

BEFORE THE STATE CORPORATION COMMISSION
OF THE STATE OF KANSAS

In the Matter of the Application of The Empire)
District Electric Company for Approval of its) Docket No. 21-EPDE-198-ACA
Annual Energy Cost Adjustment (“ACA”))
Filing)

NOTICE OF FILING OF STAFF’S REPORT AND RECOMMENDATION (PUBLIC)

The Staff of the Kansas Corporation Commission (Staff and Commission, respectively) hereby submits a Report and Recommendation (R&R) dated September 26, 2022, recommending the Commission approve The Empire District Electric Company’s (Empire’s) Annual Energy Cost Adjustment (ACA) factor of \$0.00046 per kWh for calendar year 2021.

WHEREFORE, Staff respectfully requests that the Commission issue an order adopting its recommendation.

Respectfully Submitted,

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Dwight D. Keen, Chair
Susan K. Duffy, Commissioner
Andrew J. French, Commissioner

Laura Kelly, Governor

**REPORT AND RECOMMENDATION
UTILITIES DIVISION**

REDACTED VERSION

** ■ ** Denotes Confidential Information

TO: Dwight D. Keen, Chair
Susan K. Duffy, Commissioner
Andrew J. French, Commissioner

FROM: Tim Rehagen, Senior Auditor
Chad Unrein, Senior Managing Auditor/FERC Affairs Specialist
Andria Jackson, Deputy Chief of Revenue Requirements, Cost of Service and Finance
Justin Grady, Chief of Revenue Requirements, Cost of Service and Finance
Jeff McClanahan, Director of Utilities

DATE: September 26, 2022

SUBJECT: Docket No. 21-EDPE-198-ACA – In the Matter of the Application of The Empire District Electric Company for Approval of its Annual Energy Cost Adjustment (“ACA”) Filing.

EXECUTIVE SUMMARY:

The Empire District Electric Company (Empire) filed an Application requesting approval of its annual Energy Cost Adjustment (ACA). Empire is requesting an ACA factor of \$0.00046 per kWh in order to recover \$100,810 of under-recovered fuel and purchased power expenses from retail customers during the ACA period ending October 31, 2020. Staff conducted an audit of Empire’s Application, as discussed below, and recommends approval of Empire’s requested 2020 ACA factor.

BACKGROUND:

On December 1, 2020, Empire filed an Application requesting approval of its ACA. Attached as Appendix A, Schedules 1-3 to the Application is the annual calculation of the over/under recovery of energy costs for the Energy Cost Adjustment (ECA) year ending October 31, 2020. Appendix A, Schedule 2 shows a cumulative under-recovery of 2020 ECA costs in the amount of \$100,810. Based on this under-recovery, Empire calculated an ACA factor of \$0.00046 per kWh to be charged to Kansas customers. Christy Londerholm, Senior Regulatory Analyst, Rates and Regulatory Affairs for Liberty Utilities’ Central Region, provided testimony describing the attachments included in the Application, the impact of the Southwest Power Pool (SPP) Integrated Marketplace (IM) on the ECA off-system profit factor, and the 2021 ECA energy cost forecasts.

Todd Tarter, Manager of Market Settlements and Systems for Liberty Utilities' Central Region, provided testimony describing the impact of the SPP IM on Empire's operations. Mr. Tarter also discusses Empire's fuel and purchased power procurement process.

On March 1, 2014, SPP implemented the Integrated Market (IM).¹ The IM is a regional day-ahead energy and operating reserve market featuring the following major functions:

- Day-ahead energy and operating reserve markets;
- Day-ahead and intra-day Reliability Unit Commitment processes;
- Real-time balancing market;
- Price-based, co-optimized energy and operating reserve procurement;
- Market-based congestion management processes including Transmission Congestion Rights and Auction Revenue Rights;
- Multi-Day Reliability assessment to manage the commitment of long-start resources; and
- Market Monitoring and Mitigation with an internal Market Monitoring Unit.²

With the implementation of the IM, Empire sells energy and operating reserves produced from its company-owned generating resources to SPP in the Day-Ahead (DA) and Real-Time Balancing Market (RTBM) and it purchases the energy and operating reserves it needs to serve its native load obligations on a daily basis. Revenues and expenses from the IM are recorded in FERC accounts allowed to be recovered under Empire's ECA tariff; therefore, Staff expanded the scope of the ACA audit in 2014 to include a review of Empire's participation in the SPP IM. Staff continues to monitor and review Empire's monthly market activity and performs a yearly review of controls, procedures, and performances as part of the annual ACA audit.

