

**Attorney for Commission Staff**



## **REPORT AND RECOMMENDATION UTILITIES DIVISION**

**TO:** Chair Dwight D. Keen  
Commissioner Shari Feist Albrecht  
Commissioner Jay Scott Emler

**FROM:** Chad Unrein, Managing Auditor/FERC Affairs Specialist  
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**DATE:** February 26, 2019

**SUBJECT:** Docket No. 18-EDPE-231-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), followed by an amended Application. Empire requests an amended ACA factor of \$0.00083 per kWh in order to recover \$184,545 of under-recovered fuel and purchased power expenses from retail customers during the ACA period ending October 31, 2017. Staff conducted an audit of Empire’s Application, as discussed below, and recommends approval of Empire’s requested 2017 ACA factor.

### **BACKGROUND:**

On December 1, 2017, Empire filed an Application requesting approval of its ACA. Attached as Appendix A, Schedules 1-5 to Empire’s filing is the annual calculation of the over/under recovery of energy costs for the Energy Cost Adjustment (ECA) year ending October 31, 2017, and the annual calculation of over/under refund of the prior year’s off-system sales margins (Kansas jurisdictional) that flow through the ECA. Appendix A, Schedule 2 of the original Application shows an \$831,752 over-recovery of 2017 ECA costs. Based on this over-recovery, Empire calculated a new ACA factor of (\$0.00375) per kWh to be returned to Kansas customers.

On December 28, 2017, Empire filed an amended Application. Appendix A, Schedule 2 of the amended filing shows an \$184,545 under-recovery of 2017 ECA costs and an amended ACA

factor of \$0.00083.<sup>1</sup> Jill M. Schwartz, Senior Manager of Rates and Regulatory Affairs for Liberty Utilities Central Region, provides testimony describing Empire's fuel supply and generation planning practices during the ACA year ending October 31, 2017. Ms. Schwartz also discusses how the implementation of the Southwest Power Pool (SPP) Integrated Marketplace (IM) has impacted Empire's cost to serve retail customers.

On March 1, 2014, SPP implemented the Integrated Market (IM).<sup>2</sup> 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 Auction Revenue Rights (ARRs) and Transmission Congestion Rights (TCRs);
- Multi-Day Reliability assessment to manage the commitment of long-start resources; and
- Market Monitoring and Mitigation with an internal Market Monitoring Unit.<sup>3</sup>

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 1-5. Staff performed the majority of its audit in-house using the information gathered through this process. Once the desk audit was complete, Staff met with Empire at its corporate office in Joplin, Missouri. This meeting allowed Staff to further question Empire about information provided in response to discovery requests and to review Empire's coal and rail transportation contracts. Staff notes that Empire personnel were open and forthcoming when answering questions and provided requested supporting documentation. Staff audited Empire's actual fuel costs for the following months: March, April, May and June 2017. For these months, Staff conducted an audit of the Application that consisted of:

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<sup>1</sup> According to the original Application, journal entries for the ACA refunds that were credited to customers as a result of 2015 and 2016 over-recoveries of fuel costs were inadvertently recorded in 2016 and 2017 as revenue received on the general ledger and original reconciliation. The amended Application corrects this accounting error. See page 23 of the direct testimony of Jill M. Schwartz for an explanation of this amendment.

<sup>2</sup> See FERC, *Order on Compliance Filing*, January 29, 2014, Docket Nos. ER12-1179 and ER13-1173; [https://elibrary.ferc.gov/idmws/file\\_list.asp?document\\_id=14181773](https://elibrary.ferc.gov/idmws/file_list.asp?document_id=14181773).

<sup>3</sup> *Southwest Power Pool, Inc.*, 141 FERC ¶ 61,048 (2012) (October 2012 Order).

- Testing the accuracy of the monthly Settlement Computations;
- 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, 2017.

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 above, Staff's expanded ACA audit includes the review of Empire's participation in the SPP IM during 2017. Staff solicited 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. Determine whether Empire's participation in the IM is providing benefits to Empire's Kansas ratepayers.

### Processes & Control Procedures

In order to examine Empire's control procedures entailing verification of its SPP IM billing statements, Staff issued formal discovery requests based on the findings found in its review of the Empire ACA in 2016.<sup>4</sup>

Staff requested information regarding the software application that Empire utilizes to interact with the IM and documentation of Empire's process and control procedures.<sup>5</sup> Empire continues

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<sup>4</sup> See Staff's Report & Recommendation in Docket No. 17-EPDE-226-ACA (October 20, 2017).

