BEFORE THE STATE CORPORATION COMMISSION
OF THE STATE OF KANSAS

DIRECT TESTIMONY OF

J KYLE OLSON

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

IN THE MATTER OF THE PETITION OF EVERGY KANSAS CENTRAL, INC., EVERGY KANSAS SOUTH, INC., AND EVERGY METRO, INC. FOR DETERMINATION OF THE RATEMAKING PRINCIPLES AND TREATMENT THAT WILL APPLY TO THE RECOVERY IN RATES OF THE COST TO BE INCURRED FOR CERTAIN ELECTRIC GENERATION FACILITIES UNDER K.S.A. 66-117.

Docket No. 25-EKCE-207-PRE

November 6, 2024

I. INTRODUCTION

Q. Please state your name and business address.

A. J Kyle Olson. My business address is 1200 Main, Kansas City, Missouri 64105.

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

A. I am employed by Evergy Metro, Inc. as Director of Conventional Generation Development and Construction for Evergy Metro, Inc. d/b/a Evergy Kansas Metro ("Evergy Kansas Metro") and Evergy Kansas Central, Inc. and Evergy South, Inc., collectively d/b/a as Evergy Kansas Central ("Evergy Kansas Central"), Evergy Metro, Inc. d/b/a as Evergy Missouri Metro ("Evergy Missouri Metro"), Evergy Missouri West, Inc. d/b/a Evergy Missouri West ("Evergy Missouri West"), the operating utilities of Evergy, Inc.

Q: On whose behalf are you testifying?

A. I am testifying on behalf of Evergy Kansas Central ("EKC") and Evergy Kansas Metro ("EKM").

Q. What are your responsibilities as Director of Conventional Generation Development and Construction for the Evergy utilities?

A. From a high level, my responsibilities include the end-to-end development, contracting, construction, and start-up of new conventional generation assets for Evergy.

Q. Please describe your education, experience and employment history.

A. I graduated from Georgia Tech with a Bachelor of Science degree in Electrical Engineering in 2012. Upon graduation, I was employed by El Paso Electric ("EPE") as a Power Plant Engineer at the Newman Power Station. In May 2014, I was laterally moved to EPE's Generation Projects Team to help oversee the design, construction, and commissioning of the Montana Power Station. During that time, I completed my Master of Business

Administration degree at The University of Texas at El Paso. In late June 2016, I was promoted to Assistant Manager at EPE's Newman Power Station. I became a licensed Professional Engineer in New Mexico in March 2017 and in Texas in May 2017. In April 2019, I was promoted to Manager of Power Generation Engineering at EPE. In that position, I managed the team responsible for all capital and large maintenance engineering projects to support all EPE's local generation. In December 2021, I was promoted to Director of Power Generation and Asset Management, where my duties expanded to overseeing the capital additions placed in service at Palo Verde Nuclear Generating Station along with Palo Verde's operations and maintenance expenses. Additionally, I reviewed and approved nuclear fuel contracts and nuclear fuel expenses. In February 2024, I was hired by Evergy Metro as Director of Conventional Generation Development and Construction. I became a licensed Professional Engineer in Kansas in September 2024.

Q. Please describe any specific education, training or industry experience you have relevant to cost analysis related to power plant construction, particularly in connection with natural gas builds.

A. I have been directly involved with or have provided oversight to five different natural gas unit construction builds. Additionally, I sit on the Generation Council of the Electric Power Research Institute ("EPRI"). The EPRI Generation Council leads and drives sector research and development, and advises sector management and staff on the strategic direction, technical content, and results of the research portfolio. Recently, the Generation Council has spent considerable time focusing on new plant construction.

Q. Have you previously testified in proceedings before the Kansas Corporation Commission ("Commission" or "KCC") or before other utility regulatory agencies?

A. I have not previously testified before the KCC, but I have given testimony in proceedings before the Public Utility Commission of Texas ("PUCT") and the New Mexico Public Regulation Commission ("NMPRC").

Q. What topics are addressed in your testimony?

My testimony addresses a range of topics, but the primary purpose of my testimony is to: (1) provide an overview of the natural gas generation additions under review in this docket; (2) explain how the project locations were selected; (3) explain the OE-EPC contractor approach and describe the respective roles of each contractor in connection with the projects; (4) summarize the project procurement process; (5) provide project cost estimates; (6) describe project risk mitigation; and (7) describe the plan for supplying fuel gas to the projects.

Q. Please identify and describe the exhibits you are sponsoring through this testimony?

A. I am sponsoring the following exhibits:

Exhibit JKO-1: Project site maps

Exhibit JKO-2: High-level schedule for Viola project

Exhibit JKO-3: High-level schedule for McNew project

Exhibit JKO-4: Viola site improvements and equipment layout

Exhibit JKO-5: McNew site improvements and equipment layout

Exhibit JKO-6 (Confidential): Owner's engineer AACE Class-4 EPC cost estimate for Viola project

Exhibit JKO-7 (Confidential): Owner's engineer AACE Class-4 EPC cost estimate for McNew project

Exhibit JKO-8 (Confidential): All-in cost estimate for Viola project inclusive of owner's engineer EPC estimate and known costs for the other items

Exhibit JKO-9 (Confidential): All-in cost estimate for McNew project inclusive of owner's engineer EPC estimate and known costs for the other items

II. PROJECT OVERVIEW

Q. Please describe the projects that are under review in the proceeding.

A. The projects under review in this proceeding are:

- Two advanced class 710 MW combined cycle gas turbine ("CCGT") generating facilities known as the Viola Generating Station and the McNew Generating Station, each consisting of a 1x1 single-shaft advanced J-Class gas turbine, an electrical generator, a heat recovery steam generator, and a steam turbine with exhaust cooled by an air-cooled condenser. The configuration and equipment for the two CCGT facilities will be substantially the same.
- One 200 MW_{DC} (159 MW_{AC}) solar generation facility known as Kansas Sky Solar ("Kansas Sky").

The focus of my testimony is the two CCGT facilities. Company witness John Carlson addresses the Kansas Sky solar facility in his direct testimony.

Q. Where will the new CCGT facilities be built?

The Viola facility will be built on a greenfield site in Sumner County, Kansas, accessible by road near 37°20'00.5" N and 97°40'28.3" W. The McNew facility will be built on a greenfield site in Reno County, Kansas, accessible by road near 38° 0'10.23" N and 97°55'11.10" W. Maps of these sites are attached as **Exhibit JKO-1**.

Q. What is the expected date of commercial operation for the two new facilities?

A. Commercial operation for the Viola project is expected in 2029, and commercial operation for the McNew project is expected in 2030.

Q. What is a 1x1 single-shaft CCGT and why was a single-shaft unit selected?

A. In a 1x1 single-shaft configuration both prime movers (gas and steam turbines) are on a single shaft line driving a single generator. Aside from having a common generator, the balance of plant systems in a single-shaft configuration are harmonized, resulting in fewer individual components. Using one large generator, instead of two or more smaller units, can increase generator efficiency and reduce equipment maintenance expenses. A single-shaft configuration also has redundancy and reliability benefits, and the potential for quicker start-ups.

Q. Describe Evergy's approach to developing these CCGT projects?

A. Evergy is developing these projects. Evergy has procured an Owner's Engineer ("OE") and is in the process of procuring Power Island Equipment (PIE) and an Engineer, Procure and Construct ("EPC) Contractor.

Q. Describe in general terms the benefits of using an OE contractor?

A. An OE contractor provides augmented technical and managerial support to the owner, including assisting the owner with engineering, procurement and construction oversight. The OE contractor also serves as the owner's representative in connection with the EPC contractor's procurement activities.

Q. Describe the equipment included in the PIE?

A. PIE is made up of the major equipment including the advanced J-Class gas turbine, an electrical generator, a heat recovery steam generator, and a steam turbine. Evergy's approach is to procure all this equipment from one manufacturer. This allows Evergy to minimize risk as the PIE vendor will warrant equipment delivery schedule, performance (both output and heat rate), ammonia consumption, noise, and other items.

Q. Other than the PIE, what other owner furnished equipment ("OFE") is Evergy procuring?

A. In addition to the PIE, Evergy also is procuring the Generator Step-Up Transformer ("GSU") and the 345kV breakers required for the interconnection. Because these items have extremely long lead times, Evergy is procuring these items ahead of time in an effort to reduce project risk.

Q. Describe in general terms the EPC contractor approach?

A. Under this approach, the EPC contractor designs and constructs a complete power plant that complies with the commercial and technical specifications provided and agreed upon during the request for proposal ("RFP") process. The EPC contractor coordinates all engineering design, procurement and construction work and ensures the whole project is completed on schedule.

Q. Why did Evergy decide to utilize the EPC contractor approach for these projects?

A. Using the EPC contractor approach will help Evergy complete the projects on schedule with minimized project risk. The EPC contractor approach is typically more efficient than other approaches because the EPC contractor can overlap project stages and optimize sequencing. Additionally, because the EPC contractor provides a "Turnkey" style approach, Evergy can better manage risks, as there is a single major contractor and known costs with schedule and performance guarantees. What is more, Evergy's use of an OE with direct experience in EPC work allows Evergy to provide prudent oversight of the EPC contractor, further reducing risk.

Q. Are there benefits to using the same OE and EPC contractors on multiple projects?

A. First, I would note that not only are these projects utilizing the same OE and EPC contractors, they also are utilizing common generation technology and the same original equipment manufacturers. And, yes, consolidating and integrating these core functions leads to more efficient, reliable, and cost-effective project delivery through economies of scale. Developing and building these two CCGT units together, essentially as a single project, will undoubtedly lead to efficiencies and cost savings, which will be passed on to customers. These efficiencies and cost savings derive from having long-term service agreements covering program management, parts and maintenance. And, when multiple projects are substantially similar, efficiencies and savings may derive from similar long-term service agreements; common crews; repeatable designs, deliverable reviews and lessons learned; and procurement leverage from scaled purchases.

Q. Has Evergy submitted an interconnection request for the CCGT projects?

A. Yes. On October 28, 2024.

Q. What is the status of project development at this time?

A. The projects are currently in the procure and preliminary engineering phase:

- Every has completed the PIE RFP and has selected the Mitsubishi Power Americas ("MPA") 501 JAC PIE proposal.
- Evergy has executed a reservation agreement for the manufacturing slots and is finalizing the PIE purchase contract. Additionally, with the PIE technology selected, Evergy released the RFP for the EPC contractor. Bids are currently due back on January 31, 2025.

- On October 21, 2024, Evergy made public announcements about the site locations. Evergy currently owns the land for the Viola project and owns an option for the land for the McNew project.
- Evergy is working on submitting air permit applications to the Kansas Department of Health and Environment and expects to submit the Viola application in November and the McNew application by the end of the year.
- Evergy expects to issue a full notice to proceed ("FNTP") to both the PIE vendor and the EPC contractor in August 2025, following a successful outcome in this docket. Critical path is currently comprised of two major items: (1) FNTP to the PIE vendor and EPC contractor, expected in August 2025, and (2) receipt of an air permit, expected in February 2026.

High-level project schedules for both projects are set out in Tables 1 and 2 below.[1]

Table 1: Viola High-Level Project Schedule

Milestone Description	Expected Completion
Site Control Complete	December 2023
SPP Large Generator Interconnection Application	October 2024
Environmental and Land Permitting Complete	2026
Design Spec & Engineering, Procurement, and Construction ("EPC") Award	First Half 2026
State Utility Regulatory Approvals	Mid 2025
Detailed Design and Engineering	Second Half 2025
Construction Begins	2026
Major Equipment Delivery	2027
Construction Complete	2028
Testing and Commissioning Complete	2028
Commercial Operation	Jan 1, 2029

[1] *See, also,* **Exhibit JKO-2** and **Exhibit JKO-3**.