ANALYSIS:

Traditional Fuel and Purchased Power Review

Staff solicited from Empire, via formal discovery requests and e-mail correspondence, documentation supporting its Application and Attachment A, Schedules 1-3. Staff performed the majority of its audit in-house using the information gathered through this process. Once the desk audit was complete, Staff met briefly with Empire via teleconference. Historically, Staff has met with Empire either in person or virtually to conduct a review of Empire's coal and transportation contracts. However, because of the retirement of the Asbury coal plant in March 2020, a review of coal and transportation contracts is no longer necessary. The teleconference still allowed Staff to question Empire about information provided in response to discovery requests. Staff notes that Empire personnel were open and forthcoming when answering questions. Staff audited Empire's actual fuel costs for the following months: March, April, June and July 2020.³

For each month, Staff conducted an audit of the Application that consisted of:

- Testing the accuracy of the monthly Settlement Computations;

¹ See FERC, *Order on Compliance Filing*, January 29, 2014, Docket Nos. EL12-1179 and EL13-1173; http://elibrary.ferc.gov/idmws/file_list.asp?accession_num=20140129-3063.

² *Southwest Power Pool, Inc.*, 141 FERC ¶ 61,048 (2012) (October 2012 Order).

³ Staff typically audits four months out of the ACA year. The four months usually consist of at least two months from the summer cooling season.

- Ensuring the actual cost adjustment computed by the utility reflects the actual over/under recoveries and the actual sales to Kansas jurisdictional customers;
- Ascertaining that the actual fuel and purchased power costs recovered through the ECA are actual costs supported by vendor invoices and general ledger entries;
- Verifying that the ECA factor used to calculate the customer's bill agrees with the calculation that the Company files with the Commission; and
- Ensuring the ACA balance reflects the elimination of the gains/losses associated with financial instruments used to hedge the cost of natural gas and the sales of excess natural gas during the twelve-month ACA period ending October 31, 2020.

During this portion of Staff's audit, no material irregularities were found in the information provided.

SPP Integrated Marketplace Review

As referenced in the Background Section, Staff expanded the ACA audit to include the review of Empire's participation in the SPP IM during 2020. Staff issued formal discovery requests to document Empire's processes and procedures involving its day-to-day operations within the SPP IM.

The objectives of Staff's audit of Empire's participation in the IM were as follows:

1. Review Empire's process and control procedures in place to validate the accuracy of SPP invoices and statements.
2. Examine Empire's management of market performance and operational risk within the SPP IM.
3. For the months being audited in this year's ACA audit, evaluate whether Empire has accurately accounted for Kansas' actual share of IM revenue and costs pursuant to the provisions of the current ACA tariff.
4. Examine Empire's all-in ECA cost calculation and determine whether Empire's participation in the SPP IM is providing benefits to Empire's Kansas ratepayers.
5. Analyze the market performance of Empire's coal units and review trends in the volume of self-committed MWhs and number of hours Empire's coal units were self-committed in the SPP IM.

Processes & Control Procedures

To examine Empire's control procedures including the verification of its SPP IM billing statements, Staff issued formal discovery requests based on the SPP audit findings and the review of fuel and purchased power expenses detailed in Docket No. 20-EPDE-242-ACA (20-242 Docket).

Through discovery, Staff requested that Empire review its software applications for interacting with the SPP IM and discuss their functionality. In early 2018, Empire implemented the Adapt2 Solutions (Adapt2) software suite as its Application Programmable Interface following its acquisition by Liberty Utilities. Empire continued to use the interface for all its marketplace interactions with the SPP IM in 2020. Empire stated Adapt2 provided increased functionality

allowing for advanced data analytics with more sophisticated bid and offer templates while lowering Empire's software maintenance costs.

As part of the audit, Empire provided Staff with documentation of its workflows for submitting generation offers and bidding in load demand in the day-ahead and real-time balancing markets. In response, Empire provided Staff with detailed work flow charts that documented Empire's processes, procedures, and controls encompassing the marketplace activity. In previous audits, Staff has examined Empire's processes for shadow settlement, verification of settlement statements, and booking the monthly activity into the General Ledger. Empire uses its shadow settlement system and meter data to verify SPP IM activity independently and compares the resulting solution against the SPP settlement statements. The SPP settlement statements contain all of Empire's net revenue and charges related to its market activities for the operating day by charge type. If the shadow settlement calculation deviates from the SPP Invoice, Empire reviews the internal shadow settlement calculation and meter data and, if necessary, files a dispute in the SPP marketplace portal.

