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

Before Commissioners: Shari Feist Albrecht, Chairman
Jay Scott Emler
Dwight D. Keen

In the Matter of the Application of Kansas City Power & Light Company for Approval To Extend its Demand-Side Management Programs.	))))	Docket No. 18-KCPE-124-TAR

NOTICE OF FILING OF STAFF'S REPORT & RECOMMENDATION [PUBLIC VERSION]

COMES NOW, the Staff of the Kansas Corporation Commission (Staff and Commission, respectively), and files the public version of its Report and Recommendation regarding Kansas City Power & Light Company's (KCP&L) application for approval to extend its Demand-Side Management Programs.

WHEREFORE, Staff submits it's 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
[PUBLIC VERSION]

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

FROM: Darren Prince, Senior Research Economist
Lana Ellis, Deputy Chief of Economics and Rates
Bob Glass, Chief of Economics and Rates
Jeff McClanahan, Director, Utilities Division

DATE: April 16, 2018

SUBJECT: Docket No. 18-KCPE-124-TAR: In the Matter of the Application of Kansas City Power & Light Company for Approval to Extend its Demand-Side Management Programs

EXECUTIVE SUMMARY:

On September 11, 2017, KCP&L filed its Application requesting Commission approval to continue five of the six existing DSM programs—Income-Eligible Weatherization (IEW), Home Energy Analyzer, Business Energy Analyzer, Building Operator Certification (BOC), and Programmable Thermostat (PT)—for five additional years, with one minor modification regarding BOC Program tuition reimbursement amounts. On September 16, 2017, KCP&L filed an Addendum to supplement its Application with additional information and budget support for its low-income and educational programs and requested the Commission accept the Addendum as incorporated into the Application.[1] In addition, KCP&L filed a second addendum on March 5, 2018, requesting to terminate three of the DSM programs (Cool Homes, Energy Star New Homes, and Energy Audit and Energy Measure Rider) it had previously requested to terminate in Docket No. 16-KCPE-446-TAR (16-446 Docket) Application.

Because the educational and income-eligible programs are in the public interest and because exceeding the five percent guideline is due to fewer non-education programs remaining in the portfolio (not because of program growth), Staff recommends the Commission waive the five

[1] 18-124 Docket Addendum to Application of Kansas City Power and Light Company.

percent budget guideline and allow KCP&L to continue the BOC, Online Education, and IEW Programs. The PT Program passed all the benefit-cost tests and is supported by a reasonable budget, but a Kansas-specific EM&V has not been completed on the Program since 2007. Therefore, Staff recommends the Commission continue the PT Program with the condition KCP&L uses the program to collect Kansas-specific data, sufficient for a reevaluation of the amount of capacity saved during a cycling event. Finally, Staff recommends the Cool Homes, Energy Star New Homes, Energy Audit and Energy Measure Rider, and Demand Response Incentive Rider Programs be terminated because the programs have been phased out and all obligations to program participants have been met.

BACKGROUND:

In 16-446 Docket, the Commission approved the continuation of the following six programs comprising Kansas City Power & Light Company's (KCP&L) current Demand-Side Management (DSM) portfolio through September 30, 2017: IEW; Home Energy Analyzer; Business Energy Analyzer; BOC; PT; and Demand Response Incentive Rider.[2] These programs were originally implemented as pilot programs under the Settlement Agreement in Docket No. 04-KCPE-1025-GIE and were set to expire on December 31, 2016, without programs approved to replace them. After the Commission issued its Order in the 16-446 Docket, KCP&L withdrew its Application, as permitted by law, and did not implement the DSM programs and cost recovery mechanism approved by the Commission.

On September 11, 2017, KCP&L filed its Application in this Docket requesting Commission approval to continue five of the six existing DSM programs (IEW, Home Energy Analyzer, Business Energy Analyzer, BOC, and PT) for five additional years, with one minor modification that would change the reimbursement amount offered to BOC Program participants from a specific dollar amount per certification level to a percentage of tuition. KCP&L intends to continue recovering the costs of those programs through its existing Energy Efficiency Rider (EE Rider) and is not requesting any changes to its EE Rider at this time. KCP&L's Application also seeks to terminate the Demand Response Incentive Rider Program because the program has been completely phased out and KCP&L has no plans to offer the program again in the near future. KCP&L has proposed the following budgets for the programs:

[2] 16-446 Docket Order Amending Procedural Schedule, December 15, 2016, ¶ 9. KCP&L has three additional DSM pilot programs that are currently frozen to new activity. See Commission Orders issued June 22 and July 13, 2011, in Docket Nos. 11-KCPE-690-TAR (Energy Star® New Homes), 11-KCPE-694-TAR (Energy Audit and Energy Saving Measures), and 11-KCPE-695-TAR (Cool Homes).