Table 2: McNew High-Level Project Schedule

Milestone Description	Expected Completion
Site Control Complete	October 2024
SPP Large Generator Interconnection Application	October 2024
Environmental and Land Permitting Complete	2026
Design Spec & Engineering, Procurement, and Construction ("EPC") Award	First Half 2026
State Utility Regulatory Approvals	Mid 2025
Detailed Design and Engineering	Second Half 2026
Construction Begins	2027
Major Equipment Delivery	2028
Construction Complete	2029
Testing and Commissioning Complete	2029
Commercial Operation	Jan 1, 2030

III. OWNER'S ENGINEER

Q. What company was selected as the OE contractor for these projects?

A. The OE contractor selected for these projects is Burns & McDonnell ("BMcD").

Q. Summarize the process Evergy used to solicit and evaluate OE contractor bids?

A. Evergy solicited bids under an owner's engineer request for proposal ("OE RFP"). The OE RFP was prepared by a team with considerable experience in natural gas plant configurations and construction. In preparing the solicitation documents, Evergy's project team emphasized the long-term nature of the projects and insisted that bidders submitting proposals put forward their best effort to commit to Evergy their most experienced resources over the next several years.

Q. Identify the critical evaluation criteria for the OE contract solicitation.

The critical criteria were: (1) past experience with Evergy; (2) key resources and staff résumés; (3) experience with advanced class turbines; (4) completeness of bid proposal; (5) OE proximity; and (6) project rate sheet/hourly rate. Based on those criteria, the

Evergy project team determined five firms were qualified for the projects and solicited bids from those five firms. Evergy received bid proposals from three of those firms. The final result was a unanimous decision to award the OE services contract to Burns & McDonnell ("BMcD").

Q. Summarize the rationale for Evergy's selection of BMcD as the OE contractor.

A. BMcD submitted the strongest overall proposal and has extensive experience working with Evergy, having completed more than 2,000 Evergy projects in the past 20 years. BMcD also offered a project team that has considerable experience with advanced class combustion turbines, including the three turbine models that were under consideration for the Viola and McNew facilities. Additionally, BMcD offered direct experience as a stand-alone EPC contractor, a significant benefit the other bidders could not provide. The proximity of BMcD's local offices, operations, and staff support to the projects was an important consideration as well.

Q. Describe BMcD's role after EPC commissioning.

A. BMcD will continue providing OE support throughout the project, including assisting with technical oversight of the EPC contractor; participating in engineering design reviews and submittal reviews; responding to further requests for information (RFIs) or change orders; and coordinating with Evergy on schedule and project controls. As the project moves forward, BMcD will monitor project progress against the approved contractual baseline through variance tracking, both on an activity and resource basis. Additionally, BMcD will provide EPC field support, such as monitoring the EPC contractor's adherence to project schedule, budget and material management, and will coordinate and monitor punch-list development and execution. BMcD also will provide

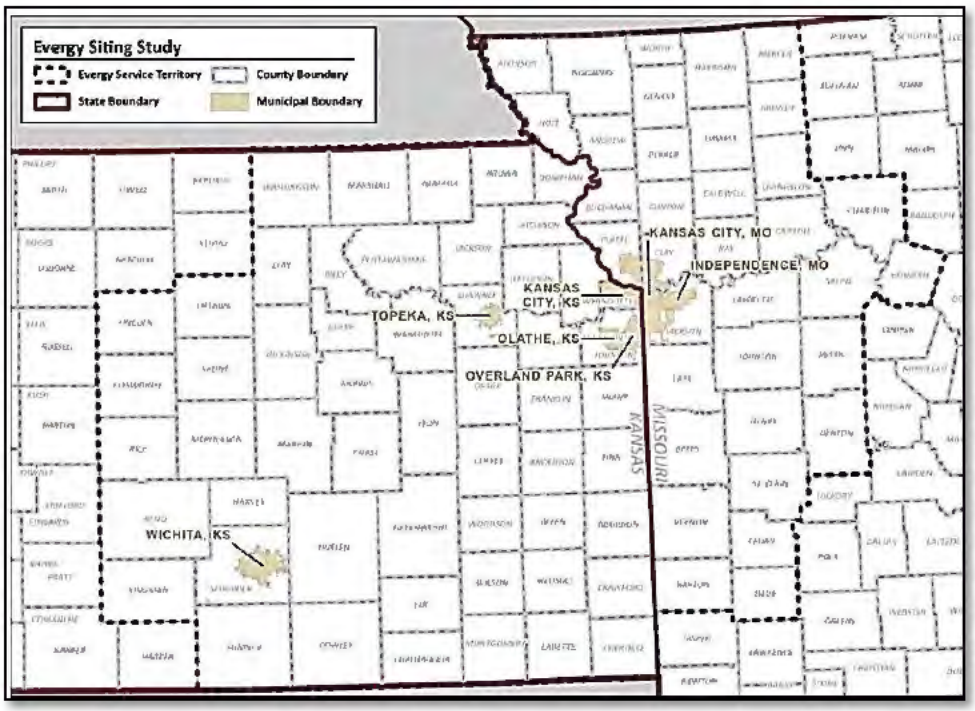
warranty support for the EPC and major equipment suppliers, including identifying warranty issues and assisting with coordinating claims with suppliers.

IV. SITE SELECTION

Q. Please describe the process used to select the Viola and McNew construction sites.

A. In 2023, Evergy engaged Power Engineers to conduct a comprehensive study to identify and evaluate potential sites for construction of electrical generation facilities in Kansas and Missouri. The study area encompassed counties in Kansas and Missouri that included portions of the Evergy service territory. The map below depicts how the study area was delineated.

Figure 1: Siting Study Area Map



Steps involved in selecting the Viola and McNew sites included:

- Identifying electrical bus locations within the study area that could transfer the most power in steady state before being limited by the ratings of Evergy

transmission facilities. This analysis produced a list of 15 bus locations having a generator capacity of 588 MW or greater;

- Reviewing a 15-mile area around each of the preferred bus locations to prioritize potential sites that were relatively close to the preferred bus locations and to natural gas and electrical interconnections. This review was directed toward minimizing interconnection costs;
- Removing from consideration bus locations that would likely create environmental permitting and environmental justice concerns because of proximity to densely populated areas; and
- Identifying Candidate Site areas, which are general regions that typically are larger than the amount of land required for plant development.

Q. After the Candidate Site areas were identified, what were the next steps?

A. The study next evaluated potential locations within the Candidate Site areas. Criteria considered in this step of the process included: (a) the position of the remaining bus locations initially used to develop the Candidate Site areas; (b) Evergy's interest in the property (owned, leased, or proposed to be developed); and (c) intersections of natural gas pipelines and electric transmission facilities. This screening produced a listing of 62 Potential Site Locations which were then subjected to more refined analysis to create a listing of 21 Preliminary Site Locations.

Q. How then were the final or preferred site locations determined?

A. The study employed a quantitative analysis matrix that rated six specific criteria: (1) property ownership, (2) bus generator capacity, (3) distance to bus, (4) distance to natural gas pipeline, (5) natural gas pipeline size, and (6) natural gas availability. This analysis

ultimately resulted in the identification of six Preferred Site Locations – three in Kansas and three in Missouri. The Viola site and the Hutchinson Energy Center were included among the Preferred Site Locations. The site evaluation criteria matrix, including the scoring associated with each factor, is shown in Table 3 below.

Table 3: Site Evaluation Criteria Matrix

CRITERIA	ATTRIBUTE	SCORE
Property ownership	Evergy owned	5
	Privately owned or Evergy leased	3
Bus generator capacity	>1000 MW	5
	600-1000 MW	3
	<600 MW	1
Distance to bus	0-3 mi	5
	3-6 mi	3
	>6 mi	1
Distance to natural gas pipeline	0-1 mi	5
	1-5 mi	3
	>5 mi	1
Natural gas pipeline size	>20 in	5
	10-20 in	3
	<10 in	1
Natural gas availability	High	5
	Moderate	3
	Low	1

Q. Is the McNew site within the Hutchinson Energy Center property?

A. No. The McNew site is not within the Hutchinson Energy Center property. As Evergy began exploring adding a CCGT to the Hutchinson Energy Center, it became apparent that gas supply to the site would be an issue. So, Evergy engaged the Hutchinson/Reno County Chamber of Commerce ("Chamber") to begin looking for an alternate site with better gas availability, similar transmission, and water availability. The Chamber presented several options to Evergy, including the McNew site. The McNew site has several high-pressure natural gas lines located on site, existing water rights and wells, and is roughly 12 miles from the Reno 345kV substation. After reviewing the property

with BMcD, Evergy began moving forward with the McNew site instead of the Hutchinson Energy Center.

Q. Did other considerations affect your choice of the two Kansas locations?

A. Kansas' favorable property tax treatment for new electric generation facilities was an important factor in our decision to site these projects in Kansas. Specifically, during the 2024 session, the Kansas Legislature amended the Kansas tax code to provide a 10-year property tax exemption for electric generation facilities for which construction commences after January 1, 2025.[2]

Q. Will Evergy make any local infrastructure improvements in connection with these projects?

A. Yes, Evergy will work with the local communities and make necessary infrastructure improvements. This typically includes road improvements made pursuant to a Road Use and Maintenance Agreement.

Q. What is the current status of the Viola site?

A. The Viola site is located directly across the street from Evergy's Viola 345kV substation. The site is currently owned by Evergy and is a mixture of natural land, substation laydown and leased farming land. **Exhibit JKO-4**, attached, shows the Viola site location as well as the planned site improvements and equipment layout.

Q. Does Evergy have the rights to the land for the Viola site?

A. Yes. Evergy owns that land.

[2] See 2024 Kansas Laws, Ch. 81 (S.B. 410), New Sec. 2.

Q. What is the current status of the McNew site?

A. The McNew site is located directly on McNew and Morgan Street in Reno County, approximately 12 miles from the Reno 345kV Substation. The site is currently farmland. **Exhibit JKO-5**, attached, shows the McNew site location as well as the planned site improvements and equipment layout.

Q. Does Evergy have the rights to the land for the McNew site?

A. Yes. Evergy has a purchase option for the proposed project site and is currently in the due diligence period. The due diligence process is progressing well, and Evergy expects to close on the purchase of the property by March 2026.

V. POWER ISLAND EQUIPMENT

Q. How did Evergy select the Power Island Equipment ("PIE") for the Viola and McNew projects?

A. Evergy conducted a competitive solicitation for the PIE, which constitutes the major plant components – *i.e.,* the combustion turbines, generators, heat recovery steam generator ("HRSG"), and steam turbines.

Q. Please describe the process by which Evergy developed the RFP for the PIE.

A. Evergy, along with BMcD and an outside law firm, developed the RFP. The RFP consisted of commercial and technical specifications that were consistent with Evergy's specific needs. It was determined that a competitive bid process for the PIE would provide a viable process to ensure cost competitiveness in development of the projects. Evergy began developing the RFP in the Spring of 2024 and released it on July 10, 2024. Bids were due back on September 18, 2024.

Q. What turbine providers were invited to make bids under the PIE RFP?

A. Evergy invited bids from General Electric Vernova ("GEV"), Siemens Energy ("Siemens"), and Mitsubishi Power Americas ("MPA"). These three bidders are the only companies in the market that have offerings which will meet Evergy's need for an advanced class CT of sufficient capacity. It was decided that all three would be included in the process as both Evergy and BMcD believed all three would be interested in participating and were capable of submitting a competitive offering.

Q. What products and services did the PIE RFP solicit from bidders?

A. Bidders were asked to propose design, engineering, firm pricing, and scheduling for the provision of the PIE for the Viola project, the McNew project, a Missouri simple-cycle project, along with option pricing for an additional CCGT with a commercial operations date ("COD") of 2031 and an additional simple-cycle unit with a COD of 2032. The CCGT PIE included an advanced class natural gas-fired combustion turbine generator ("CTG"), a HRSG with duct firing and a selective catalytic reduction system ("SCR"), a steam turbine generator ("STG"), and a CT inlet air evaporative cooling system. Bidders were asked to submit a technical package summarizing the equipment offered under their proposals along with completed proposal pricing, proposal data pages, and Clarifications and Exceptions ("C&E") to the technical specification and commercial terms. The RFP requested firm pricing for the stated scope of work as identified in the Technical Specification. Pricing for the identified options was requested as separate firm prices.