Staff found that Empire has robust control procedures in place to verify the accuracy of the settlement statements and invoices it receives from SPP for its activity in the IM. Additionally, Empire has a comprehensive process in place to verify meter data with internal and external counterparties and with SPP. Furthermore, Empire has a defined process in place to submit and monitor disputes with SPP.

Market Performance and Operational Risk

Staff issued discovery requests to evaluate Empire's performance tracking and risk mitigation strategies. Performance tracking and risk mitigation can help drive market performance in the SPP IM and minimizes the costs passed on to utility ratepayers. The operators' ability to capture incremental market sales when market prices support a unit's operation can offset a unit's production costs. Additionally, an operator's ability to purchase power when wholesale energy prices are low can minimize a unit's production costs and avoid unit production during uneconomic operating periods. The actual accounting processes, calculations, and strategies are complex and highly confidential; however, Empire's market information is available upon request if the Commission desires to review Empire's market strategies.

Staff issued formal discovery requests regarding Empire's strategy for offering its generating resources into the IM and bidding for the daily load necessary to serve customers. Empire will bid in its projected day-ahead load and adjust its bids if congestion concerns arise. Staff examined Empire's practices for developing and updating fuel costs and variable operating and maintenance costs associated with developing its resource offers. Empire developed a production cost model to monitor the profitability of units in the SPP IM. The model includes numerous inputs from DA revenue from sales and ancillary services, TCR revenue, DA demand bid expenses, and real-time generation outputs and ancillary production, estimated production costs, calculated real-time load and estimated make whole payments. This model is updated daily and used to construct month-end management reports. These management reports provide checks against market settlement data and fuel and purchase power expenses recorded by Empire's plants. Empire model views the DA and RTBM as a complete revenue stream rather than separating the two markets, which improved accuracy in tracking the profitability of its generating units.

Empire continues to use virtual transactions⁴ to manage its wind generating resources in the SPP IM. The virtual instruments are used to hedge risks and volatility in the RTBM. Empire has documented its strategy for managing its power and natural gas commodity risk in its Risk Management Policy and maintains a Trading Authorization Policy for employees involved in sales and procurement of power and natural gas. While the details of Empire's strategies are confidential due to their competitive and market-sensitive nature, Staff found that Empire has developed strategies that allow it to manage risks (including risks of recovery of variable O&M costs and fuel cost changes) and evaluate profitability to be successful in the IM.

For congestion management, Empire uses a software product from YES Energy to provide comprehensive ISO market data and visual analysis tools to help develop its strategies for congestion hedging. Empire's analysts also use internal tools to monitor daily TCR value, marginal congestion costs, and SPP auction clearing prices. The data helps evaluate their portfolio positions, evaluate potential sales of existing TCR positions, as well as provide management with portfolio performance. In its discovery responses, Empire discussed its evaluation processes for ARR's by analyzing source and sink pairings along its native paths. Empire will nominate only source-sink pairings that have demonstrated consistently favorable values from a historical perspective. For favorable pairings, Empire will generally self-convert these ARR's into TCRs, unless the nomination would cause Empire to be over-hedged along a native path. Additionally, Empire may forego self-conversion of the ARR's and place protected bids against the awarded ARR in the monthly TCR auction. In 2020, Empire self-converted 79% of its awarded ARR's into TCRs, while Empire pursued a pathway to monetizing 21% of its awarded ARR's through a protective bid process or by allowing them to settle with the market. Empire's decision to monetize came down to a few different factors. The primary factor was annual "foreign-path" awards that were awarded in round three of the annual auction based on recommendations from ACES Power, a consultant that assisted Empire with the annual process. The other factor that Empire considered in its decision to self-convert the ARR stemmed from either transmission or generator outages that increased the risk of carrying those source-sink pairs into the operating month.