Table 1

Program	2017	2018	2019	2020	2021	2022	Total
Income-Eligible Weatherization	$ 10,750	$ 43,000	$ 44,200	$ 56,744	$ 46,709	$ 36,065	$ 237,468
Home/Business Energy Analyzer	$ 23,750	$ 95,000	$ 97,400	$124,733	$102,418	$ 78,781	$ 522,082
Building Operator Certification	$ 4,833	$ 20,433	$ 20,433	$ 25,536	$ 20,433	$ 15,503	$ 107,171
Programmable Thermostat	$ 56,250	$240,000	$246,750	$316,827	$260,864	$204,930	$1,325,621
Total	**$ 95,583**	**$398,433**	**$408,783**	**$523,840**	**$430,424**	**$335,279**	**$2,192,342**

Program	2017	2018	2019	2020	2021	2022	Total
Low Income Weatherization	11%	11%	11%	11%	11%	11%	11%
Home/Business Energy Analyzer	25%	24%	24%	24%	24%	23%	24%
Building Operator Certification	5%	5%	5%	5%	5%	5%	5%
Programmable Thermostat	59%	60%	60%	60%	61%	61%	60%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Concurrent with the filing of the Application, KCP&L, Commission Staff (Staff), and the Citizen's Utility Ratepayer Board (CURB) filed a joint motion requesting the Commission issue an interim order approving the continuation of the five programs beyond the September 30, 2017, end date, until further order of the Commission.[3] The Joint Motion for Interim Order also requested approval for KCP&L to use its unspent DSM budget to allow the continuation of the five programs on an interim basis. The Joint Motion for Interim Order was subsequently granted and the Commission approved the continuation of the programs until further order of the Commission and directed that the unspent DSM budget be used to fund the continuation of the programs until the Commission reached a final decision on the Application.[4]

On September 16, 2017, KCP&L filed an Addendum to supplement its Application with additional information and budget support for its low-income and educational programs and requested the Commission accept the Addendum as incorporated into the Application.[5] In addition to the requests contained within KCP&L's Application in this Docket, KCP&L filed a second addendum on March 5, 2018, requesting to terminate three of the DSM programs (Cool Homes, Energy Star New Homes, and Energy Audit and Energy Measure Rider) it previously requested to terminate in the 16-446 Docket's Application prior to its withdrawal.

ANALYSIS:

JURISDICTION

Pursuant to K.S.A. 66-101, the Commission is given full power, authority, and jurisdiction to supervise and control electric public utilities (as defined in K.S.A. 66-101a) doing business in Kansas and is empowered to do all things necessary and convenient for the exercise of such power, authority, and jurisdiction. Pursuant to K.S.A. 66-101a, electric public utility means any public

[3] Docket No. 18-KCPE-124-TAR (18-124 Docket) Joint Motion of Kansas City Power & Light Company, Commission Staff, and the Citizen's Utility Ratepayer Board for Interim Order (Joint Motion for Interim Order).

[4] 18-124 Docket Order Granting Joint Motion for Interim Order.

[5] 18-124 Docket Addendum to Application of Kansas City Power and Light Company.

utility (as defined in K.S.A. 66-104), which generates or sells electricity. Pursuant to K.S.A. 66-104a, public utility is defined (in relevant part) as all companies for the production, transmission, delivery, or furnishing of heat, light, water, or power. Pursuant to K.S.A. 66-101h, the Commission is granted, among other things, general supervision over all electric public utilities doing business in the state.

Kansas law grants broad authority to the Commission to ensure public utilities provide reasonably efficient and sufficient services and facilities at just and reasonable rates.[6] The provisions of the Public Utilities Act, and all grants of power, authority, and jurisdiction made to the Commission, are liberally construed, and the Commission is expressly granted "all incidental powers necessary to carry into effect the provisions of this act".[7] From these grants of power, the Commission has previously found it is authorized to approve DSM programs it finds are in the public interest.[8]

PROGRAM ANALYSIS

Education Programs (Home Energy Analyzer, Business Energy Analyzer, BOC)

Education Programs Description

The Home Energy Analyzer and Business Energy Analyzer programs (collectively referred to as Home/Business Energy Analyzer) are educational programs designed to increase awareness by providing information to customers to enable informed decisions about implementing energy efficiency measures.

The BOC Program is a training and certification program for building operators, managers, and consultants designed to encourage energy efficient operation of buildings. There have been approximately 63 graduates of the program since it began back in 2007. However, enrollment dropped to two participants in 2014 and dropped again to only one participant in 2015.[9]

Due to the small number of Kansas participants, KCP&L does not offer the BOC Program separately in Kansas but provides for Kansas customers to take program courses through its Missouri partnership. To encourage participation in the program, KCP&L offers participants a rebate for a portion of their tuition cost. Each student that is associated with a commercial property receiving electrical service from KCP&L who successfully completes the certification process is eligible for a rebate for each certification level completed.