Q. How did the RFP process proceed once it was open for bids?

A. Potential bidders had three days from the July 10, 2024, RFP launch date to email Evergy their "Intent to Bid" form indicating their formal intention to submit a proposal for the work covered in the RFP. Responses from each bidder confirming their intent to bid were received within the required deadline. As part of the RFP package, there was a "Bid Period Question Log" form made available to the bidders to submit questions to the Evergy Project Team regarding the RFP. All bidders had until September 4, 2024 to submit their questions. As questions were received from bidders, Evergy's responses to the submitted questions were uniformly issued to all three bidders. Four responses from Evergy to address all bidder questions were provided on August 5, 2024, August 13, 2024, August 20, 2024, and September 9, 2024. All bids for the PIE base scope were required to be submitted in final form by September 18, 2024.

Q. Briefly describe the bids submitted in response to the RFP.

A. There were three proposal packages submitted into the RFP by the September 18, 2024, deadline: one from GEV, one from MPA, and one from Siemens. Each of the three bids included proposals to provide the base PIE items that were requested in the RFP, those being the CTG, the HRSG, and the STG. Both GEV and MPA provided firm pricing as requested. Siemens provided budgetary pricing only. Table 4, below, shows the proposal breakdown.

Table 4: Power Island Equipment RFP Bids

Metric	Mitsubishi	GE	Siemens
Plant Output	710 MW	[redacted] MW	[redacted] MW
Price	$[redacted]	$[redacted]	$[redacted]
Price/kW	$[redacted]	$[redacted]	$[redacted]
Heat Rate (HHV)	[redacted]	[redacted]	[redacted]
Reliability Guarantee	[redacted]%	[redacted]%	[redacted]%
LTSA Cost/Hour	$[redacted]	$[redacted]	$[redacted]
Commercial Exceptions (L/M/H)	Low	Medium	Very High Budgetary Only

Q. Please provide an overview of Evergy's evaluation of the PIE bid proposals and the methodology used to evaluate the bids.

A. Before issuing the PIE solicitation, Evergy developed an evaluation matrix by which all bids would be comparatively scored in order to document the scoring and selection process. This evaluation matrix considered the main evaluation points identified to the bidders and was developed with weighted percentages for main categories. BMcD initially evaluated the bids for their technical compliance with the specifications and instructions included in the RFP. While the GE and MPA bids were generally complete and complied with the intent of the solicitation, the Siemens proposal included budgetary pricing, and thus failed to meet the requirements set forth in the RFP. The proposals were then evaluated and scored using the aforementioned evaluation matrix, which focused on the following primary criteria: (1) revenue requirement; (2) commercial and technical RFP compliance; (3) project risk; and (4) Schedule Compliance. Upon completion of the scoring efforts, MPA ranked highest, GEV second, and Siemens third. Given the large pricing discrepancy between MPA and

GEV, Evergy began moving forward with commercial and technical negotiations with MPA only.

Q. Is the MPA JAC combustion turbine both proven and advanced?

A. Yes. The MPA JAC technology, which was introduced in 2011, features steam for cooling certain combustion hardware. In 2015, the MPA JAC (J-class, air-cooled) was introduced, providing the latest air-cooled design and eliminating the need for steam. The MPA JAC series represents a technological advancement in large capacity combustion turbine technology. This facility captures the combination of proven frame gas turbine technologies with a minimum expected combined-cycle thermal efficiency of 64% percent. This facility offers values comparable to other similarly sized gas turbines, dispatch reliability, turndown and load following capabilities, and low mass emissions.

Q. What is the status of the supply agreement with MPA?

A. Evergy and MPA are currently negotiating the terms of a fixed-price PIE Supply Agreement for the Viola and McNew projects as well as a third project expected to be located in Missouri. To support the construction schedules for these projects, Evergy has entered into Reservation Agreements with MPA to reserve manufacturing capacity before finalizing the PIE Supply Agreement, which is expected to occur on or before December 20, 2024. The purpose of the Reservation Agreements is to maintain equipment manufacturing and delivery dates necessary to support the planned commercial operation dates for each project.

Q. When were the Reservation Agreements executed?

A. They were executed on October 31, 2024.

Q. What obligations do the Reservation Agreements impose on MPA?

A. MPA must convey to Evergy assurance that the necessary manufacturing slot space has been irrevocably reserved and that the subject Long Lead Equipment for the projects can be delivered on or before scheduled dates.

Q. What are Evergy's payment obligations under the Reservation Agreements?

A. Evergy is required to pay a total of **[redacted]**% of the estimated contract price for the three projects in three separate **[redacted]**% payments commencing no later than November 6, 2024. The final **[redacted]**% payment is to be made no later than April 17, 2025.

Q. How will the payments be allocated to the separate projects?

A. Each project has its own dedicated Reservation Agreement which includes a payment schedule for each unit based on the specific unit price. Each project will be allocated only those costs attributable to its particular units.

Q. What is the expected output of the CCGT projects with the Mitsubishi PIE?

Both projects are designed with a nominal output of 710 MW each. The actual maximum output of the unit will depend on the following variable factors and conditions: ambient temperature, relative humidity, Btu content of fuel delivered at the unit, and number of operating hours since the last maintenance interval. By way of illustration, in a new and clean condition, both projects would be expected to generate approximately 710 MW each, based on ISO ambient conditions of 58.3 degrees Fahrenheit and 63.4% relative humidity. Under summer conditions of 81.2 degrees Fahrenheit and 58.7% relative humidity, both projects would be expected to generate approximately 705 MW each.

Q. Is the selected MPA 501 JAC gas turbine hydrogen capable?

A. By design, the gas turbine is capable of approximately 30% hydrogen firing, with the capability of supporting 100% hydrogen firing in the future with upgrades.

Q. How does Evergy intend to manage long-term major maintenance associated with the Viola and McNew projects?

A. Given that self-performance of major long-term maintenance would not be a practical or effective option in the near future due to the complexity and lack of alternate part suppliers for advanced class gas turbines, Evergy is negotiating and currently planning to enter into a long-term service agreement ("LTSA") for maintenance with MPA. The LTSA is expected to provide a defined scope of major maintenance activities and a variable-fee mechanism based on the number of accumulated operational hours. Outside of the LTSA, Evergy will manage major maintenance of the HRSG and other balance of plant items as part of an ongoing O&M program, similar to the programs at other Evergy plants.

V. ENGINEER, PROCURE AND CONSTRUCT ("EPC") CONTRACTOR

Q. How is Evergy selecting the EPC contractor for the Viola and McNew projects?

A. Evergy is conducting a competitive solicitation for the EPC contractor. The EPC contractor will be responsible for the engineering, procurement and construction for the projects.

Q. Please describe the process by which Evergy developed the EPC contract RFP.

A. Evergy, along with BMcD and an outside legal firm, developed the RFP which consisted of commercial and technical specifications that was consistent with the Evergy's needs. It was determined that a competitive bid process for the EPC equipment would provide a viable process to ensure cost competitiveness in development of the project. Evergy

began developing the RFP in the Summer of 2024 and released the RFP on October 15, 2024. Bids are due on January 31, 2025.

Q. What EPC contractors were invited to bid on the projects?

A. Evergy conducted a search for qualified EPC contractors starting in 2023. Evergy spoke with many EPC contractors and conducted site and office visits. Ultimately, Evergy invited Kiewit, Black & Veatch, and Gemma Power Systems to bid in the RFP process. These three contractors are the only EPC contractors in the market that have advanced-class experience and can offer the labor requirements. It was decided that all three would be included in the process as both Evergy and BMcD believed all three would be interested in participating and capable of submitting a competitive offering.

Q. What did the EPC RFP solicit from the bidders?

A. Bidders were asked to provide pricing for the engineering, procurement, and construction of three new generating stations: the Viola project, the McNew project, and a Missouri simple-cycle project. Additionally, bidders were asked for option pricing for an additional CCGT with a COD of 2031 and an additional simple-cycle unit with a COD of 2032. The winning EPC bidder will be responsible for receiving, installing, and commissioning owner furnished equipment as well as interconnecting to site external facilities (gas lines, transmission lines, effluent discharge, etc.). The winning EPC bidder will provide a wrap agreement to furnish all other equipment, material, coordination, engineering, construction, and commissioning necessary to yield fully functional stations. Bidders were asked to submit a technical package summarizing their offerings, completed proposal pricing and proposal data pages, and Clarifications and Exceptions ("C&E") to the technical specification and commercial terms. The RFP requested firm pricing for the

stated scope of work as identified in the Technical Specification. Pricing for the identified options was requested as separate firm prices.

Q. How is the EPC RFP proceeding?

A. The EPC RFP is proceeding as expected. Potential bidders had three days from the October 15, 2024 launch of the EPC RFP to email Evergy their "Intent to Bid" form indicating their formal intentions to submit a proposal for the work covered in the RFP. Responses from all bidders confirming their intent to bid were timely received on October 15, 2024. As part of the RFP package, there was a "Bid Period Question Log" form made available to the bidders to submit questions to the Evergy project team regarding the RFP. Currently, the RFP's Open Question Period is active, so all bidders have until January 16, 2025 to submit their questions. The currently scheduled close date for all bidders to have their proposal submitted is January 31, 2025.

Q. Why use an EPC contractor in the first place?

A. Large construction projects such as the Viola and McNew projects are substantial undertakings, and Evergy does not have the in-house capability necessary to execute the EPC for such projects. The use of an EPC contractor that can perform all these functions under a single contract is cost-effective and common within the power generation industry for such projects.

Q. Is there a single common form of EPC contract?

A. No. There are several types of EPC contracting approaches, and the suitability or desirability of each depends largely on the type of project. From an owner's perspective, fixed-price contracts are preferred because of the certainty they provide regarding a project's overall cost. When a project's scope of work is uncertain and likely to vary,

however, EPC providers will either refuse to contract on a fixed-price basis or perhaps agree to do so in exchange for a significant risk premium added to the fixed price. In contrast, when a project entails a well-defined scope of work and presents an acceptable risk of material changes in scope, EPC providers are more willing to contract on a fixed-price basis without charging a significant risk premium.

Q. What EPC contracting strategy will be utilized for the CCGT projects?

A. Evergy intends to negotiate a fixed-price (with certain exceptions), fixed schedule form of EPC contract with the selected EPC contractor that reflects a detailed scope of work. For both the Viola and McNew projects, Evergy will require the contractor to complete construction by January 1, 2029, and January 1, 2030, respectively, or pay daily liquidated damages as defined in the commercial specifications.

Q. Why did Evergy elect to use this form of EPC contract?

A. The EPC strategy used by Evergy is expected to yield the lowest reasonable cost with an adequate level of risk mitigation.

VI. COST ESTIMATES

Q. How did Evergy develop the overall cost estimate for the two CCGT projects?

A. The following resources were used to develop the two major cost components for the projects:

- BMcD's Class IV EPC cost estimates ("EPC Costs") - BMcD provided a cost estimate based on preliminary engineering developed with the project-specific information gathered by the project team.
- Costs outside the EPC agreement ("Non-EPC Costs") - The project team developed these costs using internal subject-matter experts.

Q. How were the EPC cost estimates developed?

A. After project scope was defined and key engineering documents were prepared, BMcD's preconstruction team worked with Evergy to develop comprehensive AACE Class-4 cost estimates for both projects.[3] These cost estimates were prepared to support regulatory review and internal budgeting, and relied on historical project quantities for comparison.

Q. Has Evergy benefitted from BMcD's extensive EPC contractor experience?

Yes. Evergy has benefitted significantly from BMcD's direct EPC contractor experience during the cost estimating phase. To ensure a high level of project definition and design development, each discipline lead was responsible for defining materials of construction and obtaining budgetary equipment pricing to support the estimating team in determining quantities of commodities for the facilities.