As part of the performance audit, Staff requested Empire provide an analysis of its congestion costs and TCR revenue generated from its TCR portfolio. In 2020, Empire's congestion cost exposure in the day-market totaled \$16.1 million while the revenue generated from its TCR positions (net of the ARR close-out and uplift adjustments) totaled \$19.9 million. When compared to the 2019 ACA filing, Empire experienced increases in both the TCR revenue and its total congestion costs for 2020. For 2019, Empire's congestion cost totaled \$13.9 million while the revenue generated from its TCR portfolio (net of the ARR close-out and uplift adjustments) totaled \$14.5 million. As such, Empire's total TCR portfolio hedged roughly 123.5% of its total congestion costs in 2020, compared to the TCR portfolio hedging 104.1% of its total congestion costs in 2019.

Empire actively manages its TCR positions as a portfolio and evaluates its congestion exposure to determine if monthly TCR auction purchases are necessary to close any gaps between awarded

⁴ Virtual transactions are DA market instruments that settle financially and have no physical energy backing. These transactions are a proposal by a Market Participant to buy or sell energy at a specified price, Settlement Location and period of time in the DA and settles at the Settlement Location and period of time at the market price in the RTBM.

TCRs and planned day-ahead positions. A breakdown of Empire's TCR portfolio revenues of \$19.9 million and the percentage of revenues the congestion product type contributed to the TCR portfolio includes: Long-term TCR (LTCR) positions of \$11.0 million or 55.2% of the portfolio revenue; converted TCR positions of \$7.4 million or 37.2% of the portfolio revenues; Non-converted ARR of \$92,286 or 0.5% of the portfolio revenues; and the TCR closeout process totaling \$1.4 million or 7.2% of the portfolio revenues.

In Staff's evaluation, Empire has developed strategies for evaluating market performance and managing the risks of operating in the SPP IM. Empire tracks the past performance of DA and RTBM for its generation units and has a defined strategy for bidding in its load. Empire has software solutions and market strategies in place to evaluate its congestion exposure and appropriately hedge these costs with its TCR portfolio. The strategies employed by Empire appear to be successful as Empire's TCR positions hedged 123.1% of its total congestion costs and netted slightly under \$3.8 million in TCR revenue in 2020.

Considering all of the above, Staff finds that Empire diligently managed the risks and profitability associated with the IM during 2020 and is taking the steps necessary to be successful in the IM.

ACA Audit of Revenues and Costs

Prior to the go-live date of the IM, Staff implemented a monthly review process to monitor the IM activity of the three vertically integrated, investor-owned electric utilities in the State of Kansas. This process involves the submission of monthly financial reports (Monthly Activity Report) to the Kansas Corporation Commission's Utilities Division that details each utility's operations in the SPP IM.⁵ The Activity Reports provide a summary-level view of how the electric utility is faring in the marketplace and detail all SPP IM activity by charge-type. For example, Staff can view at a glance the amount of MWhs and average price of day-ahead or real-time asset energy Empire sold into the IM. Likewise, the Activity Reports summarize the energy and operating reserve products Empire purchased from the IM for the month, the MWhs associated, and the net dollar impact of those products. The Activity Reports allow Staff to monitor utility performance in the SPP IM, track trends in the wholesale energy market, and serve as a useful audit tool during the ACA audit. Finally, these reports provide the foundation for reconciling the monthly IM charges from SPP settlement statements and invoices to the journal entries recorded in the Company's general ledger. This data ties back to Empire's ACA Application and true-up of the over/under recovery of actual costs.

In addition to the Monthly Activity Report, Staff receives a monthly report from each Kansas jurisdictional electric utility detailing any virtual transactions undertaken in the SPP day-ahead market (Monthly Virtual Transaction Report). Staff reviews these reports to ensure that only virtual transactions with a legitimate hedging basis are recovered from Kansas ratepayers.

During Staff's audit of Empire's participation in the IM, Empire provided Staff with a reconciliation that documented and verified all Empire IM activity for the audited months. This reconciliation relied on the SPP IM Monthly Activity Report discussed above, weekly SPP

⁵ Empire and Evergy Metro each voluntarily agreed to the reporting requirements originally approved by the Commission for Westar Energy in Docket No. 14-WSEE-208-TAR (14-208 Docket). See items 15 and 16 in Attachment A of the Order Approving Tariff Revisions issued on February 25, 2014, in the 14-208 Docket.

settlement statements, and a reconciliation spreadsheet prepared by Empire that tied net general ledger accounting data for the month back to the corresponding settlement statement and the Monthly Activity Report. Staff verified the weekly settlement invoices and compared the invoice totals with those in the invoice reconciliation spreadsheet. Staff also verified Empire's IM purchase and sales amounts were as presented in the Monthly Activity Report.