KCP&L is proposing to continue the BOC Program with one small modification. This modification would change the tuition reimbursement amount per certification level from $575

[6] K.S.A. 66-101, 66-117.
[7] K.S.A. 66-101g.
[8] Final Order, Docket No. 07-GIMX-247-GIV, Oct. 10, 2007, ¶ 11.
[9] Direct testimony of Lana Ellis 16-446 Docket (Ellis 16-446 Direct), p. 18.

(currently specified in the tariff) to 50% of the cost per certification level. This change is necessary due to increased program tuition and to allow for future price changes should they occur.[10]

Standard of Review for Education Programs

The Kansas Energy Efficient Investment Act (KEEIA) became law in 2014 with the passage of House Bill 2482 (codified as K.S.A. 66-1283). KEEIA establishes, in part, that:

> In making its decision whether or not to approve the proposed program, the Commission shall determine the appropriate test for evaluating the cost-effectiveness of the demand-side program. Programs targeted to low-income customers or general education campaigns do not need to meet a cost-effectiveness test, so long as the Commission determines that the program or campaign is in the public interest and is supported by a reasonable budget in the context of the overall budget.[11]

Thus, under KEEIA, programs targeted toward low income customers or general educational campaigns may be approved so long as the Commission determines the program to be in the public interest and supported by a reasonable budget (in the context of the overall budget).[12] These statutory provisions reflect established Commission policy.

The Commission recognizes that educational programs are necessary to achieve the full potential of demand-side programs.[13] However, directly attributing energy efficiency savings to educational programs is difficult.[14] Accordingly, educational programs are not subject to traditional benefit-cost analysis.[15] However, the Commission has determined that educational programs need to be in the public interest and supported by a reasonable budget. The Commission stated a useful guideline for funding devoted to educational demand-side programs is five-percent of total funding devoted towards energy efficiency programs.[16] This was confirmed in the Commission's Order in the 16-446 Docket.[17]

Public Interest Analysis

In the Final Order of Docket No. 16-KCP-446-TAR (16-446 Final Order), the Commission found there was sufficient evidence to conclude the proposed Educational Programs (in this instance the Home/Business Energy Analyzer programs) are in the public interest because of their parameters,

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[10] At one time, $575 was equal to 50% of tuition cost as intended, but now only covers about 34% as tuition has risen to $1,695. Response to Date Request KCC-1.

[11] K.S.A. 66-1283(c)(1)(D).

[12] K.S.A. 66-1283(c)(1)(D).

[13] Docket No. 08-GIMX-442-GIV Order Setting Energy Efficiency Policy Goals, June 2, 2008 (08-442 June 2, 2008 Order), ¶ 42.

[14] 08-442 June 2, 2008 Order, ¶ 42.

[15] 08-442 June 2, 2008 Order, ¶ 42.

[16] Docket No. 08-GIMX-442-GIV Order Following Collaborative (08-442 April 13, 2009 Order), ¶ 32.

[17] 16-446 Final Order, ¶ 145. The five-percent budget guideline from the previous Commission Order on educational programs remains in effect and will result in ensuring the programs are supported by a reasonable budget.

descriptions, and target markets. Since the 16-446 Docket concluded, the Energy Analyzer programs' parameters, descriptions, and target markets have not changed. Given the unchanged nature of the programs from when the Commission last indicated its support of the programs, Staff believes the continued operation of these programs remains in the public interest.

In the 16-446 Docket, KCP&L proposed to terminate the BOC Program as a separate educational program and instead offer it as a marketing tool within the Business Energy Efficiency Rebate-Custom Program. Because BOC Program participation has fallen significantly over the past several years, Staff agreed the BOC Program should be terminated as a stand-alone program and recommended it be terminated as requested. However, Staff also recommended that KCP&L should be permitted to retain the BOC Program if the Business Energy Efficiency Rebate-Custom Program was not approved.

In its 16-446 Final Order, the Commission found KCP&L's request to terminate the BOC Program was supported by the record and was in the public interest.[18] However, because the Business Energy Efficiency Rebate Custom Program was not approved, the Commission permitted KCP&L to continue its BOC Program if it so chose. Except for the reimbursement amount change to 50% of tuition rather than a flat dollar value, which is in line with the program's original intent to reimburse half of the tuition cost, the BOC Program's parameters, description, and target market have not changed since the 16-446 Docket concluded. Given the unchanged nature of the program from when the Commission last indicated its support of the program, Staff believes the continued operation of the program remains in the public interest.

Reasonable Budget Analysis

As shown in Table 1, the $629,253 combined budget for the education programs is 29% of KCP&L's $2,192,342 energy efficiency portfolio budget, thus exceeding the five percent guideline. However, the programs met the five percent criteria when they were initially approved and would have continued to meet the criteria had the overall portfolio proposed in the 16-446 Docket been approved. In addition, exceeding the five percent guideline is not a result of program growth, but is due to fewer non-education programs remaining in the portfolio. Moreover, the sharing of the fixed costs of the online tools with Missouri customers significantly lowers the cost for Kansas customers.

