

**BEFORE THE STATE CORPORATION COMMISSION
OF THE STATE OF KANSAS**

In the Matter of the Application of Southern)
Pioneer Electric Company for Approval of the) Docket No. 15-SPEE-357-TAR
Demand Response Peak Time Rebate Pilot)
Program)


**NOTICE OF FILING OF STAFF'S
REPORT AND RECOMMENDATION**

The Staff of the State Corporation Commission of the State of Kansas ("Staff" and "Commission," respectively), files its Report and Recommendation and states the following:

Staff hereby files the attached Report and Recommendation and recommends the Commission approve Southern Pioneer Electric Company's Demand Response Peak Time Rebate Pilot Program. Staff recommends the program be approved effective upon the issuance of a Commission order. Staff further recommends that Southern Pioneer Electric Company resubmit its proposed tariff with updated dates. These modifications, and an analysis of Southern Pioneer Electric Company's request are discussed in greater detail in Staff's Report and Recommendation.

Wherefore, Staff submits its Report and Recommendation for Commission review and consideration, and for such other relief as the Commission deems just and proper.

Respectfully submitted,


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**REPORT AND RECOMMENDATION
UTILITIES DIVISION**

TO: Chair Shari Feist Albrecht
Commissioner Jay Scott Emler
Commissioner Pat Apple

FROM: Jon Wilson, Research Economist
Lana Ellis, Deputy Chief of Economics and Rates
Robert Glass, Chief of Economics and Rates
Jeff McClanahan, Director of Utilities

DATE: June 9, 2015

SUBJECT: Docket No. 15-SPEE-357-TAR: *In the Matter of the Application of Southern Pioneer Electric Company for Approval of the Demand Response Peak Time Rebate Pilot Program.*

EXECUTIVE SUMMARY:

Southern Pioneer Electric Company (Southern Pioneer) is seeking approval to join Mid-Kansas Electric Company's (MKEC) other member organizations in a Demand Response Peak Time Rebate Pilot Program (Pilot Program or Program). The Pilot Program offers compensation on a per kWh basis to participants who curb energy usage during peak times. Southern Pioneer provided benefit/cost tests of the Pilot Program. Based on the favorability of the benefit/cost tests and other factors, Staff recommends approval of the Program.

BACKGROUND:

On February 16, 2015, Southern Pioneer filed an Application requesting approval of the Pilot Program. The Pilot Program will be a voluntary program limited to the first 100 customers that apply from a pool of 1,000 Southern Pioneer customers with at least 5,000 kWh of usage during 2014. The small number of customers that will be part of the Pilot Program is to keep the Program costs down while providing a sufficiently large customer pool to meaningfully evaluate the Program's effect.¹

¹ Steven A. Fenrick, Direct Testimony, Docket No. 15-SPEE-357-TAR, p. 7 (unnumbered).

The Pilot Program would be part of a larger initiative on the part of MKEC, the Generation and Transmission power supplier for Southern Pioneer. MKEC and Sunflower Electric Power Corporation (Sunflower)—MKEC’s sister company—requested that all of their cooperative distribution member-utilities (member cooperatives) begin developing demand response programs because of the expected generation capacity short-fall for MKEC beginning in 2019. MKEC would like to find out whether demand response programs can be a least-cost substitute for either: (1) building new generation capacity; or (2) purchasing capacity from third parties. In order to obtain the appropriate data to make the least-cost determination, MKEC is initiating pilot demand response programs in all of the member cooperatives.

ANALYSIS:

Pilot Program

How will the Program Operate?

Customers that enroll in the Pilot Program will be notified by either an email or text, or both, of a peak event. The participants will then decide whether to reduce their electricity usage. If participants do reduce their usage, then they are credited with \$0.75 per kWh saved during the event. If the participants in the Program do not reduce their usage, their bills will be calculated as before. The non-participants in the Program will also have their bills calculated as before. The Program is designed for June, July and August 2015.² At the end of the summer, all of the participants will be mailed a survey. After completing and returning the survey, all participants will receive a rebate check based on their savings of electricity during the called events or \$10 if the amount of their savings is less than \$10.^{3,4}

How much will the Program Cost?

MKEC’s total estimated budget for the Pilot Program is \$112,500. The budget includes expenses of the pilot programs for Southern Pioneer and each of the other cooperatives. The Program costs will be recovered through the MKEC wholesale energy cost adjustment (ECA). Each cooperative will be allocated its portion of the total cost based on its load share. Southern Pioneer’s Load Share Ratio, in relation to MKEC overall, is 34.3 percent which results in \$38,587.50 being Southern Pioneer’s allocated cost of the Pilot Program.

Each of MKEC’s other cooperatives, which are not regulated by the Commission, will implement the Pilot Program regardless of whether or not approval is given to Southern Pioneer

² Southern Pioneer has recruited 100 customers and the Program is in place. Southern Pioneer will begin implementing the Program once they have Commission approval.

³ Steven A. Fenrick, Direct Testimony, Docket No. 15-SPEE-357-TAR, p. 5 (unnumbered).

