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MISSOURI PUBLIC SERVICE COMMISSION

CASE NO. EA-2026-0154

DIRECT TESTIMONY

OF

JASON HUMPHREY

ON BEHALF OF

EVERGY MISSOURI METRO

Kansas City, Missouri
May 2026

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DIRECT TESTIMONY

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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", "EMM", "Applicant", or the "Company"), and Evergy Missouri West, Inc. d/b/a Evergy Missouri West ("Evergy Missouri West"), 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.

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 EMM 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 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 have provided testimony in support of EMW's Application for a Certificate of Convenience and Necessity ("CCN") in No. EA-2025-0075 for the McNew and Viola combined-cycle natural gas-fired electrical generating plants and the Mullin Creek #1 simple-cycle plant, and in No. EA-2024-0292 regarding the Foxtrot and Sunflower Sky solar facilities. I have previously provided testimony in support of Evergy Missouri West's Winter Storm Uri securitization petition, as well as the CCN regarding the acquisition of the Persimmon Creek wind farm. I submitted testimony related to Nuclear Decommissioning Trust costs and investment requirements regarding the Wolf Creek Nuclear Generating Station to both this Commission and the Kansas Corporation Commission.

Q: What is the purpose of your direct testimony?

A: The purpose of my direct testimony in this docket is to:

- Provide an overview from the development perspective of the simple-cycle natural gas-fired Mullin Creek #2 generation unit ("Mullin Creek #2" or "Project") that is the subject of the Company's CCN Application;
- Describe in general terms the process employed by Evergy that resulted in the selection of the generation addition;
- Provide additional context and support for the Company's CCN Application; and

- Describe the relationship between the IRP process and generation planning including the salient elements of EMM's long-term generation plans.

II. OVERVIEW OF MULLIN CREEK #2 AS A RESOURCE ADDITION

Q: What does Evergy Missouri Metro request in this case?

A: Evergy Missouri Metro is seeking a CCN for the Mullin Creek #2 generation facility. The Project represents the next phase of EMM's long-term resource planning, as reflected in Evergy Metro's IRP, and is intended to help satisfy energy and capacity requirements with flexible, reliable, dispatchable generation that supports a diversified resource portfolio.

Q: Is Mullin Creek #2 important for the efficient implementation of EMM's 2026 Preferred Plan?

A: Yes. The Project proposed in this docket is vital to meeting the capacity and energy requirements identified in Evergy Metro's 2026 Annual IRP Update and is consistent with the thermal additions identified in the Company's near-term planning. In fact, as described in the testimony of witness Cody VandeVelde and in Evergy Metro's 2026 IRP, Mullin Creek #2 is the single most significant resource acquisition. When Mullin Creek #2 was taken away from the IRP as a resource option, the resulting alternate plans were $245 million higher on an NPVRR basis than plans including Mullin Creek #2.

Q: Please describe the Project.

A: Mullin Creek #2 is a simple-cycle gas turbine ("SCGT") generating facility that will be located in Nodaway County, Missouri near Maryville. It is scheduled for commercial operation by October 2030. The Mullin Creek generating station was developed as a two-unit site from its inception, acknowledging both the need for generation and the operational and construction efficiencies that come with building more at a single location. Land,

interconnection, and air-permitting were pursued for both units at the time of initial development of the site. Mullin Creek #2 is a sister unit to Mullin Creek #1 which was granted a CCN by the Commission in No. EA-2025-0075.

Q: What is driving the need to build now?

A: As discussed further by Evergy witness Mr. VandeVelde, Evergy's utilities as a whole are acutely seeing the impacts of new methods of capacity accreditation, increased demand, and increased reserve-margin requirements. This combination is a call to action for utilities, particularly ones such as Evergy Missouri Metro, 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 the Company's recent CCN proceedings.

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 risk, preserving affordability for all customers while meeting Evergy's resource-adequacy obligations in a timely manner.

Q: What was the site-selection process for the Project?

A: In late 2022 and early 2023, Evergy began to see a potential need for new, firm dispatchable power for its retail customers. In order to address that need, Power Engineers, Inc. ("Power") was engaged to help Evergy perform siting and technology studies for new natural gas generation. Throughout 2023, Power conducted an extensive siting study to assist Evergy in locating, investigating, and evaluating potential sites for large-scale electricity generation builds within Evergy's Kansas and Missouri service areas. Evergy used that study to inform its site-selection decisions. Key factors influencing Evergy's siting decisions included proximity to natural gas pipelines and fuel supplies, the accessibility and cost of transmission interconnections, the civil-construction buildability of the site, and the current ownership of or ability to contract for land. That work identified the Mullin Creek site in Nodaway County as a suitable two-unit simple-cycle location. Because Mullin Creek was planned from the outset as a two-unit site, Mullin Creek #2 also benefits from prior site-development work and from the operational and construction efficiencies associated with co-locating a sister unit next to Mullin Creek #1.

Q: Please describe the ownership structure for the Project.

A: Mullin Creek #2 will be 100% owned by EMM.

Q: Evergy has in the past employed a variety of approaches to construction and acquisition of generation. What approach are you using for the Project?