KCP&L's educational program budgets exceeding the Commission's five percent guideline is a result of KCP&L reducing its other DSM offerings—not increases to KCP&L's educational program budgets. KCP&L should not be required, at this time, to reduce spending on educational programs the Commission has found to be in the public interest solely because KCP&L's total DSM offering has been reduced. Therefore, Staff believes an exception should be made to allow

[18] 16-446 Final Order ¶¶ 133, 150.

for exceeding the five percent guideline in this particular instance and recommends the Commission waive the five percent guideline.

Recommendation

Because the Energy Analyzer and BOC programs have been effective and are in the public interest and because KCP&L's educational program budgets exceeding the Commission's five percent guideline is a result of KCP&L reducing its other DSM offerings—not increases to KCP&L's educational program budgets, Staff recommends the Commission waive the five percent guideline in this particular case and approve the continuation of these educational programs.

Income-Eligible Weatherization

Income-Eligible Weatherization Program Description

KCP&L's Income-Eligible Weatherization program is built around the U.S. Department of Energy's Weatherization Assistance Program.[19] KCP&L partners with Kansas Housing Resources Corporation (KHRC), under the Weatherization Assistance Program, to provide energy efficiency services to low-income—income below 200% of the federal poverty level—homeowners and renters.[20] Typical weatherization services provided include installing insulation, caulking windows, and conducting repairs to heating and central cooling systems.[21]

Standard of Review for Income-Eligible Programs

As stated in KEEIA, low-income programs "do not need to meet a cost-effectiveness test," as long as they are in the public interest and supported by a reasonable budget. In the 16-446 Docket, Staff applied an overall budgetary guideline of five percent to its evaluation of low-income demand-side programs since neither educational nor low-income programs are subject to benefit-cost analysis.[22]

The Commission had identified this overall budgetary guideline for education programs,[23] but had not articulated a specific budgetary rule regarding low-income demand-side programs. Given KEEIA's language, the Commission found, in the 16-446 Docket, Staff's proposal to cap Income-Eligible Programs at five percent would provide a helpful guideline to provide assurance that income-eligible programs would be supported by a reasonable budget similar to educational programs.[24] Accordingly, approval of the IEW Program in this Docket depends on whether it is in the public interest and is supported by a reasonable budget.

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[19] Application, Docket No. 18-KCPE-124-TAR, September 11, 2017, Attachment 1, p. 1.
[20] Application, Docket No. 18-KCPE-124-TAR, September 11, 2017, Attachment 1, p. 1.
[21] Application, Docket No. 18-KCPE-124-TAR, September 11, 2017, Attachment 1, p. 1.
[22] 16-446 Final Order ¶¶ 46, 49.
[23] 08-442 April 13, 2009 Order ¶ 32.
[24] 16-446 Final Order, ¶¶ 123, 146.

Public Interest Analysis

The IEW program was originally approved by the Commission in December 2005.[25] Most recently, the Commission found there was sufficient evidence to conclude the settlement agreement, which included extending the IEW Program, was in the public interest in 14-042 Docket.[26] The program has not changed since the Commission issued its Order in 14-042 Docket and KCP&L proposes to continue operating it consistently with the current program.[27] Therefore, Staff recommends finding the IEW Program remains in the public interest.

Reasonable Budget Analysis

As shown in Table 1, the $237,468 budget for the IEW Program is 11% of KCP&L's $2,192,342 energy efficiency portfolio budget. Thus, the proposed budget is more than five percent of the total portfolio budget. However, like the education programs, the IEW Program met the five percent criteria when it was initially approved and would have continued to meet the criteria had the overall portfolio proposed in the 16-446 Docket been approved. In addition, exceeding the five percent guideline is not a result of program growth, but is because there are fewer non-income-eligible programs remaining in the portfolio. Therefore, like the educational programs before, Staff believes an exception should be made to allow for exceeding the five percent guideline in this particular instance.

Recommendation

Because the IEW Program is in the public interest and exceeding the five percent guideline is due to the reduction in KCP&L's overall portfolio KCP&L's educational program budgets exceeding the Commission's five percent guideline is a result of KCP&L reducing its other DSM offerings—not increases to KCP&L's income-eligible weatherization program budget, Staff recommends the Commission waive the five percent guideline in this particular case and approve continuation of the program.

Programmable Thermostat

Programmable Thermostat Program Description

KCP&L's Residential, Small, and Medium General Service Programmable Thermostat Program (PT) is an air conditioner cycling program designed to reduce KCP&L's system loads on peak summer days. The focus of the program is on residential and small to mid-tier commercial customers whose peak demands are under 200 kW.[28]

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[25] Docket 04-KCPE-1025-GIE, Order Approving Stipulation and Agreement, August 5, 2005.

[26] Docket 14-KCPE-042-TAR, Order Approving Joint Motion for Approval of Settlement Approval, October 23, 2014.