<sup>5</sup> Shadow settlements are settlement statements independently recalculated by the utility to check against the daily settlement statements produced by SPP. A settlement statement contains all of the daily charges related to the IM for that operating day by charge type.

to use Power Costs, Inc. (PCI) software suite, which includes PCI's GenBase and GenManager to manage its generation portfolio and Application Programmable Interface interactions with the SPP IM. The PCI software updates are provided by the vendor to accommodate SPP initiated changes in the API or market protocols. Empire software systems remain unchanged from the 2016 ACA audit, and a detailed review of Empire's software can be found in Staff's Report and Recommendation in Docket No. 15-EPDE-228-ACA.

In prior audits, Empire provided Staff with detailed work flow charts that documented Empire's processes, procedures, and controls encompassing all SPP IM activities. In 2017, Empire did not have any changes or additions to the processes and procedures for SPP IM activities. Staff examined Empire's processes for DAM and RTBM activities, shadow settlement, verification of settlement statements, and booking the monthly activity into the General Ledger. As part of Empire's shadow settlement system, Empire uses its own meter data to independently calculate SPP IM activity which is then checked against the daily settlement statements produced by SPP. The daily settlement statement contains all of the daily charges related to the IM for that 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 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

In order to examine whether Empire was diligently managing its risks associated with the IM in 2017, Staff issued formal discovery requests regarding Empire's procedures for determining the profitability of incremental market sales associated with the SPP IM. The actual accounting processes, calculations, and strategies are complex and highly confidential, yet this information is available to the Commission if there be a desire to review it.

Staff also 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. Staff examined Empire's practices for developing and updating fuel costs and variable operating and maintenance costs associated with developing its resource offers. Empire calculates and tracks the profitability of its generating units on an hourly basis for both DAM and RTBM. Empire summarizes market activity in a daily and monthly report containing a profit and loss analysis and revenue deficiencies by unit. Empire uses virtual transactions<sup>6</sup> to manage its wind

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<sup>6</sup> Virtual transactions are DAM 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 DAM and settles at the Settlement Location and period of time at the market price in the RTBM.

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 Empire's 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.

Staff issued several formal discovery requests regarding Empire's hedging strategies and procedures regarding its congestion management processes for ARR and TCR within the SPP IM.<sup>7</sup> In these responses, Empire discussed that its strategy was to self-convert all of its ARRs into TCRs in 2017. Under this strategy, Empire was successful in converting 100% of the ARRs it nominated. Empire remained active in managing its congestion exposure through ARR conversion, management of its Long-term TCR (LTCR) positions, and purchases via SPP monthly TCR auctions. Both Empire's congestion costs and the revenue generated from its ARR and TCR positions increased significantly in 2017. In total, Empire's congestion cost exposure in the day-ahead market totaled \$25.3 Million (M) while the revenue generated from its ARR/TCR positions totaled \$24.9 M for a total congestion hedge of 98.3%. In comparison to Empire's congestion management results in the 2016 ACA filing, Empire experienced congestion costs totaling \$8.9 M while the revenue generated from its ARR/TCR positions totaled \$8.1 M for a total congestion hedge of 91.3%. Empire actively manages its monthly positions and evaluates whether additional hedges are needed. If necessary, Empire will purchase TCRs in the SPP monthly TCR auction to close any gaps between awarded TCRs and planned day-ahead positions. While Empire has been active in monthly auctions in prior ACA years, Empire did not purchase any additional TCRs via the SPP monthly TCR auctions in 2017. Empire's LTCR positions contributed around 44% of its total congestion hedge while the remaining portion was attributable to self-converted TCRs. In order to better evaluate its TCR positions, Empire began using a software product from YES Energy to provide comprehensive ISO market data and visual analysis tools to help develop its strategies for congestion hedging. In Staff's evaluation, the strategies employed by Empire appear to have been successful as the value provided by the self-converted TCRs and LTCR positions covered most of Empire's realized day-ahead congestion in the IM during 2017.

Considering all of the above, Staff finds that Empire diligently managed the risks and profitability associated with the IM during 2017 and is taking the steps necessary to be successful in the IM.

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<sup>7</sup> ARRs and TCRs are congestion management products that allow market participants to hedge their exposure to Marginal Congestion Costs in the IM. ARRs are allocated to entities with firm transmission rights on the transmission system, for example, a vertically-integrated, investor-owned utility that uses its Network Integrated Transmission Service to serve its retail load. An ARR entitles the holder to a share of revenues generated in an applicable TCR auction, or the ARR may be converted into a TCR. A TCR allows a holder to be compensated or charged for congestion between two settlement locations in the DAM. ARRs (indirectly) and TCRs (directly) derive their value based on the difference between the congestion price at the source settlement location less the congestion price at the sink settlement location multiplied by the awarded MW quantity over the specific path.