Q. When were the AACE Class-4 cost estimates received?

A. The AACE Class-4 cost estimates were received on October 21, 2024. The estimates were delivered at a summary level with breakdown of all direct labor hours, direct labor cost, material costs, equipment costs, and indirect costs. A cost-estimate basis also was provided, including major assumptions and information used. The cost estimates are included here as **Confidential Exhibits JKO-4** and **JKO-5**.

Q. What kinds of costs are included in the EPC cost estimates?

A. The EPC cost estimates consist of costs that will be incurred by the EPC and billed to Evergy in the performance of the EPC contract, including the following:

[3] An AACE Class-4 cost estimate is a preconstruction cost estimate used primarily for feasibility analysis, concept evaluation, and preliminary budget approval.

- Engineered equipment, including the air-cooled condenser, boiler feed pumps, and auxiliary transformers;
- Home office engineering and construction management services, including procurement, project controls, scheduling, and progress tracking;
- Supervisory and administrative staffs at the construction site;
- Craft laborers (such as welders, electricians, and pipefitters);
- Construction materials (copper, steel, concrete, etc.) used by both the EPC Consortium and subcontractors;
- Subcontractors;
- The indirect construction costs that support the construction project (such as scaffolding, administrative offices, or safety equipment);
- Sales taxes borne by the EPC Consortium on consumables; and
- Labor and materials associated with the dedicated start-up and commissioning teams.

Q. What is the current estimate of the capital costs to complete the Viola project?

A. The current capital cost estimate for the Viola project is approximately **$**[redacted]**. This amount includes $**[redacted]** associated with the generation portion of the project, or roughly $**[redacted]** per kW. It also includes $**[redacted]** in estimated Interconnection Facilities costs and, as Evergy witness Katy Onnen explains in her direct testimony, the cost for required transmission Network Upgrades, which is currently estimated at $**[redacted]**. The itemized capital cost estimate for the Viola project is attached as **Confidential Exhibit JKO-8.** The total estimate of capital costs for the Viola project includes the EPC estimate developed by BMcD and the identification of expected costs for all items outside of the EPC contract.

Q. What is the current estimate of the capital costs to complete the McNew project?

A. The current capital cost estimate for the McNew Project is approximately **$**[redacted]**. This amount includes $**[redacted]** associated with the generation portion of the project, or roughly $**[redacted]** per kW. It also includes $**[redacted]** in estimated Interconnection Facilities costs and, as Evergy witness Katy Onnen explains in her direct testimony, the cost for required transmission Network Upgrades, which is currently estimated at $**[redacted]**. The itemized capital cost estimate for the McNew Project is attached as **Confidential Exhibit JKO-9.** The total estimate of capital costs for the McNew project includes the EPC estimate developed by BMcD and the identification of expected costs for all items outside of the EPC contract.

Q. For what items does Evergy have definitive cost estimates?

A. Evergy currently has definitive cost estimates for the land, PIE, GSU, OE and 345kV breakers. We are still waiting on definitive cost estimates for the EPC pricing. This EPC pricing, as I previously testified, has been estimated by BMcD.

Q. When do you anticipate the definitive cost estimates for the EPC pricing will be available and filed with the Commission?

A. I anticipate definitive EPC cost estimates to be available in February 2025. By then Evergy will have the complete EPC bids and will be finalizing selection of the EPC contractor. As company witness Darrin Ives discusses in his direct testimony, Evergy is proposing a schedule in this docket that will allow us to provide the final definitive cost estimates for EPC pricing to the Commission in supplemental testimony in February, in advance of the deadline for other parties to file their testimony.

Q. Does Evergy expect the final EPC definitive cost estimates will vary significantly from the BMcD AACE Class-4 cost estimates?

A. No. We expect there will be no material variations between the definitive cost estimates and the BMcD cost estimates. The BMcD cost estimates are comprehensive and well-documented, and the process, sources and methods used to formulate the estimates are credible and sound.

Q. What information will you review to assess the reasonableness of the EPC definitive cost estimate?

A. Evergy is continuously monitoring and reviewing other regulatory filings, such as CCN filings and published Integrated Resource Plans ("IRPs"). These filings include similar plants with similar equipment selection and configurations and provide a good benchmark for assessing the reasonableness of EPC cost estimates.

Q. As a professional with extensive experience in the power plant construction industry, what have you observed in the marketplace in recent years related to CCGT construction cost trends.

A. I have observed a significant increase in CCGT construction cost trends. The most recent project for which I provided oversight went commercial in 2023 and experienced large price increases as the project neared completion. These cost increases began during COVID and continued to increase as a result of Russia's invasion of Ukraine. Costs have further increased as utilities across the country have announced plans for additional builds. This large demand in new builds has further caused pricing to increase as both PIE and EPC contractors have limited capacity and are having to expedite and work overtime to keep up with demand.

VII. RISK MITIGATION

Q. How has Evergy mitigated the risks affecting the project schedules and projected costs?

A. The fixed-price structure and well-defined scope of work that will be part of the EPC contract are the principal mitigation tools to minimize the effect risks might have on project costs. Delays in receiving regulatory approvals or required permits beyond the dates assumed in the project schedules will increase total costs and result in delayed in-service dates. The project schedules have been developed by optimizing the sequence of activities to produce the shortest practical schedules at the lowest reasonable cost. The schedules have built-in contingencies for critical path activities that will help mitigate short delays.

Q. Are the contingencies reflected in the project cost estimates designed to cover all risks that could increase cost?

A. No. That is not the purpose of contingency funds in project management. Contingency is used to reasonably mitigate unplanned increases in project cost, whether caused by known risks or unforeseen risks. It recognizes that large construction projects that span several years can be adversely affected by events beyond Evergy's control. Evergy has proposed a contingency fund that would provide a reasonable level of mitigation of known and unknown risks on each project, but it is possible some of these risks, if realized, could cause cost increases beyond the contingencies included in the cost estimates. Evergy does not seek to recover any unused project contingency.

Q. Please discuss some of the potential risk mitigations expected to be contained in the EPC contract.

A. While the EPC contract with the selected EPC contractor is not yet executed, Evergy's RFP requests a fixed price and a fixed schedule. While any fixed-price contract presents a risk of price increases through change orders and extra work claims, this risk has been mitigated to the extent possible by broadly defining the scope of work assigned to the EPC Contractor. This scope includes everything necessary to ensure the completed Viola and McNew projects meet the technical specification and performance requirements, except for items expressly stated in the scope document to be Evergy's responsibility.

Q. Doe the design of the Viola and McNew projects reflect storm resilience and hardening considerations?

A. Yes. Evergy has considered extreme weather conditions such as temperature, wind, and flooding in the design of the projects. The projects' current design allows each facility to continue conducting normal operations in temperatures as low as approximately -10 degrees Fahrenheit.

Q. What risks are associated with delaying this filing until a definitive EPC cost estimate is available?

A. Delays in receiving the regulatory approvals provided in the project schedules will increase total costs and result in delayed in-service dates. Additionally, Evergy expects EPC pricing to be valid for 30-90 days only. This timeframe does not allow Evergy to prepare, file and complete this docket during the validity period and would result in the definitive cost estimate being invalid before the docket is finished.

VIII. FUEL GAS SUPPLY PLAN

Q. Please provide an overview of Evergy's plan to supply natural gas fuel to the new CCGT facilities?

A. Evergy has engaged interstate pipelines, intrastate pipelines, and midstream developers to discuss infrastructure upgrades necessary to connect the new CCGT facilities to the natural gas system. Evergy has asked for increasingly more detailed and thorough studies to estimate the costs of these infrastructure upgrades. Evergy would prefer that these companies recover their investments via existing max tariff rates over a relatively short period of time (10-15 years) when compared to the life expectancy of the new generation. This will allow the customer to pay for the upgrades over time and would be similar to how firm transport is paid for today at existing sites. This will ensure that Evergy can flow natural gas to the sites via firm natural gas transport contracts. Historically, Evergy has not purchased significant volumes of natural gas before day ahead forecasts, given the sometimes unpredictable and non-ratable commitments of the higher heat rate natural gas generation in the Evergy fleet by SPP. However, with this lower heat rate, anticipated base loaded generation of the CCGT, Evergy will need to develop a longer-term strategy for natural gas procurement that would be similar to the strategy the company uses to purchase coal today. This would minimize exposure to the spot pricing of natural gas in terms of generation costs and alleviate some of the administrative burden of buying significant volumes of natural gas daily. A strategy to smooth out price exposure swings from the spot market can be accomplished by having RFPs for multi-month periods or performing monthly procurement on reverse auctions on offers, taking the most competitive price first. Using firm over-the-counter markets to obtain physical gas supplies for the

anticipated base loaded generation at fixed prices or at index-based Inside FERC prices could add diversity to the procurement strategy.

Q. What work has been done, and what work remains to be done, in this area to prepare for the new CCGT builds?

A. As stated above, conversations and analysis have already begun with the pipelines regarding the infrastructure needs of the new CCGT generation. All desktop level estimates have been secured and Evergy is currently working with the pipelines to perform more detailed studies, sometimes referred to as Class 3 studies or Gate 1 studies. Evergy anticipates most of these studies will be completed in Q1 of 2025. Once a project is determined to be feasible and necessary for the new generation to be built, the parties would then execute a precedent agreement that would allow the pipelines to begin developing the infrastructure to be in place ideally 6 months ahead of the anticipated COD of the generation.

IX. IN-SERVICE DATES AND STATUS REPORTS

Q. When will the CCGT projects be considered in service?

A. The projects will be considered in service when they have completed and passed their performance testing and when Evergy accepts the plant turnover from the EPC contractor.

Q. Will Evergy provide periodic reports over the course of construction in order to keep the Commission and stakeholders apprised of project status?

A. Yes. Evergy is planning to submit quarterly project status updates.

Q. Does this conclude your testimony?

A. Yes.

STATE OF KANSAS)
) ss:
COUNTY OF SHAWNEE)

VERIFICATION

J Kyle Olson, being duly sworn upon his oath deposes and states that he is the Director Conventional Generation Projects, for Evergy, Inc., that he has read and is familiar with the foregoing Testimony, and attests that the statements contained therein are true and correct to the best of his knowledge, information and belief.