[27] However, KCP&L revisited this program, in collaboration with Staff and other stakeholders, and was able to secure an agreement with the Kansas Housing Resources Corporation (KHRC) to act as the program administrator under the existing terms of the tariff. The parties discussed and reviewed the new partner option and agreed it offered a better opportunity to provide weatherization assistance to eligible customers.

[28] Application, Docket No. 18-KCPE-124-TAR, September 11, 2017, Attachment 4, p. 1.

Participants in this program have received a free programmable thermostat that can be used to help manage their energy usage by automatically adjusting temperature settings throughout the day to match occupants' schedules. In addition, KCP&L can achieve load reduction by sending a signal to each participant's thermostat to curtail load.

The Commission first approved the PT Program in January 2006, in Docket No. 06-KCPE-315-TAR, and it has continued in some form or fashion since that time. The PT Program has been frozen to new applicants since 2011[29] but still has approximately 19,740 participants.[30] In the current Docket, KCP&L is proposing to continue the existing PT Program with no changes.

Standard of Review for DSM programs

Prior to the 16-446 Docket and KEEIA, the Commission undertook a series of general investigations regarding DSM programs, evaluation of their benefits and costs, and budgetary requirements. As a result, the Commission established basic benefit-cost principles for evaluation of DSM programs, placing emphasis on the results of the Total Resource Cost (TRC) and Ratepayers Impact Measures (RIM) tests.[31] The Commission reaffirmed its emphasis on the TRC and RIM tests in the 16-446 Docket.[32]

Benefit-Cost Analysis

In 16-446 Docket, KCP&L proposed to replace the PT Program with the Residential Programmable Thermostat (RPT) Program. The RPT Program was essentially the same as the PT Program except KCP&L proposed replacing the current thermostat with a new smart thermostat.

The Commission, in its 16-446 Final Order, found the RPT Program not in the public's interest due to its failing the TRC and RIM tests. Additionally, the Commission found there was not sufficient evidence to warrant replacing the existing functioning thermostats.[33] Therefore, the Commission rejected the RPT. KCP&L's subsequent withdrawal of its Application in the 16-446 Docket left the PT Program in existence.

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29 Direct Testimony of Jason D. Jones, Docket No. 11-KCPE-780-TAR, May 27, 2011 (11-780 Docket Jones Direct), p. 10 and Data Request KCC-2.

30 Data Request KCC-1.

31 08-442 April 13, 2009 Order, ¶ 21.

32 16-446 Final Order, ¶¶ 96, 134.

33 CURB was specifically concerned with the RPT because Kansas ratepayers would be charged to replace the existing, functioning thermostats that were provided under KCP&L's existing programmable thermostat program. Because those thermostats have already been paid for by ratepayers and can be used by KCP&L during cycling events, CURB recommended the Commission not allow KCP&L to replace them with new thermostats (16-446 Final Order ¶ 60). The Commission shared CURB's concern that under the RPT program ratepayers would be required to bear the cost of the existing functioning thermostats and their replacements. The Commission, therefore, found there was not sufficient evidence to warrant the replacement of the existing thermostats and deemed the Residential Programmable Thermostat Program not in the public interest. (16-446 Final Order ¶ 126).

In this Docket, KCP&L provided the PT's five-year budget and the results of the benefit-costs tests. KCP&L calculated the TRC,[34,35] Program Administrator Cost Test (PAC or Utility Test),[36] RIM,[37] RIM Net Fuel Test, and the Participant Cost Test (PCT) ratios using an avoided capacity cost of **[redacted]**, 1.0 net-to-gross value, 1 kW avoided capacity savings per thermostat, and a 10% attrition rate. The benefit-cost test results are illustrated in Table 2 below.[38]

Table 2

Programmable Thermostat Program	
Test Name	**Test Results**
Utility Test	8.58
TRC Test	8.58
RIM Test	8.58
RIM (Net Fuel)	8.58
Participant Test	N/A[39]

Staff based its analysis on the avoided capacity cost value detailed in the 16-446 Docket.[40] Accordingly, Staff calculated the TRC, RIM, PAC, and PCT using the avoided capacity cost of

[34] According to the Commission, "the TRC Test indicates whether a program is beneficial to the utility and to the utility's consumers as a whole, both participants and non-participants." Docket No. 08-GIMX-442-GIV, Order Setting Energy Efficiency Policy Goals, determining a Benefit Cost Test Framework, and Engaging a Collaborative Process to Develop Benefit-Cost Test Technical Matters and an Evaluation, Measurement, and Verification Scheme, June 2, 2008, ¶ 35.

[35] The benefits to be included in the test are the avoided capacity costs and avoided energy costs. The costs in this test are the costs incurred by the utility, which include equipment, installation, operation and maintenance, and administration costs. Also included as costs are any costs incurred by the participants such as the incremental cost paid for any product above the baseline product. California Standard Practice Manual: Economic Analysis of Demand-Side Programs and Projects, July 2002, p.18 (California Manual).

