Production Facilities and a Battery Energy Storage System	)	Case No. EA-2026-0343

AFFIDAVIT OF JASON HUMPHREY

STATE OF MISSOURI)
) ss
COUNTY OF JACKSON)

Jason Humphrey, being first duly sworn on his oath, states:

1. My name is Jason Humphrey. I work in Kansas City, Missouri and Topeka, Kansas and I am employed by Evergy Metro, Inc. as Vice President, Development.

2. Attached hereto and made a part hereof for all purposes is my Direct Testimony on behalf of Evergy Missouri Metro and Evergy Missouri West consisting of twenty-five (25) pages, having been prepared in written form for introduction into evidence in the above-captioned docket.

3. I have knowledge of the matters set forth therein. I hereby swear and affirm that my answers contained in the attached testimony to the questions therein propounded, including any attachments thereto, are true and accurate to the best of my knowledge, information and belief.

Jason Humphrey

Subscribed and sworn before me this 31st day of August 2026.

Notary Public

My commission expires: April 26, 2029

ANTHONY R WESTENKIRCHNER
NOTARY PUBLIC - NOTARY SEAL
STATE OF MISSOURI
MY COMMISSION EXPIRES APRIL 26, 2029
PLATTE COUNTY
COMMISSION #17279952