J Kyle Olson

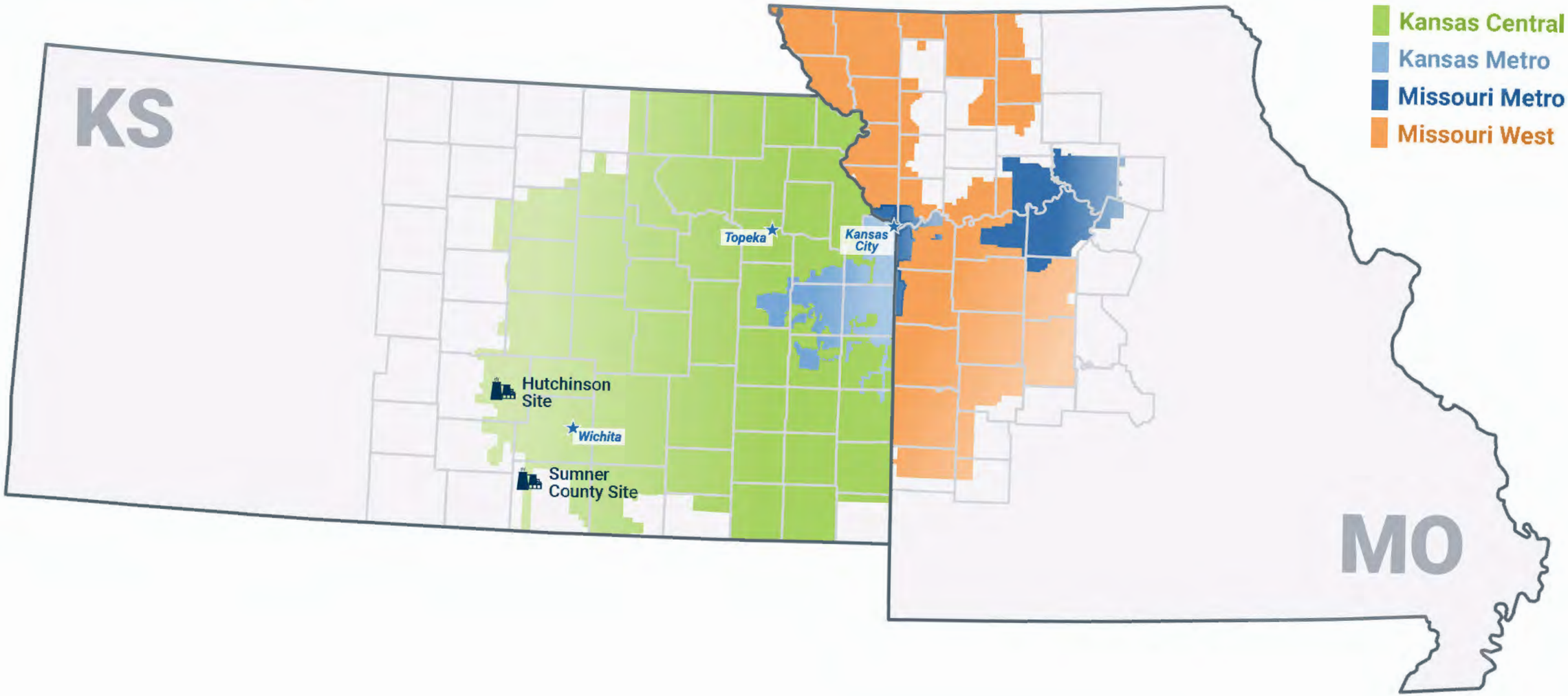
Subscribed and sworn to before me this 6th day of November 2024.

Notary Public

My Appointment Expires: May 30, 2026

NOTARY PUBLIC - State of Kansas
LESLIE R. WINES
MY APPT. EXPIRES 5/30/2026

evergy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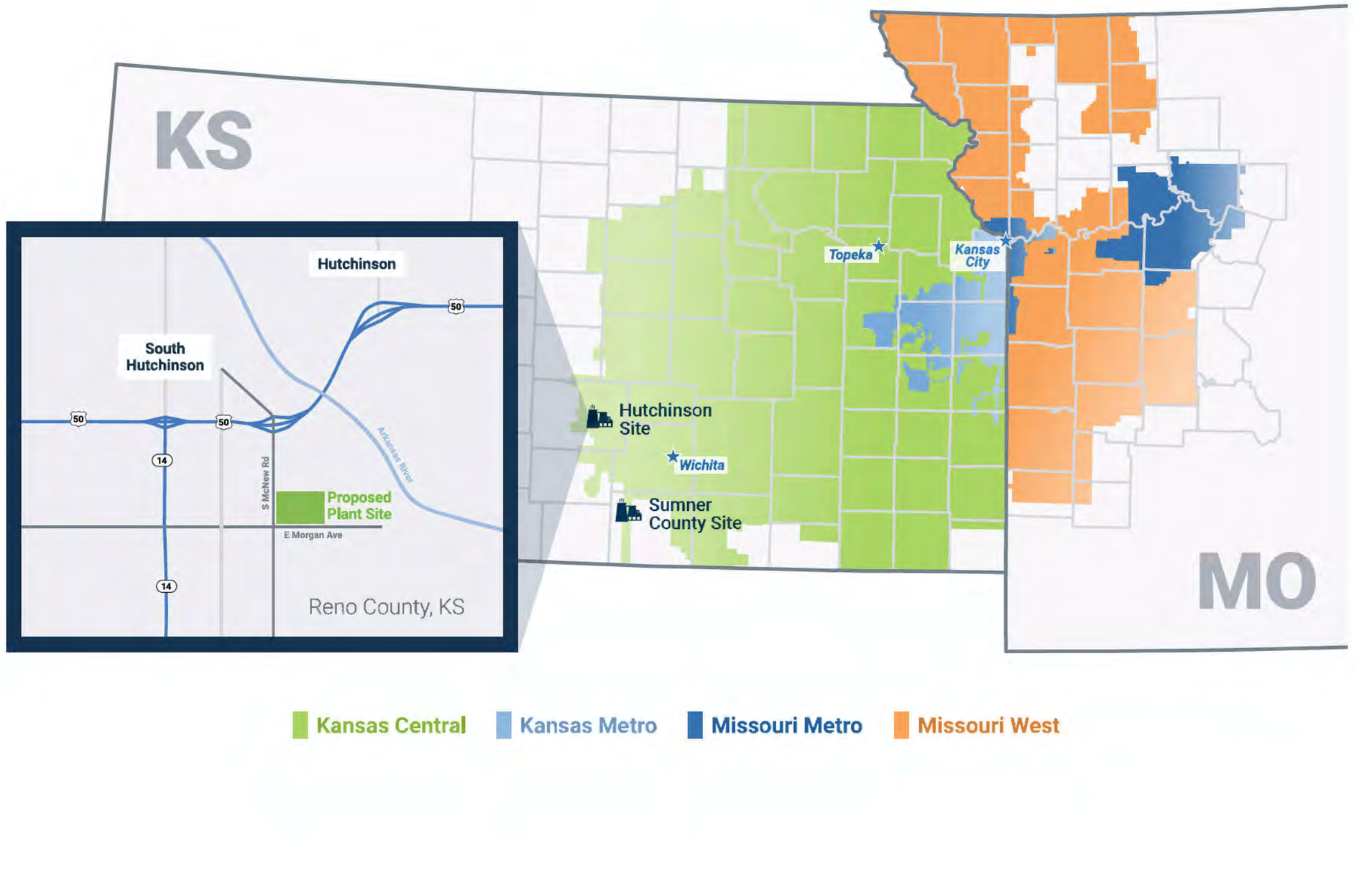
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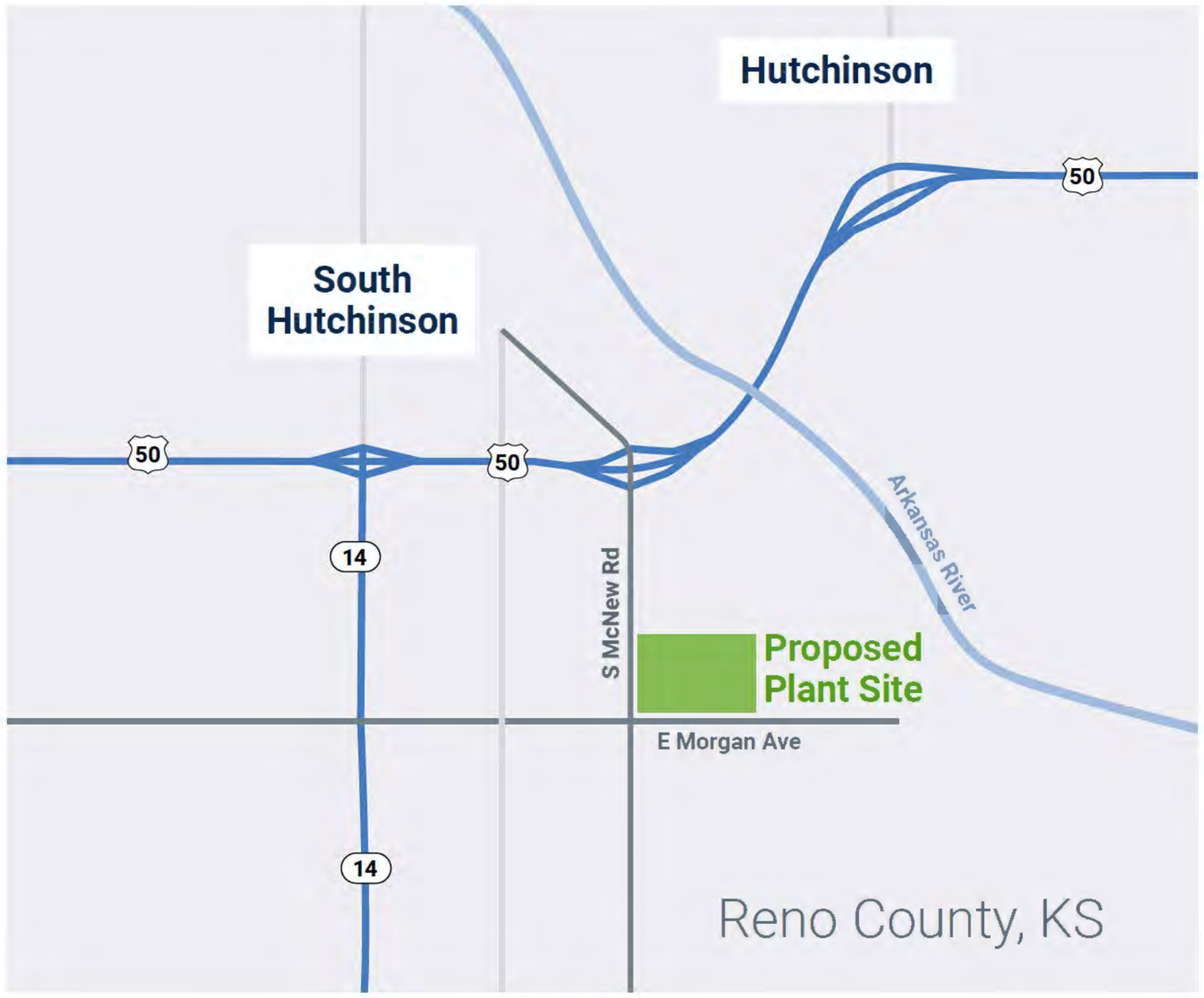
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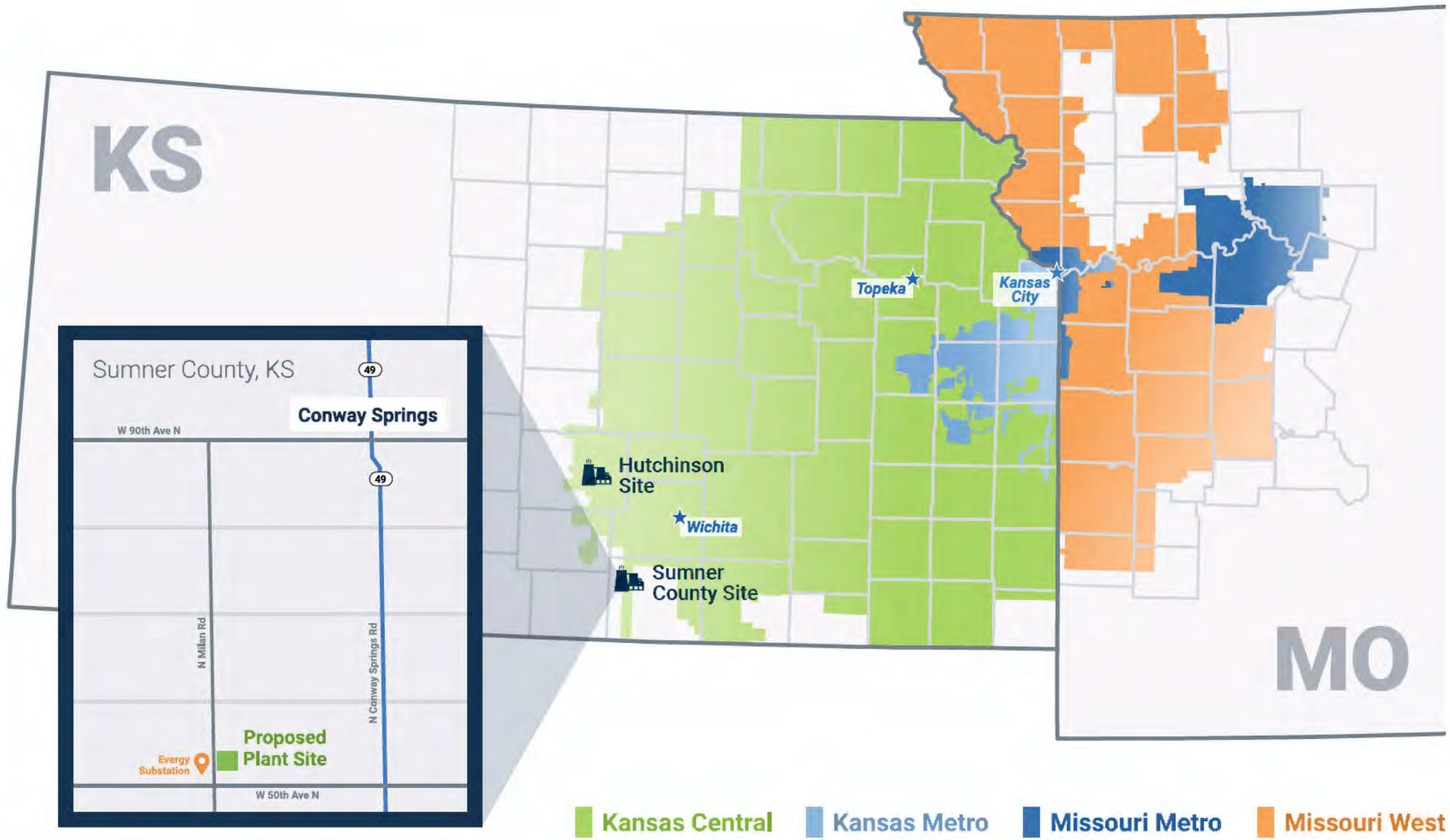
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N Milan Rd
N Conway Springs Rd
Evergy Substation
Proposed Plant Site
W 50th Ave N
Kansas Central
Kansas Metro
Missouri Metro
Missouri West