### ACA Audit of Revenues and Costs

Prior to the go-live date of the IM, Staff implemented a monthly review process to be used to monitor the IM activity of the three vertically-integrated, investor-owned electric utilities in the State of Kansas. That process involves the submission of monthly financial reports to the Kansas Corporation Commission's (KCC) Utilities Division that details each Company's operations in the SPP IM (Monthly Activity Report).<sup>8</sup> These reports provide a summary-level view of how each electric utility is faring in the marketplace by IM charge type. For example, Staff can view at a glance the amount of MWhs of day-ahead or real-time asset energy Empire sold into the IM and for what total dollar amount. Likewise, the report summarizes by charge type what energy and operating reserve products Empire purchased from the IM for the month, the MWhs associated, and the net dollar impact of those products. Not only do these monthly reports provide Staff the ability to monitor on a monthly basis how Kansas electric utilities are performing in the IM, the reports also serve as a useful audit tool during the ACA audit. 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 and ultimately back to the Company's ACA Application to true-up over/under recovery of actual costs.

In addition to the Monthly Activity Report detailing IM energy and operating reserve activity, Staff also 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). These reports are reviewed 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 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 Staff verified that the data provided tied back to Empire's ACA Application for the sample months reviewed in the audit.

### SPP IM Benefit to Kansas Ratepayers

In order to evaluate whether Empire's participation in the IM provided benefits to its Kansas customers in 2017, Staff issued formal discovery and examined other publicly-available data provided by SPP. SPP has estimated that the IM has provided a net benefit to the region of \$545.6 M in 2017. This information suggests Empire's participation in the SPP IM produced

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<sup>8</sup> Empire and Kansas City Power & Light 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.

benefits for Kansas ratepayers in 2017. At the highest level, Empire's total ACA eligible costs were \$5,409,600 for the ACA year ending October 31, 2017, which was \$104,870 or 1.9% less than the 2016 ACA period. During the same period, total kWh delivered to Kansas decreased by 5.0%. Therefore, the 2017 total Kansas fuel and purchased power per kWh was \$0.02442 or a year-over-year increase of 3.3%. The primary driver for the increase in purchased power expense per kWh was increased cost of natural gas from \$3.01 per MMBtu in 2016 to \$3.27 per MMBtu in 2017.

Staff issued formal discovery requesting whether Empire had prepared 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 using a back-cast PROSYM model. The model estimates the net cost of fuel and purchased power to supply native load using Empire-owned generation. Unit availability, cost of fuel, renewables output, and actual load are inputs to the model, and the results were analyzed and adjusted to include costs which would be present in both scenarios. The results showed that by participating in the IM, Empire reduced costs by an estimated \$13,164,370, or 9.43%, in 2017.<sup>9</sup>

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 limited review, Staff has observed a decline in Empire's overall cost to serve its load since the implementation of the SPP IM. Based on the available data from SPP, the modeled results performed by Empire, and the decline in the overall cost to serve load, Staff's analysis suggests that the SPP IM is benefitting Empire's Kansas customers.

#### **RECOMMENDATION:**

Staff recommends that the Commission approve Empire's revised ACA factor of \$0.00083 per kWh. Staff will continue to monitor Empire's performance and participation in the IM and will provide periodic updates to the Commission regarding this issue as requested.

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<sup>9</sup> Empire's estimation of cost savings from the SPP IM were modeled using PROSYM, 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.



**VERIFICATION**

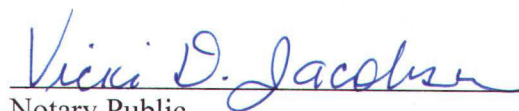
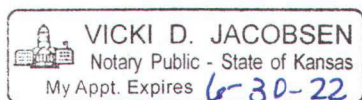
STATE OF KANSAS                    )  
  ) ss.  
COUNTY OF SHAWNEE            )

Robert E. Vincent, of lawful age, being duly sworn upon his oath deposes and states that he is Litigation Counsel for the State Corporation Commission of the State of Kansas; that he has read and is familiar with the foregoing *Notice of Filing of Staff's Report and Recommendation*, and attests that the statements therein are true and correct to the best of his knowledge, information and belief.



Robert E. Vincent, S.Ct. #26028  
Senior Litigation Counsel  
The State Corporation Commission  
of the State of Kansas

SUBSCRIBED AND SWORN to before me this 7th day of March, 2019.

  
Notary Public

My Appointment Expires: 6-30-22

## CERTIFICATE OF SERVICE

18-EPDE-231-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 was electronically served this 7th day of March, 2019, to the following:

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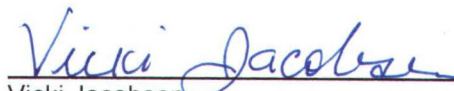
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