[36] The Utility Test measures the cost-effectiveness of the program from the perspective of the utility or program administrator. The benefits included in this test are the avoided supply costs (capacity and energy). The costs included in this test are those incurred by the program administrators, which are the utility equipment, operation and maintenance, installation, program administration, and the incentives paid to the customers participating in the program. California Manual, p. 23.

[37] The RIM measures the cost of the program from the perspective of all ratepayers. The test measures the effect the EE program has upon the customer's rates. The benefits to be included in this test are the savings from avoided supply costs (capacity & energy). The costs included in this test are the program costs incurred by the utility, incentives paid to participants, and the lost revenue. According to this test, rates will go down if the energy and capacity savings is greater than the sum of the lost revenue, program costs, and incentives. California Manual, p. 13.

[38] The reason all of the benefit-cost test results are the same is that there are no incentives paid to customers and no recovery of lost revenue. Thus, the only costs included are the same for all the tests.

[39] The PCT test is N/A because there are not any participant costs for this program.

[40] 16-446 Final Order, ¶ 99.

[redacted] per kW. Staff also used 1.0 net-to-gross, 1 kW of savings per thermostat, and a 10% attrition rate.[41] The results of Staff's benefit-cost tests are illustrated in Table 3 below.

Table 3

Programmable Thermostat Program	
Test Name	**Test Results**
Utility Test	2.90
TRC Test	2.90
RIM Test	2.90
RIM (Net Fuel)	2.90
Participant Test	N/A

The UTC of 2.9 signifies the Company benefits are 2.9 times larger than Company costs. The TRC result indicates that the total program benefits are 2.9 times greater than the total program costs. Similarly, the RIM test results imply that the benefits to ratepayers exceed the costs and rates will not increase as a result of the program.

EM&V Analysis

In Docket No. 14-KCPE-042-TAR (14-042 Docket), KCP&L filed an Application to extend its DSM portfolio, which included the PT Program. KCP&L, Staff, CURB, and the Climate and Energy Project filed a Joint Motion for approval of a Settlement Agreement (S&A) in that Docket on October 10, 2014. On October 23, 2014, the Commission approved the S&A, which contained a three year budget and the following terms:

1. The programs were to be extended as pilot programs until December 31, 2016.
2. The EM&V budget was to be utilized in any of the three years, 2014 through 2016; the costs of the EM&V would be recoverable through KCP&L's Energy Efficiency Rider (Tariff Schedule 15); the EM&V budget would be identified and tracked separately from the program budgets and could only be spent on EM&V activities. The EM&V was to be completed on any active DSM programs KCP&L wanted to extend beyond December 31, 2016.
3. KCP&L agreed to collect sufficient PT data for the 2015 curtailment season to perform an EM&V analysis.

The PT data was initially provided to Staff on July 28, 2015, and an improved version of the data was provided on August 20, 2015. In addition, on March 30, 2016, KCP&L filed a Notice of Compliance with an EM&V attached. The EM&V KCP&L filed was a modified EM&V of

[41] Besides the avoided capacity costs, these values are consistent with what KCP&L used to calculate the benefit-cost tests.

KCP&L's active Kansas DSM programs using a recent EM&V analysis of KCP&L's Greater Missouri Operations (GMO) DSM programs as a base. The modified EM&V study is the most recent EM&V study completed on KCP&L's Kansas DSM programs but a full EM&V analysis has not been conducted on the PT program since 2007.[42]

Because the PT program is a mature demand response program that is frozen to new participants, the only EM&V driver is the value of the capacity saved by the program, and only two factors are important in the calculation of the value of capacity saved—the amount of capacity saved and the dollar value of that capacity. Staff is comfortable with its estimate of the dollar value of the capacity saved, but is concerned about the validity of the estimated capacity savings.

There are two groups of customers that are important to distinguish—single family and multifamily residences. The estimated savings used in the EM&V for each group is based upon an econometric study done in 2007.[43] Given the life cycle of air conditioners and the fact that the energy efficiency of air conditioners continues to improve and the Department of Energy's energy conservation standards for air conditioners have become more stringent,[44] Staff has reason to believe that the capacity saved today is less than it was in 2007.

Estimating the savings by the PT program was the purpose of the 2015 cost-effectiveness study and the request for data from KCP&L. Unfortunately, the first set of data had too many holes. A second dataset was created with far fewer missing values, but the event that was used to test the program was a day where the high temperature was only 92 degrees. The result was that the estimated capacity savings was about 25% of the 2007 estimate. Staff is well aware that testing the program on a 92 degree day is not going to provide a good result. Thus, Staff is requesting that KCP&L collect data for a control group and a participant group for a week before and after a day that reaches 100 degrees with heat index. With this data, Staff can estimate the capacity saved by the program.

Recommendation

As stated previously, The PT Program passed the benefit-cost tests and is being used by KCP&L, but a complete EM&V analysis on Kansas-specific data has not been conducted on the PT Program

[42] 11-780 Docket, Jones Direct, Schedules JDJ-1 and JDJ-6.