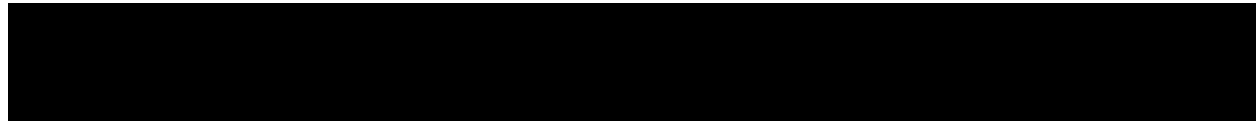
In Staff's review of Empire's IM revenue and costs, Staff determined that the SPP settlement statements and the Monthly Activity Reports were accurately reported on Empire's general ledger and tied to Empire's ACA Application for the sample months audited.

Analysis of All-in Fuel Cost

In each of the previous ACA audits, Staff presented a Kansas retail all-in fuel or total ECA cost calculation. The calculation includes the production fuel costs, purchased power expense, emission allowances, less revenues generated from its SPP IM activity, which is then, apportioned to Kansas based on delivered MWh. Staff used the metric for performance tracking to guide discovery requests and determine underlying trends or cost drivers that impact market performance. Outside factors, such as SPP wholesale energy prices and Kansas demand for energy, can drive changes in the total ECA costs passed on to its Kansas-jurisdictional ratepayers. For the 2020 ACA year, Empire's ECA eligible costs (apportioned to Kansas) totaled \$4,867,927, which represented a year-over-year reduction of \$757,156 or 13.46%. During this period, Empire's total kWh delivered to Kansas totaled 218,926,941 kWh, which equated to a reduction of 5.89% year-over-year. The total Kansas fuel and purchased power per kWh totaled \$0.02224, which represented a year-over-year decline of 8.05%.

Staff issued discovery requests asking Empire to provide a cost analysis and discuss drivers for the year-over-year decrease. In its confidential response to KCC Data Request No. 25, Empire provided a narrative, supporting workpapers, and management reports that analyzed the cost drivers of the ACA calculation. Due to the competitive nature of the market data, Staff will provide a confidential analysis section discussing the cost drivers of the ACA below.

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SPP wholesale energy prices are indirectly tied to changes in the regional natural gas markets.⁷ In its Annual State of the Market Report for 2020, the MMU explained that the average cost for natural gas (indexed at the Panhandle Eastern Pipeline market hub) totaled \$1.72/MMBtu in 2020, down \$0.21/MMBtu or 10.9% from 2019.⁸ For 2020, SPP's day-ahead prices averaged \$17.69/MWh, down about 20 percent year-over-year, and real-time prices averaged \$16.62/MWh, down about 20 percent year-over-year.⁹ In addition to the decline in natural gas prices in 2020, load saw a three percent reduction from 2020, pushing down supply offer curves and causing wind to be the predominant source of generation for several hours during the year. This reduction in energy consumption was affected by the pandemic-related slowdown of economic activity. This was coupled with wind generation as a percentage of load increasing steadily year over year, driving up the percentages of intervals with negative prices in both the DA and RTBM.¹⁰ In 2020, the day-ahead market resulted in negative pricing just over four and a half percent of all asset owner intervals, which is up from two percent in 2019.¹¹ The RTBM market experienced an increase in negative pricing intervals from just under seven percent in 2019 to just under eleven percent in 2020.¹² These market factors are consistent with the analysis presented by Empire.

While Empire's total ECA eligible costs increased year-over-year, Staff has generally observed a decline in Empire's fuel costs since the start of the SPP IM in 2014. As detailed in the above analysis, market factors can drive changes in the total fuel costs from year-to-year. Staff found that Empire provided a detailed analysis of the cost drivers for the 2020 ACA, and Empire's analysis is consistent with the SPP IM data presented in the Annual State of the market report.

SPP IM Benefit to Kansas Ratepayers

In order to evaluate whether Empire's participation in the IM provided benefits to its Kansas customers in 2019, Staff relied on SPP's calculation of the regional marketplace benefit, and Empire's analysis of the SPP IM benefit in its simulation model. Staff requested SPP provided an updated calculation of the regional benefit produced by the SPP IM in 2019 and from the inception of the SPP IM in 2014. Based on SPP's analysis, the SPP IM provided a net regional benefit of \$744.3 million from its energy and regulation markets in 2020, and roughly \$4.22 billion in

⁶ See Empire's confidential response to KCC Data Request No. 25.