A: Consistent with prior builds, and as is typical for firm dispatchable conventional generation, Evergy is utilizing a self-development approach for the Project. The Project will be completed utilizing an Engineering, Procurement and Construction ("EPC") contract structure. In order to develop the specifications for the plant and the EPC contract,

as further described by Company witness Kyle Olson, Evergy has retained the same owner's engineer ("OE") contractor structure, common generation technology, and the same original equipment manufacturer used for Mullin Creek #1. The OE contractor, Burns & McDonnell, is providing office and field support to Evergy for the Project. Using the same OE and EPC contractor structure, common technology, and the same OEM leads to more efficient, reliable, and cost-effective Project delivery through economies of scale, repeatable designs, procurement leverage, and the long-term interoperability of parts and equipment. The customer benefits derived from these efficiencies are addressed in Mr. Olson's direct testimony.

In sum, Evergy's approach is similar to its process in its most recent natural gas CCN request, No. EA-2025-0075. The Company's "design once, build many" philosophy permits it to leverage proven technology designs, contracting strategies, and site-development work already undertaken for Mullin Creek #1. This continuity improves schedule adherence, cost control, operability, and commonality across the Mullin Creek units. It also benefits the plants and fleet long term as parts and technology interoperability as well as common maintenance practice can be employed. This standardization of design is anticipated to have benefits across both simple cycle and combined cycle plants as all the No. EA-2025-0075 gas turbines and the Mullin Creek #2 gas turbines are all Mitsubishi 501JAC models.

Q: Is Evergy Missouri Metro qualified to operate natural-gas-fired power plants?

A: Yes. Evergy Metro and its affiliate utilities have natural-gas power plants in its 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 the Company has for its

equipment. Additionally, the Company is very familiar with the maintenance practices for the majority of equipment found within simple-cycle 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 its operating fleet today, but they soon will with the units approved in the EA-2025-0075 docket. Consistent with industry best practices, the Company plans to engage the gas-turbine original equipment manufacturer in a long-term service contract that will help to ensure reliable and efficient operation of the equipment at the site.

Q: Why is Evergy Missouri Metro pursuing an advanced-class combustion turbine for the Project rather than older E- or F-class combustion turbine technology?

A: While performing the technology study during 2023 in discussions with Power Engineering, turbine original equipment manufacturers (OEMs), potential engineer, procure, and construct ("EPC") firms, and industry experts, it became clear there were many advantages offered by the newer combustion-turbine technologies. Not only did they have better heat rates and lower capital costs per kilowatt of capacity, but they also had the greatest operational flexibility, with emissions-compliant minimum loads down to 35% of output for the gas turbine.

This wide operating range and flexibility in the market are also of critical importance to Evergy as the makeup of generators on the grid incorporates more intermittent resources. Although a combined-cycle configuration can achieve still greater efficiency and lower heat rates by adding downstream equipment, the simple-cycle configuration selected for Mullin Creek #2 has a lower upfront cost and is well suited for peaking service during periods of extreme heat and cold. The Project's flexibility and fast-start characteristics

make it valuable as a dispatchable resource that can respond when customer needs are highest.

Q: How Is EMM taking into account other proposed or final environmental rules that may impact Mullin Creek #2?

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 Evergy's long-term planning and evaluation processes.

These evolving regulations highlight the importance of proactive planning. By pursuing a CCN for Mullin Creek #2, Evergy is advancing a project designed with modern technology and emissions controls that is well positioned to meet current and future environmental rules. The Project 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 sufficient power. Moreover, by obtaining a CCN now to build firm, dispatchable generation, Evergy

creates adequate flexibility to retire or replace less efficient generation assets over time on a reliable, watt-for-watt basis1.

Q: Is Mullin Creek #2 a vital resource addition for Evergy Missouri Metro?

A: Yes. EMM's proposed construction and ownership of Mullin Creek #2 corresponds to the additional thermal resources identified in EMM's recent IRP planning for the 2030-2031 period. The Project provides flexible, dispatchable capacity that supports reliability, complements intermittent resources, and helps meet customer demand during periods of extreme weather and load growth.

Q: Why is the company pursuing the Expedited Resource Adequacy Study ("ERAS") Interconnection study for Mullin Creek #2

A: Mullin Creek #2 is a critical component of the EMM preferred plan and is directly responsive to the SPP Generational Challenge call to action as well as the purpose of the SPP ERAS process. "On July 21, FERC approved SPP's ERAS process, creating a one-time, accelerated pathway for new resources to help meet urgent reliability needs through 2030. The ERAS process empowers load responsible entities (LREs) to nominate qualified generation projects for fast-track review, targeting the region's most pressing resource adequacy challenges."[2] Mullin Creek #2 is a firm-dispatchable generation resource that Evergy needs quickly to meet its obligation for safe and sufficient service. The dual fuel nature of the unit combined with its best-in-class simple cycle efficiency allows EMM to be responsive to customer needs on the days of peak demand in nearly any grid condition.

[1] See Mo. Rev. Stat. § 393.401 (Supp. 2025).
[2] Southwest Power Pool, "Southwest Power Pool Celebrates Landmark Federal Approvals Advancing Regional Resource Adequacy," [keep same URL] (last visited May 14, 2026).