⁴ DR 11 “The \$10 rebate check requires that the participant complete and return the post-pilot survey, so it should not be assumed that participants can do nothing and still get a \$10 rebate check. The rationale for the \$10 is to provide an incentive for the participants to make the effort to fill out and send the post-pilot survey even if they did not reduce usage during the pilot.”

for its Pilot Program. The marginal expense to Southern Pioneer for its Pilot Program alone is only \$737.50. Thus the rate impact is \$0.00005 per kWh sold.⁵

Economic Evaluation of the Peak Demand Pilot Program

Benefit/Cost Tests

Four benefit/cost tests are required as part of applications for Energy Efficiency programs: Participant Test, Ratepayer Impact Measure (RIM), Program Administrator Cost Test, and Total Resource Cost Test (TRC). The Commission emphasizes the RIM and TRC Test.⁶

Southern Pioneer provided each of the necessary benefit/cost tests. The RIM Test provided had a benefit/cost ratio of 2.5. Because there are no lost revenues expected, the Program Administrator Cost Test is the same as the RIM Test.⁷ The TRC Test's benefit/cost ratio was 6.8. The Participant Test was described as infinite—having all benefits and no costs.

As discussed below, Power Systems Engineering (PSE) assumes a reduction in peak demand valued at \$180 per kW annually. Given the low cost of the Program, the benefit-cost ratios would remain above 1.0 even if actual value of the peak demand reduction were substantially lower than the \$180 estimate.⁸ Therefore, the Pilot Program meets the Commission's requirements.

Benefits

The primary intangible benefit of the Pilot Program is the information acquired because of the Program. The Program's tangible benefits are the result of the expected peak load reduction of 0.3 kW per participant. Assuming that the Program will be fully subscribed with 100 customers, the Program would provide MKEC with a reduction in peak demand of 30 kW. These results are based on the data from Heartland Rural Electric Cooperative that has a similar program.

PSE assumes a \$180 annual value for the reduction in peak demand of one kW. Since the peak demand goes upstream to MKEC, Southern Pioneer will get its load share of the value of the 30 kW reduction in peak load or \$1,852.

⁵ DR Response of Steven Fenrick, May 15, 2015.

⁶ Docket No. 08-GIMX-442-GIV, Order Following Collaborative, Apr. 13, 2009, p. 7-8.

⁷ Direct Testimony of Steven Fenrick, Docket No. 15-SPEE-357-TAR, p. 11; P. 9, Ln 24-p. 10 Ln 2 (unnumbered). "PSE is assuming the program will be energy-neutral; that is, any energy reduced by participants during peak events will result in higher energy use either prior to the peak events (referred to as pre-cooling) or subsequent to the peak events (known as rebound cooling)."

⁸ Staff notes that in the past it has assumed \$57 as the value of kW reduced. However, this is based on Westar's Emporia Energy Center that came on-line in 2008 and does not represent the cost of new natural gas peaking generation in Western Kansas. The budgeted cost of the Rubart Station gas generation that came on-line more recently was \$130 million for 110 MW of capacity, or about \$118 per kW.

Costs

Costs include rebates, rebate and M&V calculation costs, and mailing and other communication costs. As mentioned before, the total marginal cost attributable to Southern Pioneer's participation in the Pilot Program is only \$737.50. Thus, even if the dollar value of a kW reduction in peak load is cut in half, the benefits outweigh the cost.

Evaluation, Measurement and Verification (EM&V) after the Pilot Finishes

The EM&V for the Pilot Programs will be done by PSE, the consulting group that worked with MKEC to develop the Pilot Programs. MKEC wants to know more than how much demand was reduced by the Program. It also wants to know how best to structure the Program. Does it make a difference if people are notified the day before an event or just the morning of the event? How does the event's length (two, four, or six hours) affect customer performance? Does it make a difference if the event is called for the afternoon or for evening?

PSE will take advantage of the interval data available from the near universality of AMI meters in MKEC's cooperative service territories to statistically evaluate the Pilot Programs along each of the above dimensions. To get this detailed level of analysis, the contestants from the MKEC residential pilots will be divided into six separate study groups. Two of the study groups will be held back and not called for each event. The other four groups will be used to test the kW savings and the effects of different timing on the kW savings: day before vs. the morning of the event; length of the event (two, four, or six hours); and whether the event was in the afternoon or in the evening. The study group roles will be rotated so that a different two groups will be the baseline for the next event.

Post-pilot surveys will also be sent out to help evaluate the potential Program impacts and to determine next steps and whether to extend the Program.⁹

Summary

Having worked with PSE several times before, Staff is comfortable with PSE's ability to perform the sophisticated EM&V outlined above.

RECOMMENDATION:

Staff recommends approval of the Pilot Program effective immediately following the Order. Staff also recommends Southern Pioneer resubmit the tariff with the updated date consistent with the Order. Given the limited marginal cost of Southern Pioneer as a proportion of MKEC, benefit-cost ratios support approval of the Pilot Program. Southern Pioneer's request for the Pilot Program was to run from June 1, 2015 through August 31, 2015. Southern Pioneer has recruited 100 customers and the Program is in place. Southern Pioneer will begin implementing

⁹ Exhibit 1 and Fenrick, p. 6.

the Program once they have Commission approval. In order to allow for participation in the most peak events, Staff also recommends the Pilot Program be approved effective immediately and to run through August 31, 2015.

CERTIFICATE OF SERVICE

15-SPEE-357-TAR

I, the undersigned, hereby certify that a true and correct copy of the above and foregoing Notice of Filing of Staff's Report and Recommendation was served by electronic service on this 10th day of June, 2015, to the following:

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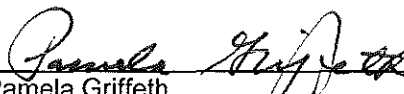
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