⁷ The MMU has primarily used the Panhandle Eastern Pipeline as an index price in its Annual State of the Market Reports.

⁸ See the SPP Annual State of the Market Report for 2020, page 124.

⁹ See *Id.*

¹⁰ See *Id.*

¹¹ See *Id.*, page 141.

¹² See *Id.*

regional benefits from its inception. This information suggests Empire's participation in the SPP IM has produced some benefits to Kansas ratepayers in 2020.

Staff issued formal discovery requesting Empire provide an analysis examining the estimated benefit/savings produced by the SPP IM Consolidated Balancing Authority versus the costs to serve retail customers with the Company's generating units and reasonable access to wholesale markets. In response, Empire provided a simulation model. The model estimates the net cost of fuel and purchase power to supply Empire's native load using its generation resources and then, compares the simulation results to its operating results under the SPP IM. Unit availability, cost of fuel, renewables output, and actual load are inputs to the model, and the results were analyzed and adjusted to include cost that would be present in both scenarios. The results showed that by participating in the IM, Empire reduced costs by an estimated ** [REDACTED] ** in 2020.¹³

Staff has not performed a comprehensive review of the benefits and costs derived from Empire's participation in the various components of the SPP IM. Staff's analysis focused on short-run marginal costs of generating and transmitting power to serve Empire's load. In this review, Staff has observed a decline in Empire's all-in costs to serve its load during the 2020 ECA period and since the implementation of the SPP IM. Based on the available data from SPP, the modeled results performed by Empire, and the overall decline in Empire's ECA costs since the start of the SPP IM, Staff's analysis suggests that the SPP IM is benefitting Empire's Kansas customers.

Performance Review of Empire's Coal Units

In the 20-242 Docket, Staff performed a comprehensive review of Empire's operational strategies for managing the self-commitment of its coal units and evaluated the market performance of the units. Staff plans to incorporate a performance review of Empire's coal units in its yearly audit of SPP market activity. As part of the discovery process, Staff issued a performance template requesting monthly market data for Empire's coal units in 2020. In this Report, Staff evaluates the market performance of Empire's unit by analyzing the short-run production margins generated by Empire DA energy and operating reserve market activity. Next, Staff analyzes the DA energy margins of Empire coal units during the unit's self-commitment in the SPP IM. The calculation relies on the DA energy revenue compared against the short-run production margins recoverable under SPP's mitigated offer guidelines. Mitigated offers are intended to capture incremental production costs, including the appropriate application of opportunity costs, for the unit providing services in the SPP energy or operating reserve markets.¹⁴ Market participants are required to submit a mitigated offer curve in accordance with the market protocols.¹⁵ The MMU evaluates mitigated offers to determine if the production costs qualify for recovery. Finally, Staff will

¹³ See Empire's confidential response to KCC Data Request No. 20. Empire's estimation of cost savings from the SPP IM were modeled using an energy marketing modeling software. Empire's analysis focused on benefits resulting from the consolidation of SPP into a single balancing authority, which is only a small part of the SPP IM. The estimated cost savings calculation is not meant to be a comprehensive analysis of Empire's benefits from participation in the SPP IM.

¹⁴ SPP's mitigated offer guidelines can be found in Appendix G of the Integrated Marketplace Protocols.

¹⁵ A market participant's offer may be mitigated when the market participant is found to have market power or when the offer exceeds SPP's conduct threshold and impact screening.

analyze trends in market activity including the DA energy margins, the volume of self-committed energy, and the number of hours the units were self-committed from 2019 – 2020.

Empire’s Coal Generation Facilities

For reference, Staff provided a table of Empire’s coal generation facilities, its ownership interest in each facility, and the nameplate capacity of the facility provided in the FERC Form 1 Report. Staff would note that Empire has full control of its bidding practices for the Asbury coal unit, which is solely owned by Empire. Empire officially retired the Asbury Generating Station on March 1, 2020; however, the Asbury unit did not clear the unit commitment process for economic dispatch during January and February of 2020. Staff would note that Empire is a minority owner of its Iatan and Plum Point generating units. As such, Empire does not have direct operational control over the unit commitment decisions of these coal units.