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

A: Yes. The 2026 IRP 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 both simple-cycle and combined-cycle technologies in its planning analysis.

Q: How often are construction and interconnection costs reviewed as part of the Company's IRP analysis?

A: Future construction and interconnection costs are reviewed at least annually. Such reviews are based on the latest publicly available cost information, as well as updated information from other recent and ongoing specific construction projects that Evergy monitors.

Q: Do the cost estimates for the Project vary from the estimates used in the 2025 IRP?

A: Yes. As described by Company Witness Kyle Olson the current estimate for the Project indicates an increase in construction costs from the midpoint of the construction cost range used during the 2025 IRP. These costs reflect current market conditions for new-generation construction. Importantly, the costs filed and proposed in this case represent the values tested as a midpoint in the 2026 IRP. As described previously, taking Mullin Creek #2 away from the IRP as a resource option increased the NPVRR of the resulting alternative plans by approximately $245M.

Q: What risks come with delaying the construction of Mullin Creek #2?

A: The major risks are availability and cost. Any further delay in the Project will significantly jeopardize EMM'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 could be procured, such 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. The most fundamental risk is not moving forward with the Project now while the site has been selected, gas turbine slots have been secured, and a thoughtful approach to engineering, procurement, and construction is being pursued. And, with the dramatic rise in inflation over the past several years—particularly for new power-generation projects—waiting would likely result in additional cost increases. Nearly three and a half years of effort have gone into reaching this point, and Evergy is well positioned to drive toward the successful completion of the Project.

If we wait, we risk suffering the consequences of further inflation 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, in the current environment, deferral of the Project is not a viable option.

Q: Do you anticipate continued development activity for natural gas fired generation?

A: Yes, I do. According to S&P Global the US power sector is planning 155 GW of fossil fuel capacity to meet rising demand[3]. 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 100 GW backlog of turbine orders[4]. Based on this activity, the price 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 benefit of Mullin Creek #2 it is important to move now while turbine slots and EPC availability is strong at a site that was contemplated to support two advanced class simple cycle units from inception.

III. MISSOURI CCN STANDARD

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 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 factors contemplate consideration of the utility's most recent preferred plan and resource acquisition strategy. Specifically, 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, Mullin Creek #2 corresponds to the 440 MW of simple-cycle capacity identified

[3] See Schedule JH-1.
[4] See Schedule JH-2.

in EMM's Preferred Plan for 2031, and Mr. VandeVelde addresses that IRP support in more detail.

Q: Under the CCN Rule, what is the next inquiry?

A: The next inquiry is subsection (6)(H), which requires an overview of the electric utility's plan for competitive bidding for the design, engineering, procurement, construction management, and construction of the asset. From the generation-planning perspective, that inquiry focuses on whether the Company tested the market and pursued a reasonable resource-acquisition process. Mr. Olson provides the project-specific testimony regarding the OE, PIE, and EPC solicitations for Mullin Creek #2.

Q: Did Evergy issue a request for proposal from a wide audience of participants willing and able to meet the needs identified under its Preferred Plan or otherwise take steps to ensure the costs for the proposed Project are reasonable and competitive?

A: Yes. The RFP process for the natural gas Project started with Evergy's 2023 All-Source RFP. During that process Evergy received no bids for firm, dispatchable natural gas generation. Therefore, at that time the Company pursued self-development for the Project. Mr. Olson explains the Project-specific RFPs and solicitations used for the PIE, and EPC functions for Mullin Creek #2. He also discusses the significant efforts by the Company to ensure that the costs for the Project will be reasonable and demonstrate that they are comparable to other similar projects being constructed in the utility industry.

Q: Evergy issued an updated All-Source RFP in 2025. Please describe the RFP.

A: Similar to the 2023 All-Source RFP, in 2025 Evergy requested proposals for projects that were grid connected and commercially viable. Participants were able to respond with various technology types including renewable, battery, and natural gas projects. In this RFP

Evergy did receive a few natural gas offers. However, none were in Missouri, and none were as advanced a development as Mullin Creek #2, which had already appeared in the 2024 Triennial IRP and 2025 Annual Update IRP.

Q: Is Evergy considering any projects proposed in that RFP?

A: As described in the 2026 IRP Annual Update, EMM does have other projects contemplated within its near-term resource acquisition plan. Evergy continues to evaluate opportunities identified through its broader resource-planning processes including self-development and the 2025 All-Source RFP, but this application seeks approval only for Mullin Creek #2.

Q: Are you attempting through this testimony to address every construction-item requirement in subsection (6) of the CCN Rule?

A: No. My testimony is directed primarily to subsection (6)(G) and, from a generation-planning perspective, subsection (6)(H). The Application and other witness testimony address other project-specific items, and the Application requests later submission of more detailed information responsive to subsections (6)(I) and (6)(J), consistent with CCN Rule Section (3)(C).

IV. CONNECTION BETWEEN IRP AND GENERATION PLANNING

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

A: Fundamentally, the IRP process is a tool we use to evaluate the most efficient way to serve Evergy customers' energy and capacity needs over a 20-year horizon, bearing in mind that the future is inherently uncertain. A detailed discussion of the IRP process is included in the direct testimony of Company witness Cody VandeVelde.