[43] The estimated capacity savings for each type of participant were done by Opinion Dynamics Corporation and can be found in 11-780 Docket, Jones Direct, Schedule JDJ-1 and Schedule JDJ-6, p. 3.

[44] U.S. Department of Energy, Energy Efficiency and Renewable Energy, Appliance and Equipment Standards Rulemakings and Notices, Consumer Central Air Conditioners and Heat Pumps available at https://www1.eere.energy.gov/buildings/appliance_standards/standards.aspx?productid=48&action=viewlive.

since 2007.[45,46] Staff is not asking for a full EM&V study for the PT program, just reliable data to check one of the major drivers in any EM&V or Benefit-Cost test. And it is not that Staff is concerned about evaluating the existing PT program, rather Staff wants a contemporary reasonable number to evaluate future programmable thermostat programs like the new program KCP&L proposed in the 16-446 Docket. Therefore, Staff believes Kansas-specific data is needed by 2020 and recommends the Commission extend the PT Program with the following conditions:[47]

4. KCP&L needs to use the program when system conditions are appropriate.
5. KCP&L agrees to collect Kansas-specific data, sufficient for a reevaluation of the amount of capacity saved during a cycling event. To do this, the following data from a sample of 300-400 participants in the program would be needed:
    a. Hourly usage for a week before the called event and for a week after the called event;
    b. Hourly temperature and humidity data for the same time period (a week before and a week after the called event);
    c. Hourly price data for the KCP&L nodes in the Southwest Power Pool Integrated Marketplace for the same time period (a week before the called event and a week after the called event); and
    d. A matched control group—for each member of the sample participant group, a matched non-participant that is close-by geographically with similar usage patterns and demographics if available; for example, selecting the participants and control group from the same ZIP Code.

Terminating Programs

Terminating Program Description

In the 16-446 Docket, KCP&L requested termination of its Cool Homes, Energy Star New Homes, and Energy Audit and Energy Measure Rider Programs. Specifically, KCP&L requested termination of its Cool Homes program pursuant to the Commission's Orders in Docket No. 11-KCPE-689-TAR.[48] In addition, KCP&L requested termination of its Energy Star New Homes program due to the low net-to-gross ratio it experienced in EM&V studies and pursuant to the

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[45] To comply with the Commission-approved S&A in the 14-042 Docket, on March 30, 2016, KCP&L filed a Notice of Compliance with an EM&V attached. The EM&V performed by Navigant was a modified EM&V of KCP&L's active Kansas DSM programs using a recent EM&V analysis of KCP&L's Greater Missouri Operations (GMO) DSM programs as a base. The modified EM&V study performed by Navigant is the most recent EM&V study completed on KCP&L's Kansas DSM programs but a full EM&V analysis has not been conducted on the PT Program since its inception.

[46] KCP&L Notice of Compliance, 14-042 Docket, March 30, 2016, p. 3, ¶ 5.

[47] The following conditions are consistent with the conditions agreed to in Docket No.14-KCPE-042-TAR Joint Motion for Approval of Settlement Agreement, October 10, 2014 (14-042 Docket, October 10, 2014 Joint Motion), Attachment A, ¶¶ 10-11.

[48] Docket No. 16-KCPE-446-TAR, KEEIA Cycle 1 2017 2019 Filing (KEEIA Cycle 1 2017 2019 Filing), pp. 3-8.

Commission's Orders in Docket No. 11-KCPE-690-TAR.[49] KCP&L froze the Energy Audit and Energy Measures Rider program in 2011 and requested final termination pursuant to the Commission's Orders in Docket No. 1l-KCPE-694-TAR.

The Cool Homes Program was designed to encourage residential customers to have their working central cooling systems evaluated.[50] Depending upon the results of that evaluation, customers were encouraged to either bring the system back to factory specifications through re-commissioning or to replace less efficient working central cooling systems with high efficiency central cooling systems.

The ENERGY STAR® New Homes Program was designed to improve the energy efficiency of new homes by applying efficient construction techniques and high-performance products (windows, doors, appliances, lighting, and heating and cooling systems) in accordance with guidelines set by the U.S. Environmental Protection Agency (EPA).[51]

The Energy Audit and Energy Measures Rider was designed for commercial and industrial (C&I) customers to encourage more effective use of electricity through energy efficiency improvements by providing a rebate for a portion of the costs of an energy audit and related upgrades that improve efficient use of electricity.[52]

These three programs were all frozen under Commission Orders issued on June 22, 2011, and subsequently clarified on July 13, 2011, in Docket Nos. 11-KCPE-689-TAR (Cool Homes), 11-KCPE-690-TAR (Energy Star New Homes), and 11-KCPE-694-TAR (Energy Audit and Energy Measures Rider). The programs were frozen to new participants entering the programs after July 22, 2011, and allowed time to complete the work for those participants already in the pipeline at the time of the freeze.