Sumner County, KS
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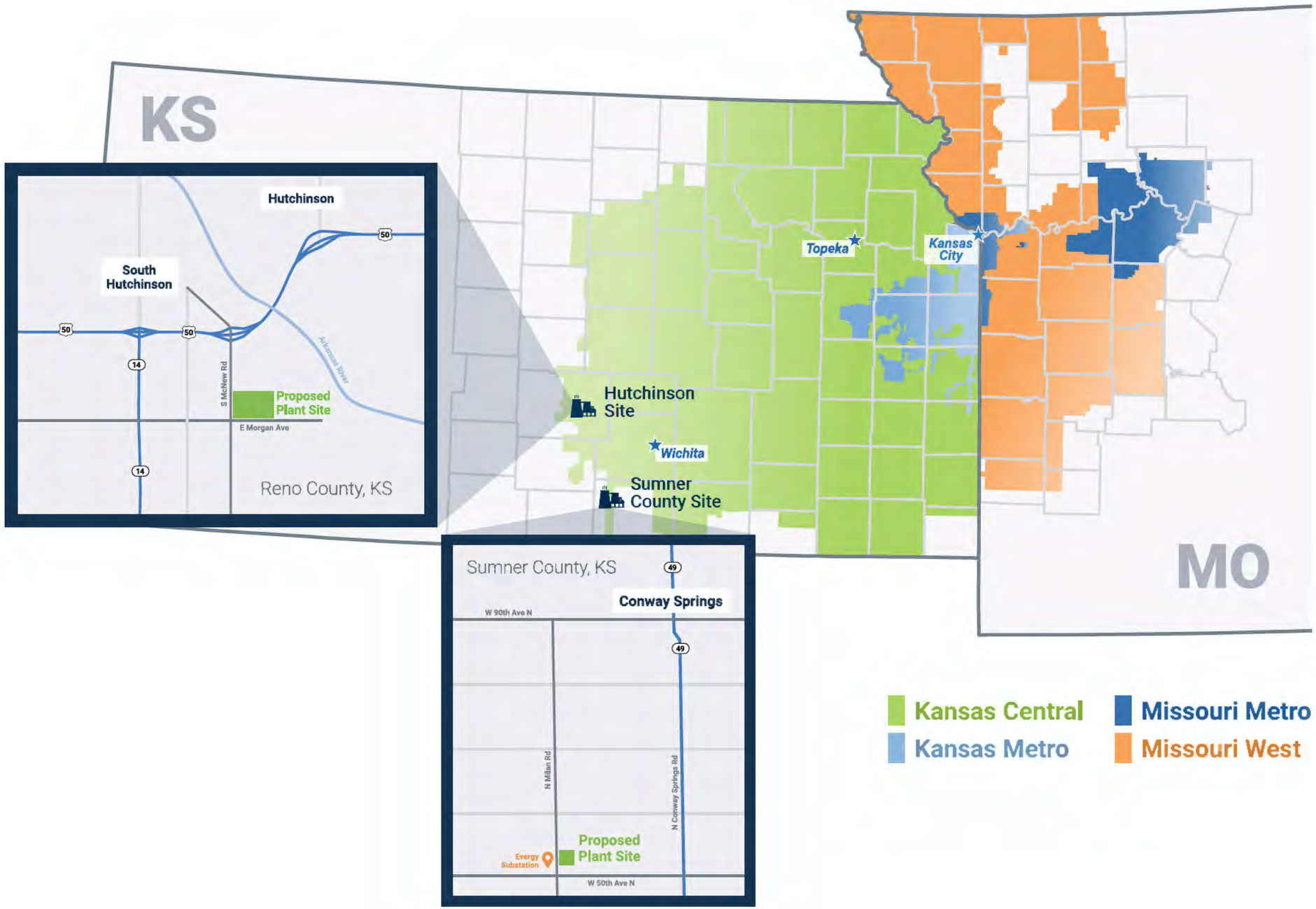
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W 90th Ave N
N Milan Rd
N Conway Springs Rd
Evergy Substation
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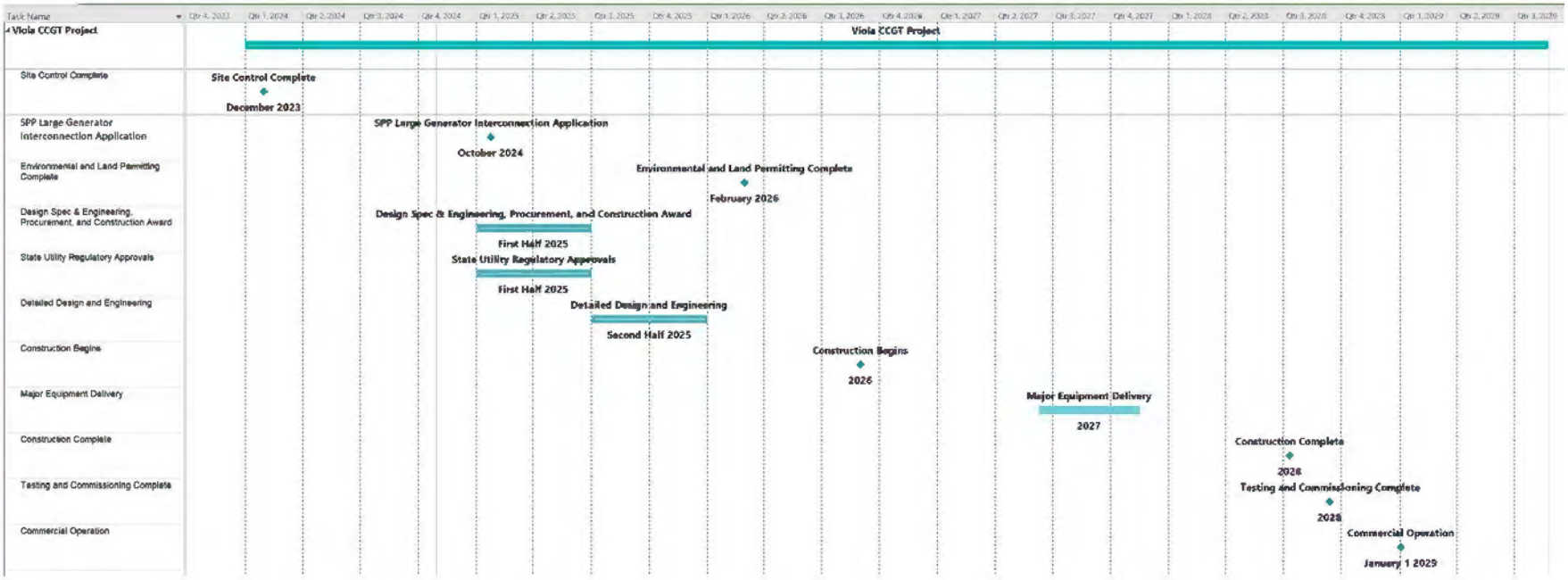
W 50th Ave N
Kansas Central
Kansas Metro
Missouri Metro
Missouri West

PUBLIC

High-level schedule for the Viola Project



PUBLIC

High-level schedule for the McNew Project

EQUIPMENT IDENTIFICATION AND LOCATION LIST	
DWG REF	DESCRIPTION
001	UNIT 1 COMBUSTION TURBINE
002	UNIT 1 STEAM TURBINE
003	UNIT 1 HEAT RECOVERY STEAM GENERATOR
004	UNIT 1 AIR COOLED CONDENSER
005	SERVICE / FIREWATER STORAGE TANK
006	DEMINERALIZED WATER STORAGE TANK
007	WATER TREATMENT BUILDING
008	ADMIN BUILDING
009	GAS YARD
010	STORMWATER POND
011	RESERVED FOR LAYDOWN
012	SPACE FOR FUTURE UNIT 2
013	SANITARY LEECH FIELD

STACK COORDINATES		
ITEM	NORTHING	EASTING
UNIT 1	1556093.5409	1553640.1978

EQUIPMENT COORDINATES		
ITEM	NORTHING	EASTING
DIESEL FIRE WATER PUMP	1556356.6478	1553482.5227
UNIT 1 AUX BOILER	1556116.6654	1553650.6334
GAS DEWPOINT HEATER 1	1556955.8601	1552469.3162
GAS DEWPOINT HEATER 2	15569757.5195	1552538.8125
UNIT 1 DIESEL GENERATOR	1556213.0042	1553202.0509

Millimeters
Scale For Microfilming
Inches

NOTES:
1. ONLY SELECTED EQUIPMENT ITEMS ARE IDENTIFIED ON DRAWING.
2. EPC SHALL WORK TO KEEP ALL EMISSION POINTS IN LOCATIONS IDENTIFIED.