Q: What purposes does the IRP process serve?

A: In general, integrated resource planning allows utilities to make informed decisions about the resources needed to meet their 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[5].

Q: Has EMM's IRP Preferred Plan recently included simple-cycle natural gas generation?

A: Yes. Both the 2024 Triennial IRP and the subsequent 2025 and 2026 annual IRP updates of the Company have included simple-cycle natural gas generation. Specifically, EMM's preferred plan identified 440 MW of simple-cycle capacity in 2031. The CCN before the commission here is intended to address that need with the addition of Mullin Creek #2, a sister site to Mullin Creek #1 included in case No. EA-2025-0075.

EMM's longer-term planning also identified additional thermal needs beyond the scope of this application, including 355 MW of combined-cycle capacity in 2032 and 440 MW in 2035.

[5] See Mo. Rev. Stat. § 393.401 (Supp. 2025).

Q: Given that EMM filed its 2026 Annual IRP Update on May 7, 2026, what has changed since the 2025 Update?

A: The 2026 Annual IRP Update reflects continued load growth, ongoing resource adequacy needs, and the importance of maintaining firm, dispatchable capacity as older units retire, as required by the "watt for watt" provisions in Missouri Senate Bill 4, and as siting and interconnection challenges affect other resource types[6]. As Mr. VandeVelde discusses in more detail, the 2026 Update continues to support the need for new thermal generation, including the Project that is the subject of this application.

Q: Please identify Evergy's long-term generation planning objectives.

A: Our generation 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 utilizing an all-of-the-above fuel supply strategy.

EMM recognizes that the future is inherently uncertain. The 2026 Preferred Plan represents an efficient and effective mix of generation assets that the Company can utilize to meet the demands of customers over multiple futures. Instead of going "all-in" on a specific asset type, the plan provides energy and capacity in varied forms including combined- and simple-cycle natural gas generation, solar, battery energy storage, and demand-side management ("DSM"). This plan takes an "all-of-the-above" approach to a resource mix which allows EMM to satisfy the resource adequacy requirements of

[6] See Mo. Rev. Stat. § 393.401 (Supp. 2025).

Southwest Power Pool, Inc. ("SPP") through a diversified portfolio of supply-side and demand-side assets. Moreover, the Mullin Creek #2 is an important near-term step in that long-term plan, enhancing flexible, reliable, and dispatchable generation that complements renewables and helps ensure EMM has steel-in-the-ground capacity.

Q: Are these planning objectives reflected in Evergy Metro's most recent Preferred Plans?

A: Yes. The Company's preferred portfolio incorporates a multi-faceted approach to addressing these objectives. Evergy Missouri Metro recognizes the future is inherently uncertain, but the 2026 Annual Update helps to address that uncertainty. The upshot is that the IRP Preferred Plans and implementation timeline reflect the Company's commitment to ensuring we have the ability to meet our customers' electricity needs – and can do so in a way that is both economical and environmentally 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.

The SPP wholesale electricity market is tightening and "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[7]." 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 Commission's May

[7] See Southwest Power Pool, "Our Generational Challenge: A Reliable Future for Electricity" at 3, 12, https://spp.org/media/2163/our-generational-challenge-paper.pdf (last visited May 14, 2026).

21, 2025, public meeting. He stated that "load-responsible entities [like Evergy Missouri Metro] 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 8 in our queue[OBJ]." 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.

Q: How does IRP analysis impact short-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 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 staging; purchase contracts; siting and permitting challenges; transmission-system constraints; and leveraging scale to provide cost synergies.

Q: How is Evergy managing the large number of supply-side resources identified in its operating utilities' Preferred Plans?

A: Evergy's generation development department was created including a dedicated executive to focus on bringing new supply-side resources into the portfolios of the Evergy operating

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

utilities, including EMM, to help manage the significant supply-side resources identified across all jurisdictions in their respective Preferred Plans. Evergy has substantial internal and external expertise within our team with respect to the commercial, technical, and construction skills, knowledge, and ability needed to bring new power plants online.

Q: What role, if any, does the generation development team have in the IRP process?

A: The generation development team participates in the IRP process as a key source of input assumptions. Namely, we help 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 leadership team to help provide guidance and insight into what happens after selection of the preferred plan, including the filing of CCN cases.

Q: What information was used in the 2024, 2025, and 2026 IRPs to compile inputs related to cost, performance, and lead times for new supply-side resource options?

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 EA-2025-0075 and 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: How has EMM factored the recent cold-weather events such as Winter Storms Uri, Elliott, and Gerri into its IRPs?

A: Evergy is positioning itself to have a diverse portfolio of resource options including wind, solar, storage, and conventional generation. Recent cold-weather events have shown us the importance of fuel availability and fuel diversity once again. Because during Winter

Storm Uri the natural gas system was limited and wind resources were frozen by mist throughout the region, the grid largely relied on plants with on-site fuel. During Winter Storms Elliott and Gerri, 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.