The Demand Response Incentive program (formerly MPower) is a contracted peak load reduction program designed for large commercial and industrial customers who are able to provide a minimum load reduction of 25 kW during the summer months when high electric demand occurs.[53] This program was originally approved in Docket No. 06-KCPE-809-TAR in September 2006.[54]

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[49] KEEIA Cycle 1 2017 2019 Filing, pp. 3-8.

[50] Docket No. 11-KCPE-689-TAR, Kansas City Power & Light Company's Application to Modify its Cool Homes Program Tariff.

[51] Docket No. 11-KCPE-690-TAR, Kansas City Power & Light Company's Application to Modify its Energy Star New Homes Program Tariff.

[52] Docket No. 11-KCPE-694-TAR, Kansas City Power & Light Company's Application to Modify its Energy Audit and Energy Measures Rider Tariff.

[53] The Program provides firm contractual arrangements for periodic curtailments at times of system peak demand for reliability or economic reasons.

[54] The MPower Rider was renamed the Demand Response Incentive Rider in 14-042 Docket, Kansas City Power & Light Company's Application to Extend its Demand Side Management Programs, Attachment 5.

There are currently no customers using the program and KCP&L has no plans to offer it in the near future, therefore KCP&L is now proposing to terminate the program.

Standard of Review for Terminating Programs

The Orders Granting Application to Modify Tariff in the Cool Homes, Energy Star New Homes, and Energy Audit and Energy Measures Rider Dockets were all issued on June 22, 2011, and used nearly identical language:

> The Application filed herein by Kansas City Power & Light Company is hereby granted and the proposed modification to KCP&L's [Program Name] Program Tariff "freezing" and restricting the Program to existing subscribers (customers) of record as of the date of this Order is hereby approved. At such time as all obligations to existing subscribers (customers) under the Program have been met, Kansas City Power & Light Company may file application with the Commission requesting termination of the [Program Name] Program Tariff.

Therefore, the standard of review for terminating programs is whether the program has been frozen and whether KCP&L has met all its obligations to program participants.

Terminating Programs Analysis

KCP&L has met all its obligations to the Cool Homes, Energy Star New Homes, and Energy Audit and Energy Measure Rider program participants. No additional customers have been allowed to participate in these three programs since the July 22, 2011, freeze date.[55] Some of these programs provided for a lengthy period of time to complete approved projects (e.g., new home construction under the Energy Star New Homes program or custom commercial/industrial projects under the Energy Audit and Energy Measures Rider). However, all program requirements were completed before the end of the 2012 program year and no additional costs have been charged to these programs since that time.[56]

Because all obligations to program participants had been met as directed by the Commission, Staff recommended the Commission terminate these three programs as requested in the 16-446 Docket. The circumstances detailed in the 16-446 Docket that prompted KCP&L's request to terminate and Commission's concurrence remain applicable today. As the Commission found in 16-446 Docket, KCP&L's request to terminate these programs was supported by the record and was in the public interest. Therefore, Staff recommends they be terminated.

Since 2011, the Demand Response Rider program has been under a moratorium to new participants because the program became unnecessary due to a decline in demand caused by the economic downturn and the start-up of KCP&L's Iatan 2 power plant.[57] In 14-042 Docket, KCP&L agreed

[55] *See* response to 16-446 Docket Data Request KCC-19.
[56] *See* response to 16-446 Docket Data Request KCC-19.
[57] 11-780 Docket, Jones Direct, Schedule JDJ-2, p. 2.

to continue to phase out the then existing contracts over the following two years. As a result, the program has not been actively marketed and has no participants because KCP&L has allowed all agreements to expire without renewal.[58] Since there are no customers using the program and the KCP&L has no plans to offer it in the near future, Staff agrees the program should be terminated.

Recommendation

Because the Cool Homes, Energy Star New Homes, Energy Audit and Energy Measure Rider, and Demand Response Incentive Rider programs have been completely phased out and there are no outstanding contracts or obligations, Staff agrees the programs should be terminated as requested.

RECOMMENDATION:

Because they are in the public interest, Staff recommends the Commission waive the five percent educational program budget guideline and allow KCP&L to continue the BOC, Online Education, and IEW Programs. The PT Program passed all the benefit-cost tests and is supported by a reasonable budget, but a Kansas-specific EM&V has not been completed on the program since 2007. Therefore, Staff recommends the Commission continue the PT Program with the conditions stated previously. Finally, Staff recommends the Cool Homes, Energy Star New Homes, Energy Audit and Energy Measure Rider, and Demand Response Incentive Rider Programs be terminated because the programs have been phased out and all obligations to program participants have been met.

[58] Black & Veatch was the last KCP&L-KS contract that expired after the 2015 curtailment season. Response to Data Request KCC-1.

CERTIFICATE OF SERVICE

18-KCPE-124-TAR

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 Version] was served via electronic service this 17th day of April, 2018, to the following:

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18-KCPE-124-TAR

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