PRELIMINARY - NOT FOR CONSTRUCTION

no.	date	by	ckd	description
B	09/20/24	TLB	ZLB	ISSUED FOR BID
A	08/15/24	TLB	ZLB	ISSUED FOR REVIEW

NORTH

0 200' 400'
SCALE IN FEET

BURNS McDONNELL
9400 WARD PARKWAY
KANSAS CITY, MO 64114
816-333-9400
Burns & McDonnell Engineering Co, Inc.

designed A. SCHREINER | detailed T. BROSS

evergy

EVERGY
1X1 SINGLE SHAFT
VIOLA GENERATING STATION
SITE ARRANGEMENT

project 171490 | contract 5.0010
drawing GA2001 – rev. B
sheet 1 of 1 sheets
file 171490_GA2001.dwg

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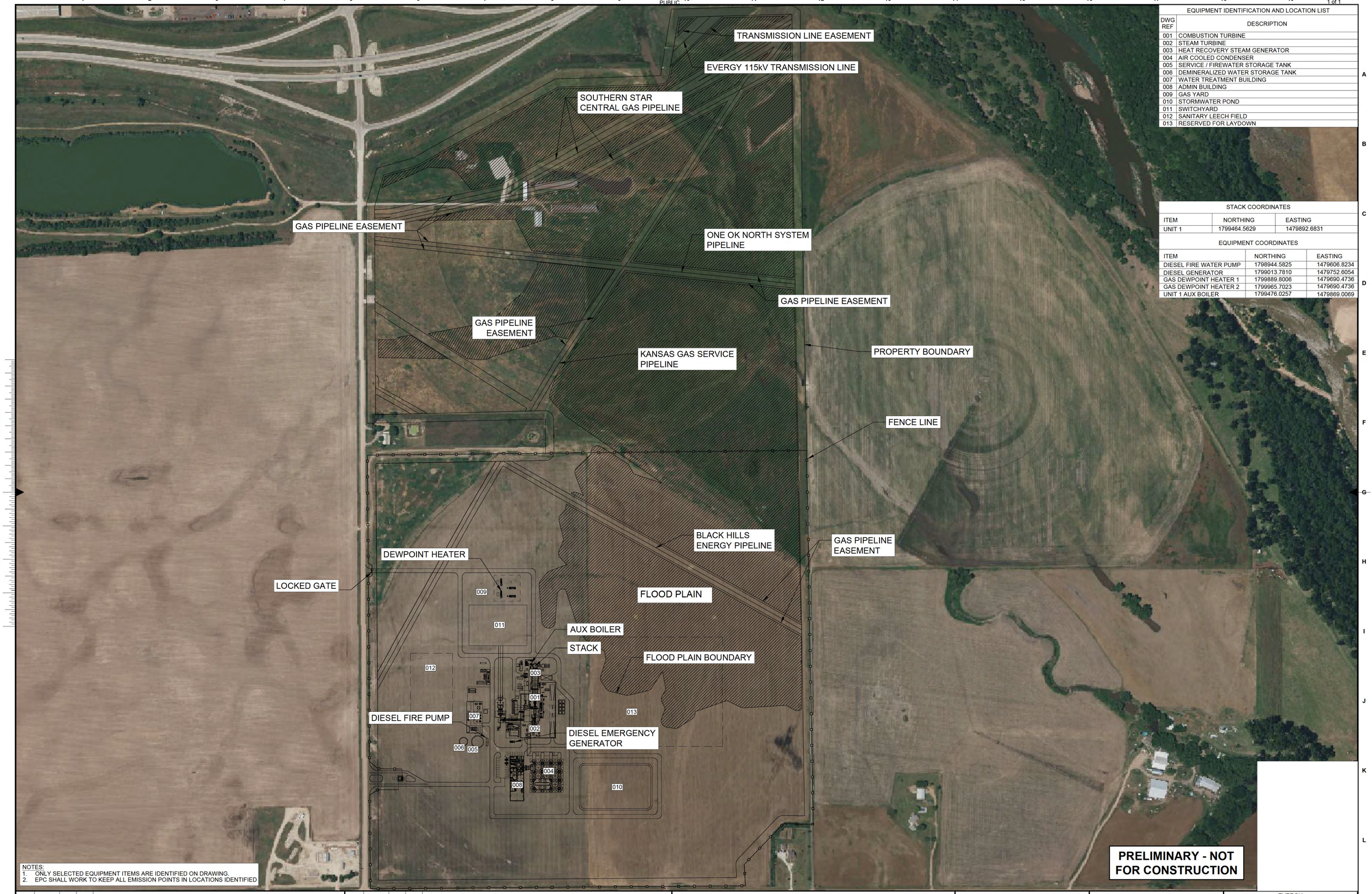

EQUIPMENT IDENTIFICATION AND LOCATION LIST	
DWG REF	DESCRIPTION
001	COMBUSTION TURBINE
002	STEAM TURBINE
003	HEAT RECOVERY STEAM GENERATOR
004	AIR COOLED CONDENSER
005	SERVICE / FIREWATER STORAGE TANK
006	DEMINERALIZED WATER STORAGE TANK
007	WATER TREATMENT BUILDING
008	ADMIN BUILDING
009	GAS YARD
010	STORMWATER POND
011	SWITCHYARD
012	SANITARY LEECH FIELD
013	RESERVED FOR LAYDOWN

STACK COORDINATES		
ITEM	NORTHING	EASTING
UNIT 1	1799464.5629	1479892.6831

EQUIPMENT COORDINATES		
ITEM	NORTHING	EASTING
DIESEL FIRE WATER PUMP	1798944.5825	1479606.8234
DIESEL GENERATOR	1799013.7810	1479752.6054
GAS DEWPOINT HEATER 1	1799889.8006	1479690.4736
GAS DEWPOINT HEATER 2	1799965.7023	1479690.4736
UNIT 1 AUX BOILER	1799476.0257	1479869.0069

NOTES:
1. ONLY SELECTED EQUIPMENT ITEMS ARE IDENTIFIED ON DRAWING.
2. EPC SHALL WORK TO KEEP ALL EMISSION POINTS IN LOCATIONS IDENTIFIED

PRELIMINARY - NOT FOR CONSTRUCTION

no.	date	by	ckd	description
B	09/20/24	IRH	ZLB	ISSUED FOR BID
A	08/15/24	IRH	ZLB	ISSUED FOR REVIEW

0 200' 400'
SCALE IN FEET

NORTH

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evergy

EVERGY
1X1 SINGLE SHAFT
MCNEW GENERATING STATION
SITE ARRANGEMENT

project 171490 | contract 5.0010
drawing GA3001 – rev. B
sheet 1 of 1 sheets
file 171490_GA3001_B.dwg

INDICATIVE PRICE BASIS

VIOLA 1X1 CCGT PROJECT (REV1) – OCTOBER 2024

Introduction

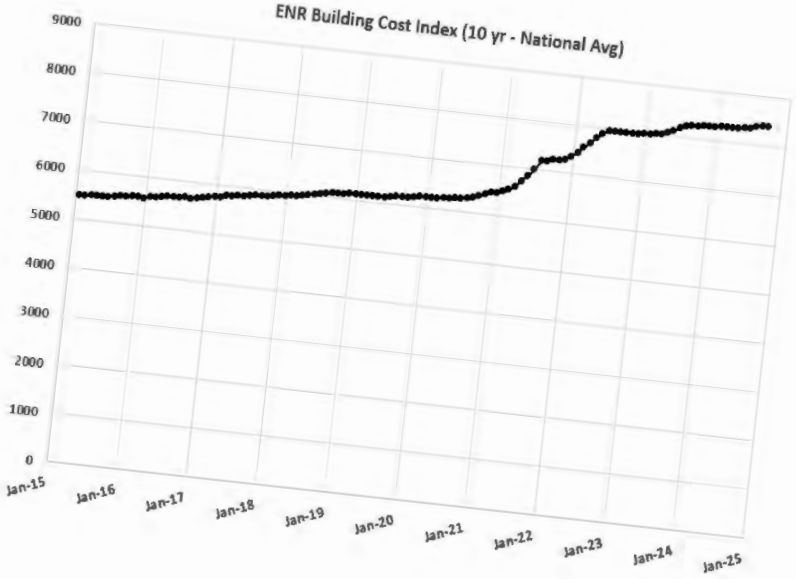
This document describes the general scope and basis for the indicative EPC price estimate for the Viola 1x1 combined cycle project in Sumner County, KS. This estimate was prepared in accordance with AACE Class IV guidelines, and as further clarified herein. Indicative pricing and estimate quantities have been prepared considering costs, quantities and estimates from other projects which are similar in nature to the proposed project, but do not fully reflect the exact project scope, schedule or location. Our understanding is that this cost estimate will be utilized by Evergy (in conjunction with other market data) to develop initial project budgets.

Statement of Limitations

This cost estimate is based on our experience, qualifications, and judgement as a professional consultant. This estimate is non-binding and is not an offer to sell. Information presented is subject to change and may be impacted by changes to scope, schedule, or commercial terms. BMcD has no control over items such as weather, economic or market conditions, force majeure events, availability of labor, productivity of labor, material, equipment, and other factors which affect cost opinions or schedule projections. BMcD does not guarantee that the actual costs, quantities, performance, schedules, schedule completion dates will not vary from estimates and indicative pricing submitted.

Industry Trends

The aftermath of the COVID-19 pandemic introduced unprecedented pricing volatility and supply chain disruption, the effects of which are still being felt throughout the world - including the power industry. Consider the Building Cost Index (BCI) published by ENR Magazine. The BCI is used throughout the construction industry as a gauge for cost trends. The BCI accounts for both labor and materials (such as structural steel, portland cement, and lumber). Prevailing wage rates and local commodity prices are sourced locally from 20 different cities across the Country. The BCI is published each month for these 20 cities, as well as a national average. The figure below shows the BCI national average over the past ten years.



While the BCI rate of increase appears to have steadied in 2023 and 2024, prices remain significantly higher than they were pre-pandemic. Additionally, nationwide competition for skilled labor across all industries means that prices may remain volatile in the coming years as projects will need to pay to incentivize labor.

Increased demand for electricity also means that equipment lead times and prices have continued increasing steadily. Compared to late 2020, BMcD has seen gas turbine engine prices increase as much as 60%. Lead times have climbed to nearly three years for large gas turbines, or even four years for certain high voltage electrical equipment.

INDICATIVE PRICE BASIS
(continued)

Schedule

The indicative price is based on the following anticipated schedule milestones:

- EPC Contractor award – Q3 2025.
- Site mobilization – Q3 2026.
- Commissioning – Q3/Q4 2028.
- Commercial Operation – Q4 2028.
- Evergy need-by date – January 1, 2029.

Commercial Clarifications

The estimate assumes an EPC contracting methodology, with major equipment procured separately by Evergy (see Owner's Costs). Additionally, the estimate is based on the following commercial assumptions:

- Craft per-diem is included at an assumed rate of [redacted]/day x 7-days per week.
- An allowance is included for an EPC Performance & Payment bond.
- Forward looking escalation is included through the life of the project, assuming a [redacted] annual increase (per Evergy direction) for equipment, materials, and labor. No escalation was included for Owner purchased equipment as those procurement efforts are currently underway.
- An assumed EPC contingency of [redacted] is included, per Evergy direction.
- An assumed EPC fee of [redacted] is included.
- Builder's Risk insurance coverage costs are not included (assumed to be provided by Evergy).

Technical Clarifications

The following assumptions serve as the basis of our indicative price. We have generally assumed Evergy technical requirements consistent with those being developed for the EPC RFP.

- General:
  - This indicative price is based on the Mitsubishi M501JAC.
  - Major equipment deliveries are to the project-site.
  - No allowance was included for demolition or relocation of any potential existing utilities or structures.
  - The estimate assumes that temporary power during construction will be furnished by Evergy.
- Geotechnical:
  - Auger cast piles are assumed under all major foundations.
  - No soil remediation or soil improvement programs are included.
  - No hazardous and/or contaminated materials will be encountered on site.
  - Groundwater is assumed to be at a reasonable depth – no major dewatering operations are included.
  - No subsurface risk has been included.
- Civil:
  - Topography and soil conditions are such that the site can be balanced. No major material import (i.e., raising site elevation) are considered.
  - The estimate includes approximately [redacted] acres for temporary construction facilities.

INDICATIVE PRICE BASIS
(continued)

- The estimate assumes crushed rock, asphalt paving, and grass seeding for finishes. Additional landscaping requirements are not considered.

- Structural / Architectural:
  - A powerhouse building is included for the gas turbine / generator / steam turbine. The HRSG will be outdoors.
- Mechanical:
  - Fuel gas compression is not required.
  - Dry cooling is assumed.
- Environmental:
  - Any special noise attenuation requirements to meet far field noise limits at the property line were not considered.
  - Identification, protection, or relocation of existing fish and wildlife habitat, wetlands, threatened and endangered species or historical, cultural, and archaeological artifacts are not included in the scope of work.
  - No allowance was included for impacts due to permitting constraints.