For the Mullin Creek #2 facility discussed in greater detail below, Evergy Missouri Metro is evaluating fuel-supply arrangements and on-site liquid-fuel capability as part of its reliability planning. As explained in the direct testimony of Company witness JP Meitner, this approach is intended to support fuel availability when the Project is needed during extreme weather events.

Q: Is the preferred plan included in Evergy's 2026 IRP filings reasonable, reliable, and efficient?

A: Yes. The Preferred Plan for EMM provides Evergy a roadmap for meeting its obligation to furnish reasonably efficient and sufficient service and facilities at just and reasonable rates. The Preferred Plan also helps keep Evergy within the prescribed IRP framework and analytical expectations for informing longer-term planning commitments. Further, it reflects Evergy's careful evaluation of whether near-term decisions are sufficiently robust to maintain flexibility for adjustments that may be warranted because of changing conditions within the medium- and long-term horizons. Overall, the requested CCN for the Project reflects a balanced planning approach that fortifies reliability and supports economic development, while attempting to mitigate rate impacts for the broader customer base through standardization, economies of scale, and commodity risk management.

It should be noted, too, that all tested alternative resource plans ("ARP") were developed to ensure compliance with SPP's resource-adequacy requirements and hourly customer needs, and included consideration of extreme weather events, generator availability, and renewable output. And, as part of the 2025 IRP process, Evergy conducted its own probabilistic reliability analysis using Strategic Energy and Risk Valuation Model ("SERVM") software to evaluate the reliability of its plan and to assess performance of future resource portfolios under varying load, weather (including extreme weather), and outage conditions.

Q: Please summarize your testimony.

A: My testimony explains why Mullin Creek #2 is the right resource for EMM to add to its generation fleet today. I discuss EMM's long-term generation-planning objectives, the continued need for firm, dispatchable generation, the role of the Project as 440 MW of simple-cycle capacity identified in EMM's preferred plan for 2031, and the generation-planning basis for the Company's self-development approach after the 2023 All-Source RFP produced no bids for firm, dispatchable natural gas generation. Moving forward with Mullin Creek #2 now supports reliability, affordability, and economic development, and how the Project relates to the CCN Rule from the planning perspective.

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 for Permission and Approval of a Certificate of Convenience and Necessity Authorizing it to Construct, Install, Own, Operate, Manage, Maintain, and Control a Natural Gas Electrical Production Facility	)))))))	Case No. EA-2026-0154

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 I am employed by Evergy Kansas Central, 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 consisting of twenty-two (22) 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 14th day of May 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

DATA DISPATCH

US power sector planning 155 GW of fossil fuel capacity to meet rising demand

Wednesday, April 15, 2026 11:59 AM CT

By Susan Dlin, Karin Rives
Market Intelligence, S&P Global

SoftBank Group Corp. Chairman Masayoshi Son, flanked by US Energy Secretary Chris Wright and US Commerce Secretary Howard Lutnick, attends a groundbreaking ceremony for a 9.2-GW gas-fired power plant in Piketon, Ohio, on March 20, 2026.
Source: Kyodo News via Getty Images.

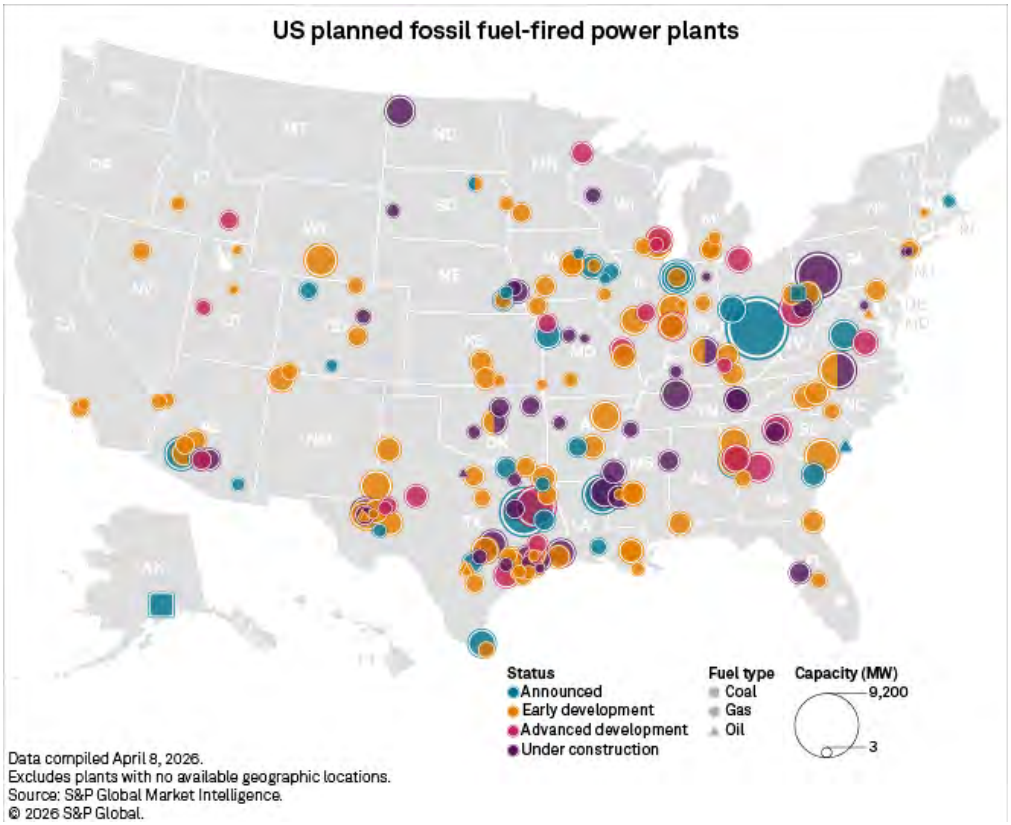
The US power sector's appetite for new natural gas-fired generation continues to grow, undeterred by volatile fuel prices and turbine supply constraints.