EMPIRE COAL GENERATION FACILITIES: Ownership Interest & Name-Plate Capacity				
Generation Facility	Ownership	Ownership Percentage	2019	2020
Iatan	Co-owned	12%	210.47	210.47
Plum Point	Co-owned	7.52%	50.00	50.00
Plum Point	PPA	7.52%	50.00	50.00
Asbury	Owned	100%	212.80	212.80
Data: FERC Form 1				

Performance Review and Self-Commitment Analysis of Empire’s Coal Units

Empire’s market activity contains data for competitive services provided in a wholesale energy market; therefore, Empire’s SPP IM data and the Staff’s comparative analysis of market performance to the prior year ACA period will be considered confidential. Staff aggregated Empire’s monthly market performance data for the 2020 ACA period from Empire’s confidential response to KCC Data Request No. 27. For prior year comparison data, Staff aggregated the monthly market activity from Empire’s response to Staff discovery in the 20-242 Docket. Empire’s monthly market data is contained in Schedules No. 1 through Schedule No. 4, which is included in Confidential Appendix A of this Report.

For each schedule, Staff provides a comparative analysis of year-over-year trends in the self-commitment of Empire’s coal units. Staff’s analysis includes: the short-run production margins Empire generated for each coal unit, the energy margins Empire generated while the unit was self-committed, the volume of self-committed energy, and the number of hours each unit was self-committed in the SPP IM during the ACA period.

Staff would note that Empire’s SPP IM activity in 2020 was impacted by the implementation of a tariff-related Revision Request No. 266 (RR 266) for Combined Interest Resource (CIR) that went live on August 1, 2020. Prior to August 1, 2020, Empire would bid its share of Iatan 1 and Iatan 2 on a daily basis for its 12% ownership share. Following the implementation of RR 266, Eversource

and Empire elected to register the joint-owned resource as a CIR, allowing the market clearing engine to clear each Iatan unit as a single resource, and then, post market revenue allocations to be dispersed to each [ownership] share in settlements based on designated ownership percentages. The revenue allocations would be posted through new billing determinants and the addition of two new charge types¹⁶ to effectuate the allocation of settlement dollars for the units registered as CIRs based on the designated ownership percentages for the unit. As a result of the change in SPP IM data reporting, Staff's methodology for analyzing the plant for Iatan 1 and Iatan 2 results following the implementation of CIR reporting following August 1, 2020.¹⁷

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[Redacted]

[Redacted]

[Redacted]

¹⁶ SPP's new charge types include: Day-Ahead CIR Adjustment Amount (DACirAdjDlyAmt) and Real-time CIR Adjustment Amount (RtCirAdjDlyAmt).

¹⁷ Staff will discuss changes in its methodology for Iatan 1 and Iatan 2 for Schedules presented in Confidential Appendix A.

¹⁸ The Schedule No. 1 table reproduces the monthly DA production margin found in Confidential Appendix A, Schedule No. 1.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

¹⁹ ** [REDACTED] **

²⁰ See Empire's confidential response to KCC Data Request No. 27. ** [REDACTED] **

[Redacted]

[Redacted]

[Redacted]

[Redacted]

²¹ See Appendix A: Schedule No. 2 for the monthly calculation of DA energy margins by coal unit.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

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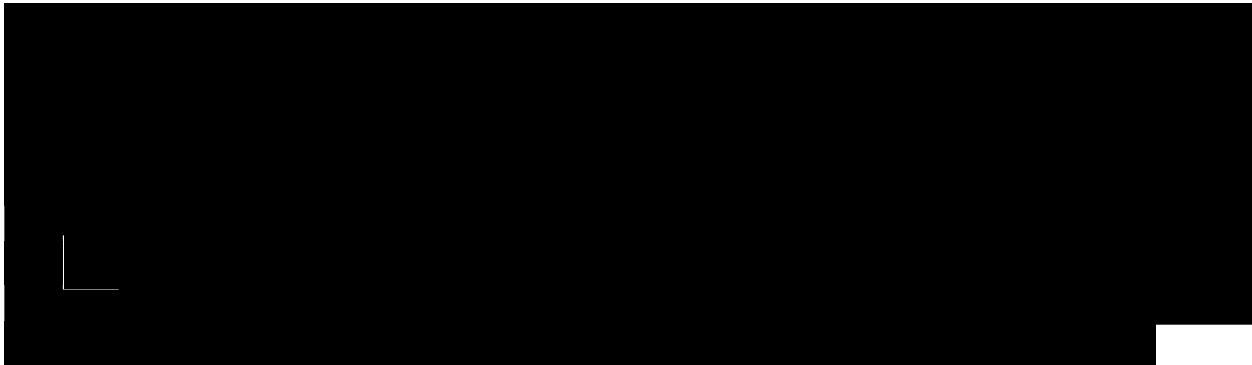
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²² See Appendix A, Schedule No. 3 for Staff's monthly calculation of Empire's volume of self-committed MWhs for each coal unit.