Owner's Costs:

The following assumptions apply to Owner's Costs shown separate from the estimated EPC price:

- $[redacted] is included for the gas turbine, steam turbine, and HRSG (power island) based on initial evaluation of pricing received from Mitsubishi (with a few million dollars assumed for resolution of outstanding C&Es).
- $[redacted] is included for the GTG / STG GSU transformers, based on initial evaluation of pricing received for the project.
- $[redacted] is included for modification of the adjacent 345kV switchyard, with an overhead road-crossing, and high voltage breakers.
- No other work off-site has been included (e.g. fuel gas transmission or water infrastructure).
- Owner's Engineering costs are included as shown in the estimate summary.
- Owner's contingency has not been included.
- Other Owner's Costs such as development, permitting, operations personnel, project management, legal counsel, temporary utilities, land, access rights, political concessions, sales taxes, duties, financing fees, interest during construction (IDC), allowance for funds used during construction (AFUDC), off-site transmission upgrades, and the like, are excluded.

CLASS IV CAPITAL COST ESTIMATE
EVERGY - VIOLA
1X1 J-CLASS COMBINED CYCLE
SUMNER COUNTY, KS

REV1 - 10/16/2024

Acct	Area / Discipline	Total Cost
01	Engineered Equipment	X
02	Civil	X
03	Deep Foundations	X
04	Concrete	X
05	Structural Steel	X
06	Architectural	X
07	Piping	X
08	Electrical / Instrument & Control	X
09	Insulation	X
10	Coatings	X
11	Misc Directs	X
Direct Cost		**X**
CM, Engineering, Startup		X
Commercial		X
Escalation		X
Indirect Cost		**X**
Contingency		X
Fee		X
Estimated EPC Cost		**X**
Owner Cost - Major Equipment Supply (PIE)		X
Owner Cost - Large Power Transformers (GSUs)		X
Owner Cost - HV Transmission to POI		X
Owner Cost - BR Insurance		X
Owner Cost - Fuel Gas Transmission & Interconnect		X
Owner Cost - Water Supply Infrastructure		X
Owner Cost - Owner's Engineering		X
Owner Cost - General, Taxes & Fees		X
Owner Cost - Owner Contingency		X
Total Project Cost Incl. Owner Cost		**X**

INDICATIVE PRICE BASIS

MCNEW 1X1 CCGT PROJECT (REV1) – OCTOBER 2024

Introduction

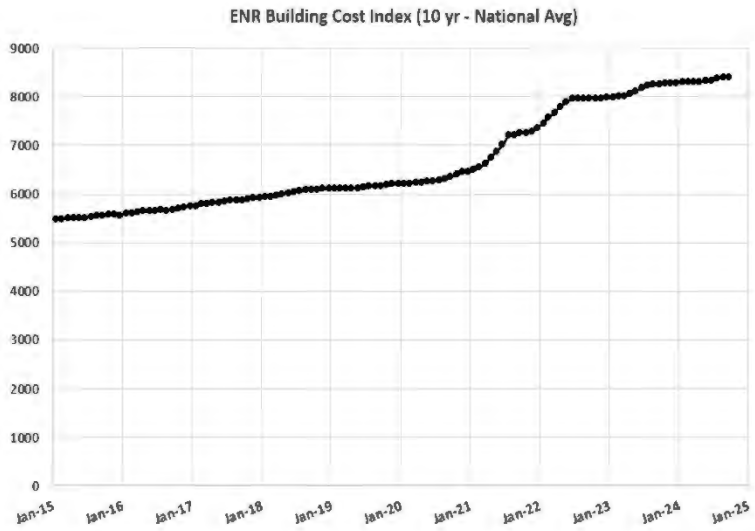
This document describes the general scope and basis for the indicative EPC price estimate for the McNew 1x1 combined cycle project in Reno County, KS. This estimate was prepared in accordance with AACE Class IV guidelines, and as further clarified herein. Indicative pricing and estimate quantities have been prepared considering costs, quantities and estimates from other projects which are similar in nature to the proposed project, but do not fully reflect the exact project scope, schedule or location. Our understanding is that this cost estimate will be utilized by Evergy (in conjunction with other market data) to develop initial project budgets.

Statement of Limitations

This cost estimate is based on our experience, qualifications, and judgement as a professional consultant. This estimate is non-binding and is not an offer to sell. Information presented is subject to change and may be impacted by changes to scope, schedule, or commercial terms. BMcD has no control over items such as weather, economic or market conditions, force majeure events, availability of labor, productivity of labor, material, equipment, and other factors which affect cost opinions or schedule projections. BMcD does not guarantee that the actual costs, quantities, performance, schedules, schedule completion dates will not vary from estimates and indicative pricing submitted.

Industry Trends

The aftermath of the COVID-19 pandemic introduced unprecedented pricing volatility and supply chain disruption, the effects of which are still being felt throughout the world - including the power industry. Consider the Building Cost Index (BCI) published by ENR Magazine. The BCI is used throughout the construction industry as a gauge for cost trends. The BCI accounts for both labor and materials (such as structural steel, portland cement, and lumber). Prevailing wage rates and local commodity prices are sourced locally from 20 different cities across the Country. The BCI is published each month for these 20 cities, as well as a national average. The figure below shows the BCI national average over the past ten years.



While the BCI rate of increase appears to have steadied in 2023 and 2024, prices remain significantly higher than they were pre-pandemic. Additionally, nationwide competition for skilled labor across all industries means that prices may remain volatile in the coming years as projects will need to pay to incentivize labor.

Increased demand for electricity also means that equipment lead times and prices have continued increasing steadily. Compared to late 2020, BMcD has seen gas turbine engine prices increase as much as 60%. Lead times have climbed to nearly three years for large gas turbines, or even four years for certain high voltage electrical equipment.

Schedule

The indicative price is based on the following anticipated schedule milestones:

- EPC Contractor award – Q3 2026.
- Site mobilization – Q3 2027.
- Commissioning – Q3/Q4 2029.
- Commercial Operation – Q4 2029.
- Evergy need-by date – January 1, 2030.

Commercial Clarifications

The estimate assumes an EPC contracting methodology, with major equipment procured separately by Evergy (see Owner's Costs). Additionally, the estimate is based on the following commercial assumptions:

- Craft per-diem is included at an assumed rate of [redacted]/day x 7-days per week.
- An allowance is included for an EPC Performance & Payment bond.
- Forward looking escalation is included through the life of the project, assuming a [redacted] annual increase (per Evergy direction) for equipment, materials, and labor. No escalation was included for Owner purchased equipment as those procurement efforts are currently underway.
- An assumed EPC contingency of [redacted] is included, per Evergy direction.
- An assumed EPC fee of [redacted] is included.
- Builder's Risk insurance coverage costs are not included (assumed to be provided by Evergy).

Technical Clarifications

The following assumptions serve as the basis of our indicative price. We have generally assumed Evergy technical requirements consistent with those being developed for the EPC RFP.

- General:
  - This indicative price is based on the Mitsubishi M501JAC.
  - Major equipment deliveries are to the project-site.
  - No allowance was included for demolition or relocation of any potential existing utilities or structures.
  - The estimate assumes that temporary power during construction will be furnished by Evergy.
- Geotechnical:
  - Auger cast piles are assumed under all major foundations.
  - No soil remediation or soil improvement programs are included.
  - No hazardous and/or contaminated materials will be encountered on site.
  - Groundwater is assumed to be at a reasonable depth – no major dewatering operations are included.
  - No subsurface risk has been included.
- Civil:
  - Topography and soil conditions are such that the site can be balanced. No major material import (i.e., raising site elevation) are considered.
  - The estimate includes approximately [redacted] acres for temporary construction facilities.
  - The estimate assumes crushed rock, asphalt paving, and grass seeding for finishes. Additional landscaping requirements are not considered.
- Structural / Architectural:
  - A powerhouse building is included for the gas turbine / generator / steam turbine. The HRSG will be outdoors.
- Mechanical:
  - Fuel gas compression is not required.
  - Dry cooling is assumed.
- Environmental:
  - Any special noise attenuation requirements to meet far field noise limits at the property line were not considered.
  - Identification, protection, or relocation of existing fish and wildlife habitat, wetlands, threatened and endangered species or historical, cultural, and archaeological artifacts are not included in the scope of work.
  - No allowance was included for impacts due to permitting constraints.

Owner's Costs:

The following assumptions apply to Owner's Costs shown separate from the estimated EPC price:

- $[redacted] is included for the gas turbine, steam turbine, and HRSG (power island) based on initial evaluation of pricing received from Mitsubishi (with a few million dollars assumed for resolution of outstanding C&Es).
- $[redacted] is included for the GTG / STG GSU transformers, based on initial evaluation of pricing received for the project.
- An assumed $[redacted] is included for approximately [redacted] miles of transmission to the Reno County switchyard, located northeast of Hutchinson, KS.

- No other work off-site has been included (e.g. fuel gas transmission or water infrastructure).
- Owner's Engineering costs are included as shown in the estimate summary.
- Owner's contingency has not been included.
- Other Owner's Costs such as development, permitting, operations personnel, project management, legal counsel, temporary utilities, land, access rights, political concessions, sales taxes, duties, financing fees, interest during construction (IDC), allowance for funds used during construction (AFUDC), off-site transmission upgrades, and the like, are excluded.

CLASS IV CAPITAL COST ESTIMATE
EVERGY - McNEW
1X1 J-CLASS COMBINED CYCLE
RENO COUNTY, KS

REV1 - 10/16/2024

Acct	Area / Discipline	Total Cost
01	Engineered Equipment	X
02	Civil	X
03	Deep Foundations	X
04	Concrete	X
05	Structural Steel	X
06	Architectural	X
07	Piping	X
08	Electrical / Instrument & Control	X
09	Insulation	X
10	Coatings	X
11	Misc Directs	X
Direct Cost		**X**
CM, Engineering, Startup		X
Commercial		X
Escalation		X
Indirect Cost		**X**
Contingency		X
Fee		X
Estimated EPC Cost		**X**
Owner Cost - Major Equipment Supply (PIE)		X
Owner Cost - Large Power Transformers (GSUs)		X
Owner Cost - HV Transmission to POI		X
Owner Cost - BR Insurance		X
Owner Cost - Fuel Gas Transmission & Interconnect		X
Owner Cost - Water Supply Infrastructure		X
Owner Cost - Owner's Engineering		X
Owner Cost - General, Taxes & Fees		X
Owner Cost - Owner Contingency		X
Total Project Cost Incl. Owner Cost		**X**

Viola CCGT Total Estimated Cost

Item	Price
Power Island Equipment	$X
EPC	$X
Generator Step Up Transformer	$X
Water Supply	$X
Interconnection costs	$X
SPP Network Upgrades	$X
Owner's Engineer	$X
Owner's Costs	$X
Total Capital Investment	**$X**

Owner's Cost	
Owner's Contingency	$ X
Builders Risks	$ X
Salary (internal)	$ X
Mileage & Vehicles	$ X
Taxes	$ X
Land Purchases	$ X
Environmental	$ X
Plant Staff (2 years)	$ X
Furniture/Facilities	$ X
Tools & Lab	$ X
Security and IT	$ X
SPP Fees	$ X
Legal	$ X
PILOT/RMA	$ X
Development Expenses	$ X
Capital Spares	$ X
Total Owner's Costs	**$ X**

McNew CCGT Total Estimated Cost

Item	Price
Power Island Equipment	$X
EPC	$X
Generator Step Up Transformer	$X
Water Supply	$X
Interconnection costs	$X
SPP Network Upgrades	$X
Owner's Engineer	$X
Owner's Costs	$X
Total Capital Investment	**$X**

Owner's Cost	
Owner's Contingency	$ X
Builders Risks	$ X
Salary (internal)	$ X
Mileage & Vehicles	$ X
Taxes	$ X
Land Purchases	$ X
Environmental	$ X
Plant Staff (2 years)	$ X
Furniture/Facilities	$ X
Tools & Lab	$ X
Security and IT	$ X
SPP Fees	$ X
Legal	$ X
PILOT/RMA	$ X
Development Expenses	$ X
Capital Spares	$ X
Total Owner's Costs	**$ X**