As of the first quarter of 2026, companies had plans to add 153 gigawatts of gas-powered capacity to the electric grid, according to data from S&P Global Market Intelligence.

With 2 GW of coal and oil-fired generation also planned, the sector is now looking to build 155 GW of power plants running on fossil fuels. That is nearly twice the volume utilities planned in early 2025 and is driven by projected soaring electricity demand.

The planned capacity reflects the sector's strategy of meeting rising demand head-on without making the excess capacity mistakes of decades past, said Steve Piper, North America power and renewables director at S&P Global Energy CERA. Most of the new electricity production planned for the next three to five years will likely move forward thanks to commitments from data centers, he said.

"This time definitely does seem different," Piper said in an interview. "Investor-owned utilities can gain recovery and get good terms of service with data centers, in particular, because they're passing a good amount of risk on to the customer."



A 9.2-GW gas plant

As of the first quarter of 2026, US electric utilities and other developers had announced or were building 224 new power plants that will burn natural gas, oil or coal. Of those, 210 are natural gas-fired plants that would compete against renewables.

The list of planned new capacity includes the massive 9.2-GW natural gas-fired plant expected to be built in southern Ohio with a $33 billion investment by Japan's SoftBank Group Corp. The plant would dwarf the 4.4-GW Homer City plant in Pennsylvania that, until now, was the largest such project under way.

SoftBank's US-based subsidiary SB Energy Corp. is planning to build and operate the Ohio plant. All turbines for the project have been ordered, with the first deliveries expected within a year, a spokesperson for the company said in an email. The remaining turbines will be delivered by the end of the decade, she said.

The plant would power a 10-GW data center at a site where the US Energy Department spent decades enriching uranium during the Cold War. Cleanup and groundwater monitoring from the nuclear weapons era continue at the site, which the Trump administration has said will be reinvented as a giant data center and energy hub.

"This is moving fast, and we'll see the first data center commissionings over the next couple of years," Rich Hossfeld, SB Energy's co-CEO, said in a video about the project that was produced by the DOE.

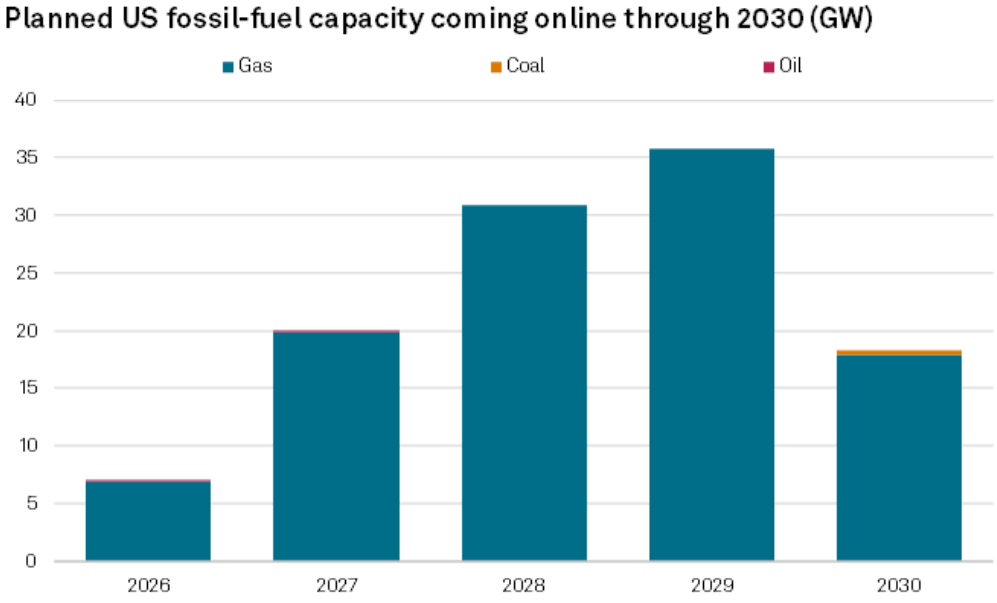
Transmission, pipeline, permits

An American Electric Power Co. Inc. subsidiary was tapped to build a $4.2 billion, 765-kV transmission line that would serve the data center. SB Energy will foot the bill for the transmission line.

AEP said it will apply for a transmission construction permit with the Ohio Power Siting Board once it has received feedback on a proposed route from landowners and others with a stake in the project. Power is expected to flow to the site in 2029, a company spokesperson said in an email.