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Findings of the Market Performance Analysis

Staff’s methodology of aggregating monthly self-commitment data and looking at the market performance of Empire’s coal units is consistent with the approach utilities use to manage their coal operations in the SPP IM. In its 2018 ACA Report, Staff detailed the limitations of SPP’s current unit commitment optimization in evaluating resources with long lead times and high start-up costs. Due to these limitations, electric utilities rely on their own forecasting methodologies and the forecasts published by SPP to determine if the projected revenue of a coal unit is likely to support the unit operations over the anticipated market window. If projected revenues exceed the unit’s short-run marginal cost, a contribution margin is produced, which contributes to the fixed operating and maintenance cost recovery of the unit. As such, the operation of the unit is economically beneficial to ratepayers even though the net sales revenue may not cover the full operating costs of running the unit. For this reason, the fixed operating and maintenance costs are considered “sunk costs” in the near-term. As stated in last year’s ACA report, Staff believes a contribution margin analysis is an appropriate measure for evaluating the market performance of coal units in ACA proceedings. At its basic level, a contribution margin analysis provides a threshold determination of whether Empire’s market strategies for the self-commitment of its coal units are providing value to ratepayers.

The year-over-year reduction in self-commitment was the result of low wholesale energy prices in the SPP IM, resulting in reduced unit output and thinner DA energy margins. These findings are consistent with Kansas utilities approach to managing unit commitment for their coal units. These strategies are detailed in the comprehensive review of its self-commitment practices presented in Staff’s 2018 ACA Report. In aggregate, Empire’s market strategies for managing its coal units

²³ See *Id.*, Schedule No. 4 for Staff’s monthly calculation of the number of operating hours Empire’s coal units were self-committed in the SPP IM.

²⁴ While Staff does not have data for the number of operating hours Iatan 1 and Iatan 2 units were self-committed for August – December of 2020, Iatan 1 and Iatan 2 had a limited number of self-committed operating hours during these months in 2019.

have produced monthly contribution margins at its units that help support the fixed cost recovery of the assets. During self-committed operation, Empire's coal units produced day-ahead energy revenues in excess of the unit's production costs throughout the vast majority of operating months. Based on its performance audit, Empire's market strategies appear to be successful in generating a contribution margin when the units are self-committed; and therefore, Staff is not recommending any disallowances in Empire's 2020 ACA.

Following the registration of the units as CIRs in August of 2020, Empire relies primarily on Evergy Metro to evaluate the self and market commitment of the Iatan units and receives a share of the revenues, fuel, and production costs for the units. Following this change, Empire no longer receives individual market data from SPP and instead receives aggregated data through a DA and RT charge type. As such, Empire could not submit data for Iatan 1 and Iatan 2 from August through December of 2020 and will not have access to this data for the Iatan units in future rate years. This data is presented in Evergy Metro's ACA, and would be consistent with Empire's proportional ownership share of the revenues and expenses for the Iatan units. In addition, Empire's Plum Point unit sells a majority of its energy into the MISO market while its minority interest is self-committed in the SPP IM. As such, Empire primarily self-commits its share in SPP to make sure the units operate in alignment with the commitment of the unit in MISO. These arrangements leave Empire with limited control of the self-commitment of its coal units following the retirement of Asbury. Given the limited nature of Empire's control of SPP IM market activity for its coal units and the change in Iatan 1 and Iatan 2 SPP registration, Staff plans to present a more limited version of its self-commitment analysis for Empire's coal units in future ACA audits.

RECOMMENDATION:

Staff recommends that the Commission approve Empire's ACA factor of \$0.00046 per kWh. Staff will continue to monitor Empire's performance and participation in the IM and will provide period updates to the Commission regarding this issue as often as desired.

REDACTED APPENDIX A:
Market Performance Analysis of Empire's Coal Units
Schedules Nos. 1 – 4

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CERTIFICATE OF SERVICE

21-EPDE-198-ACA

I, the undersigned, certify that a true and correct copy of the above and foregoing Notice of Filing of Staff's Report and Recommendation (Public) this 29th day of September, 2022, to the following:

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