Still, getting a 9.2-GW gas plant up and running in three years might be challenging even if turbines arrive on time, some market observers said. Permitting from various agencies can take months, and appeals can create delays.

"You also have to get the gas hook-up," Dennis Wamsted, an energy analyst with the Institute for Energy Economics and Financial Analysis, said in an interview. "There might be an existing pipeline, but it clearly won't be big enough to supply fuel for 9,000 megawatts of gas. So that would have to be built to hit a [major] pipeline off site. All of this takes time."



Data compiled April 8, 2026.
Limited to projects with available online year.
Source: S&P Global Market Intelligence.

Nation's first coal plant since 2013

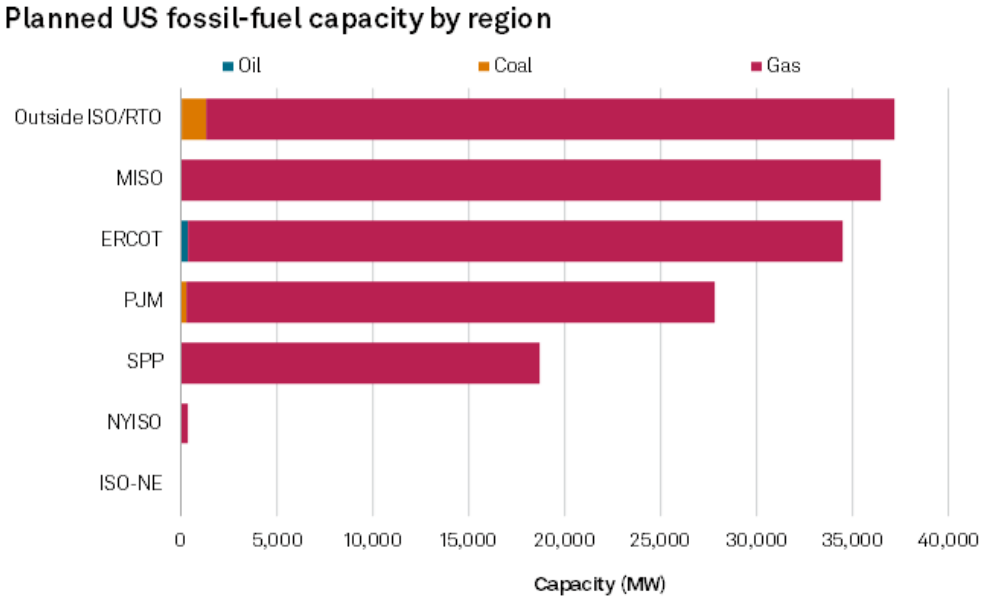
Another notable planned project is a 1.25-GW coal-fired power plant to be developed in Alaska by the coal mining company Flatlands Energy. The Terra Energy Center would be the first coal plant built in the US in over a decade.

The project was part of a $56 billion Asia-Pacific trade deal the Trump administration announced in March. The Terra Energy Center has a $1 billion "agreement in principle" with Hyundai Heavy Industries Power Systems Co. Ltd. to deliver large plant boilers for the project.

Alaska environmental and clean energy groups said the plan makes little economic sense.

Instead, Declan Farr, climate and clean energy program manager for The Alaska Center, recommended focusing on connecting more renewables to cut costs for consumers.
"Contemplating a new coal plant should be an absolute non-starter," Farr said in an email.

But the Matanuska-Susitna Borough Assembly north of Anchorage has agreed to work with the Terra Energy Center to identify companies that may be interested in developing a data center in the area. The facility would be served by the Flatlands Energy coal plant.



Data compiled April 8, 2026.
Planned capacity includes projects online through 2033 and with no available online year.
Source: S&P Global Market Intelligence.

'America needs more power'

NextEra Energy Inc. is gearing up to build another 10 GW of natural gas-fired capacity in Pennsylvania and in the booming Texas market.

"America needs more power, and NextEra Energy is ready to deliver," CEO John Ketchum said in a March statement. "Our hub strategy is designed to scale quickly and support rising demand — without increasing electricity costs for American households."

Another large natural gas project underway is the 2-GW Desert Sun power plant that Arizona Public Service Co. expects to bring online in 2031. The plant will be paid for by subscriptions from data centers and other large industrial customers, the utility said.

"We're facing once-in-a-generation demand growth and meeting it will require adding more generation across the board," Dani Marx, a spokesperson for the Edison Electric Institute, said in an email.

Uncertainty continues

The kilowatt price for the turbines used to generate power in natural gas-fired plants is expected to rise to $600/kW by the end of 2027, a 195% rise from 2019, Wood Mackenzie said in a recent report. That could soon make a stronger case for clean energy investments, regardless of federal policy.

Predicting how much power data centers will ultimately consume is difficult. The difference between the lowest and highest expectations for data center demand in 2030 exceeds the current combined electricity consumption of California and Florida, according to an April 7 Rhodium Group report.

"That is just a huge amount of uncertainty with regard to the grid that we need to build in the future," said Ben King, a director in the Rhodium Group's energy and climate practice and co-author of the report.

Some worry that state politicians and communities seeking new investments may be setting themselves up for disappointments.

"We're tying our future to polluting plants that are meant to feed data centers, which themselves bring a lot of local concerns," said Neil Waggoner, deputy director of the Sierra Club's federal energy campaigns. "It's all tied to a ton of money that, frankly, we haven't seen the society-wide use case for."

This article was published by S&P Global Market Intelligence and not by S&P Global Ratings, which is a separately managed division of S&P Global.

An Informa TechTarget Publication

UTILITY DIVE

GE Vernova gas turbine backlog hits 100 GW as prices rise

"The dollar-per-kilowatt growth is going to be very healthy in the second quarter of this year," CEO Scott Strazik said of turbine sales.

Published April 23, 2026

By Brian Martucci

A GE Vernova 7HA.03 gas turbine in a manufacturing plant in Greenville, S.C. Courtesy of GE Vernova

GE Vernova reported strong order growth across all three of its business segments in the first quarter of 2026, including in a wind segment hit by what it called weak developer demand and unfavorable U.S. tax and tariff policies. The company's stock was up nearly 14% at the close of trading Wednesday.

In a prepared statement, CEO Scott Strazik said "accelerating" demand from a diverse array of customers had set up his company to "serve the growing, long-cycle electric power market" for years to come.

BY THE NUMBERS: GE VERNOVA Q1 2026

$18.3B

Orders across all segments, up 71% organically year over year.

100 GW

Gas turbine orders and backlog, anticipated to reach 110 GW by year end.

$7.1B

Orders in the company's electrification segment, up 86% organically year over year.

Nearly $1.2B

Orders in its wind segment, up 85% organically year over year

The company's fast-growing electrification segment got a boost in February as GE Vernova completed its acquisition of the remaining 50% stake in Prolec GE, a grid equipment provider. Prolec GE previously operated as a joint venture between GE Vernova and Xignux, a Mexican industrial conglomerate.

Prolec GE has already supplied about $500 million in incremental revenue for its electrification segment, which manufactures switchgears, substation equipment, transformers and HVDC infrastructure. The company expects the acquisition to contribute about $3 billion to its top line in 2026, Chief Financial Officer Ken Parks said on Wednesday.

Gas and nuclear power

GE Vernova's gas turbine backlog reached 100 GW in the first quarter, up sharply from 83 GW at the end of 2025. Parks said the company shipped 25 gas turbines in the quarter, a 32% increase from the first quarter of 2025, with pricing rising faster than the inflation rate.

"We continue to be in that 10% to 20% growth in price on new bidding and winning activity today relative to where we were in the backlog in the fourth quarter of last year," Strazik said later on the

Wednesday call. “The dollar-per-kilowatt growth is going to be very healthy in the second quarter of this year.”

As was the case in Q1 2025, most turbine orders and bookings this quarter were for heavy-duty machines rather than lighter-grade aeroderivatives, the company said.

GE Vernova expects at least another 10 GW of incremental growth in the turbine backlog through 2026, according to a summary of its quarterly report. On Wednesday, Strazik said the company had about 10 GW of turbine production capacity remaining through 2030 and “continue[s] to expect to take on orders for 2031 and beyond.”

Though its gas turbine equipment and services continue to drive GE Vernova’s Power segment, it also saw a significant uptick this quarter in nuclear power equipment orders and service bookings. The company cited “large orders for upgrades” at nuclear power plants in its quarterly earnings presentation.

Electrification

GE Vernova’s electrical equipment and services business notched 86% organic year-over-year order growth in the first quarter thanks to strong demand for switchgear, transformer, substation and HVDC equipment.

The segment’s order backlog rose from $25 billion a year ago to $42.4 billion in Q1 2026.

Strazik echoed comments from previous investor calls about what the company believes is a multiyear demand cycle driven by utilities, data centers and other grid equipment customers.

On Wednesday, Strazik said data centers were responsible for about $2.4 billion in orders for electric equipment during the first quarter – more than all of last year.

“Just to repeat that: Our Q1 electrification orders to data centers were more than full-year 2025 results,” he said.

GE Vernova is increasingly focused on delivering an “integrated solution” that combines power generation and transmission infrastructure, Strazik said.

“Where we are doing really good business is where we are attaching that equipment to the power generation solutions,” he said.

Wind

GE Vernova’s Wind segment saw revenue drop about 25% from Q1 2025 despite higher onshore wind equipment orders in North America and other markets. Parks cautioned that the 85% organic increase in orders from Q1 2025 benefited from “a low year-over-year comparison.”

“For now, it is still difficult to call an inflection point in U.S. orders as customers still face permitting delays and tariff uncertainty,” he said.

Parks’ update echoed language GE Vernova provided in a more detailed regulatory filing in January.

“[R]egulatory policies influencing renewable energy mandates and grid integration standards directly impact the demand for wind energy,” GE Vernova said at the time. “Reductions, elimination, suspension or adverse modifications have and could in the future it markets for new projects, reduce returns on projects or

manufacturing, lead to project abandonment, or impair investments."

In the January filing, GE Vernova also said "[i]ssues with grid connectivity and customers' ability to sell generated electricity could delay projects, reduce output, demand and revenues, increase costs, and cause reputational harm" across all its business lines.